



# 2025 CONTINUING EDUCATION FOR FLORIDA NURSES

**Florida APRNs,**  
Go online to complete  
3 hours of Board-  
Approved Controlled  
Substances CE **FREE** with  
purchase of this offer!  
Go to **NetCE.com/FL25AP**

26 Hours  
**\$42**

INSIDE THIS EDITION  
**Concerns for Patients with Dementia**  
**FL Medical Errors**  
**FL Domestic Violence**  
**FL Laws and Rules**  
**FL Recognizing Impairment in the Workplace**  
**FL Recognizing and Reporting Human Trafficking**  
**Pathophysiology: The Hepatobiliary System**



JOINTLY ACCREDITED PROVIDER<sup>®</sup>  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

**NetCE.com/FL25**



**We Report Hourly to CE Broker for FREE!**  
**No Membership Required!**



P.O. Box 997571  
Sacramento, CA 95899  
800-232-4238



**26 Hours**  
Regular Price \$180

#39060 Common Concerns for Patients with Dementia (1 contact hour) .....	1
#91334 Medical Error Prevention and Root Cause Analysis (2 contact hours) .....	7
#97923 Domestic Violence: The Florida Requirement (2 contact hours).....	19
#31253 Laws and Rules for Florida Nurses (2 contact hours).....	29
#31112 Recognizing Impairment in the Workplace: The Florida Requirement (2 contact hours) .....	37
#97111 Recognizing and Reporting Human Trafficking in Florida (2 contact hours).....	45
#38910 Pathophysiology: The Hepatobiliary System (15 contact hours) .....	61
Course Availability List .....	99–101
How Our Service Works .....	102
Customer Information .....	103
Evaluation .....	104

### Special Offer price of \$42 valid through July 31, 2025



#### LEARN

Read the enclosed course(s). Complete the test questions at the end of each course.



#### CLICK

Go to [NetCE.com/FL25](https://NetCE.com/FL25). Enter your Quick Code and Customer ID (found on the back of your booklet), **or** complete the forms located on pages 103–104, **or** scan the following QR code to get started.



#### DONE

Receive certificates of completion:

FAST  
By Mail

**FASTEST!**  
Online

Print from your  
NetCE transcript.

Advanced Practice Nurses,  
Need Controlled Substance CE?  
**Go online to [NetCE.com/FL25AP](https://NetCE.com/FL25AP)  
to complete FREE with purchase  
of this offer!**

Nurses,  
Need more hours?  
**Get One Year of All Access  
Online CE Starting at Only \$85.**  
[NetCE.com/AllAccessNurse](https://NetCE.com/AllAccessNurse)  
(See inside back cover for details.)

CONTINUING EDUCATION  
FOR FLORIDA NURSES  
2025

Published by NetCE,  
a TRC Healthcare Company  
P.O. Box 997571  
Sacramento, CA 95899  
Tel: 800-232-4238 (within the U.S.)  
916-783-4238 (outside the U.S.)  
Email: Info@NetCE.com  
Website: www.NetCE.com

**NETCE**

Sr. Director of Development and Academic Affairs,  
Sarah Campbell  
Director of NetCE, Julie Goodwin  
Chief Information Officer, Kevin Bluck  
Director of Graphic Services, Kathryn Harris  
Director of Operations, Alma Parra

**Division Planners**

Margaret Donohue, PhD  
Alice Yick Flanagan, PhD, MSW  
Margo A. Halm, RN, PhD, ACNS-BC  
John V. Jurica, MD, MPH  
John M. Leonard, MD  
Ronald Runciman, MD  
Shannon E. Smith, MHSC, CST, CSFA  
Mark J. Szarejko, DDS, FAGD

**Featured Contributing Faculty**

Marjorie Conner Allen, BSN, JD  
Nancy Campbell, RN, BSN, PHN  
Alice Yick Flanagan, PhD, MSW  
Mary Franks, MSN, APRN, FNP-C  
Allan G. Hedberg, PhD  
Jane C. Norman, RN, MSN, CNE, PhD

Copyright © 2024 NetCE

# Common Concerns for Patients with Dementia

This course satisfies 1 hour of general CE.

**Audience**

This course is designed for nurses in a variety of practice settings who work with older patients.

**Course Objective**

The purpose of this course is to provide nurses with an overview of the physical and psychosocial problems encountered by patients with dementia, so they might intervene to protect their well-being.

**Learning Objectives**

Upon completion of this course, you should be able to:

1. Discuss the risks of elder abuse and suicide among patients with dementia.
2. Evaluate the potential risks of alcohol use and misuse among older adults, particularly those with dementia.
3. Describe additional risks that patients with dementia experience and steps nurses can take to monitor and facilitate the safety and welfare of these patients.

**Faculty**

**Allan G. Hedberg, PhD**, received his Master's in psychology from Northern Illinois University and his PhD in clinical psychology from Queen's University in Ontario, Canada. He has practiced clinical psychology in mental health centers, hospitals, and rehabilitation units as well as in private practice since 1969. More recently, he has maintained an active consultation service to patients and staff of nursing homes and assisted living facilities in the Central Valley of California. Over this time, Dr. Hedberg has consulted with staff, trained staff, and assisted in the establishment of appropriate programs for elderly patients with special needs, such as Alzheimer's disease.

**Faculty Disclosure**

Contributing faculty, Allan G. Hedberg, PhD, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

**Division Planner**

Mary Franks, MSN, APRN, FNP-C

**Senior Director of Development and Academic Affairs**

Sarah Campbell

**Division Planner/Director Disclosure**

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

**Accreditations & Approvals**



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

### Designations of Credit

NetCE designates this enduring material for a maximum of 1 AMA PRA Category 1 Credit(s)<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

NetCE designates this continuing education activity for 1.2 hours for Alabama nurses.

AACN Synergy CERP Category A.

### Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

#### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

## INTRODUCTION

Dementia is a progressive and profound disruption in brain function and intellectual capacity. The primary signs include problems with memory, language, spatial-temporal reasoning, judgment, emotionality, thought disorder, and personality. Dementia is a subtle progressive loss of cognitive functioning, with memory loss as its hallmark impairment, particularly loss of short-term memory. The ability to concentrate, make judgments, problem solve, and engage in abstract thought processes is also impaired. Personality and mood changes distinct from previous experiences are likely to develop, such as depression, apathy, elation, and anger. Impulse control becomes a major impairment with associated difficulties in social and physical relationships. Finally, grandiose and persecutory delusions are fairly common, especially in the more advanced stages of dementia [1]. It is possible for a young person to have dementia, but this is usually a result of a neurologic traumatic event or major illness with neurologic corollaries.

Dementia is a physical illness as well. It progressively shuts down the body as the brain is attacked. The first signs of dementia are generally related to reduced physical agility and strength, not just cognitive skills. Dementia can continue for years, but in the advanced stages, life expectancy is similar to that seen with advanced terminal cancer [2]. Patients with various severities of dementia are at risk for a variety of health and mental health conditions. Nurses are in a position to recognize patients at risk for these conditions and to intervene to protect their safety and welfare.

## ELDER ABUSE

Elder abuse is a real threat for patients with dementia [3]. They are at risk for financial, physical, emotional, and sexual abuse, particularly from caretakers, family members, and even healthcare providers. Any suspicion of abuse should be reported to the adult social services department of the state and county in which the patient is living. Abuse can be intended (e.g., physical abuse) or unintended (e.g., neglect). Perpetrators of elder abuse may be motivated by many different factors, from overwhelm and burnout to sadism [3]. Some perpetrators are financially dependent upon the victim, leading to an imbalance in the relationship and dangerous expectations. Financial abuse is common, for example, by a child or grandchild who has been dependent on the elder for years and is now seeing their “support funds” being terminated and bank accounts closed. Health and mental health providers should be vigilant for any signs of abuse or neglect.

Signs of financial abuse or neglect should be closely monitored. This can be done by monitoring the interaction of family members/carers with patients, particularly behaviors involving finances and/or signing documents such as wills, trusts, or

bank accounts. If necessary, an ombudsman or the patient's attorney should be consulted. If the patient is in a care facility, the facility's attorney may be a resource.

---

## SUICIDE

---

Older Americans are at an increased risk for suicide. Individuals older than 65 years of age comprise 16.8% of the population but represent 20.0% of all suicide deaths. The rate of suicides for older adults in 2021 was 17.3 per 100,000, with one suicide in this population every 54.5 minutes [4]. Persons older than 85 years of age, especially white men, have the highest rate. Although older adults attempt suicide less frequently than other age groups, they have a higher completion rate [4]. Common risk factors for suicide in older adults include [4]:

- Recent loss of a loved one
- Physical illness, uncontrollable pain, or fear of prolonged illness
- Perceived poor health
- Social isolation and loneliness
- Major changes in social roles (e.g., retirement)

A dementia diagnosis encompasses several of these risk factors, and these patients should be monitored closely and directed to appropriate professional help. The loss of health, purpose, or meaning must be addressed at all stages of aging, but even more so in the later years of life.

Suicide among older adult patients with dementia may be subtle or camouflaged, manifesting as refusal to eat and/or drink water and fluids, rejection of prescribed medication, or intentional isolation from any social contact. These more passive suicide attempts are especially common among older persons in nursing homes or other care settings who have no other means.

---

## ALCOHOL ABUSE

---

Alcohol abuse in the older adult population is generally a hidden problem. Many older adults do not disclose alcohol abuse because they are ashamed. This is compounded by healthcare professionals' reluctance to ask older adults about their alcohol use, mostly due to the prevalent images of young people misusing substances [5]. Older adults are more likely to hide their alcohol use and less likely to seek professional help, and their families, particularly adult children, are often in denial or are ashamed of the problem [6]. Additionally, the symptoms of alcohol use disorder can mimic or resemble conditions associated with aging, including dementia, thereby masking an underlying drinking or substance disorder [5; 6]. Finally, some older adults may be isolated, with minimal social contacts or networks to intervene in cases in which alcohol or substance use has become a problem.

According to the National Council on Alcoholism and Drug Dependence, older adults exhibiting symptoms of alcoholism comprised 6% to 11% hospital admissions, 20% of admissions to psychiatric services, and 14% of emergency room admissions [7]. The prevalence of alcoholism in the older population is estimated to be 10% to 18%. It is the second most frequent reason for admitting older adults to inpatient psychiatric facilities [8]. Less than 2% of all admissions for alcohol treatment are people older than 55 years of age [7]. Among nursing home residents, it is estimated that as many as one-half have problems related to alcohol [7; 8].

Late-onset alcoholism is common in older adults, and several risk factors may contribute to the development of alcohol use disorders in older age. Some may use alcohol to self-medicate physical symptoms, such as difficulty sleeping or chronic pain. Mourning a loved one, loss of social supports, and loneliness can also instigate alcoholism later in life [6].

One study found that the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5-TR)* criteria for alcohol use disorder might be difficult to apply to older adults [9]. For example, age-related physiologic changes may change an individual's response to alcohol, increasing his or her sensitivity and lowering their levels of tolerance. These persons would not meet the DSM-5-TR criteria for alcohol use disorder, as they would require smaller amounts of alcohol to become intoxicated. In addition, the DSM-5-TR criterion of giving up activities or responsibilities as a result of substance use may not be appropriate for older adults because they may engage in fewer regular activities due to diminished vocational or social responsibilities [10].

After a diagnostic assessment, treatment of alcohol use disorder in older adults may include close monitoring, attendance at 12-step programs, group therapy, increased socialization, and/or medication. For patients with dementia, the urge to drink will likely be lost eventually, but it is important to prevent overconsumption, as it may exacerbate symptoms.

---

## FALLS

---

Falls are common among older adults and can cause serious injury and even death. Decreased mobility, medication side effects, and confusion/disorientation can all predispose the patient with dementia to falls. Patients and their families should be counseled regarding the importance of fall prevention strategies. Older persons' medication profiles must be reviewed relative to their potential contribution to falling. The home environment should also be modified to decrease the risk of falls, keeping pathways cleared and well lit, removing unstable furniture, and eliminating throw rugs and extension cords. Referral to physical therapy for balance training and strengthening may be considered. In addition, occupational therapy is appropriate if modifications in the home are necessary.

---

## INTIMACY

---

It is important for older people to feel loved and cared for. Romance, connection, physical touch, and sex remain important to people as they age and should be considered part of an individual's overall health and well-being. Individuals may be encouraged to explore new ways of spending time with other people and showing affection, including hand-holding, hugging, massage, and dancing. Some may benefit from education on positive aspects of interpersonal relationships. In some patients, hypersexuality may develop. This can be a manifestation of dementia (e.g., frontotemporal dementia) or the effect of medications.

---

---

## WANDERING

---

Wandering behavior is relatively common among persons with dementia, especially at sundown [11]. It can be unintentionally dangerous, and it is important for all persons with dementia to carry some form of identification (e.g., medical bracelet) at all times. It can also be helpful to alert neighbors and local law enforcement of the possibility of wandering. Door should be kept locked whenever possible, with an alarm and/or a two-step lock including a deadbolt recommended.

---

---

## AGGRESSION

---

Individuals with dementia may become confused, frustrated, and easily agitated as they become unable to perform formerly routine tasks. When agitation is frequent or excessive, pharmacotherapy may be necessary. It is also important to take steps to protect the individual from harming him/herself and others. This may consist of creating a calm environment (e.g., quiet, reduced clutter) and providing continuing care, support, and reassurance.

---

---

## PARANOIA

---

Paranoia is a form of delusion in which an individual is fearful, jealous and/or suspicious of others. When a person with dementia displays paranoia, it is best not to directly react. Instead, the individual should be reassured that s/he is safe and protected. It can be helpful to redirect the individual to a different task or activity to interrupt paranoid thinking patterns.

---

---

## SPIRITUALITY

---

All individuals, including those with dementia, have spiritual needs, and spiritual health is part of holistic care. As much as possible, individuals should remain part of their faith community. Spirituality and religion should be incorporated into

discussions and daily activities as much as is desired. In some cases, spiritual music may be comforting. Members from the individual's faith community may be encouraged to remain connected.

---

---

## DRIVING

---

The risk of driving-related accidents is increased among the older population, and impaired mental status due to cognitive impairment and/or the effects of certain medications can increase risk further. Restricting an individual's driving causes a considerable loss of independence and can be a highly sensitive issue, and the decision should be collaborative, if possible. A dementia diagnosis alone is not considered grounds to revoke driving privileges. Other factors must be present, including cognitive decline and comorbidities [12]. Many states require physicians to report impaired drivers, especially if there is a history of a closed head injury. However, laws vary regarding reporting by other service providers. Professionals are encouraged to study their own state's laws. There are driving schools and classes in many communities specifically designed to assist older adults in maintaining their driving skills and license, which may be an option for some individuals.

It is also important to assess if alcohol or drugs are playing a role in an older driver's abilities. Efforts to intercede to stop drinking/substance abuse or to keep an impaired patient from driving may be necessary.

---

---

## INFORMED CONSENT

---

Informed consent requires awareness of relevant information and the demonstrated competency to understand the nature of an issue under consideration and its implications and consequences. Agreement from patients who lack the capacity to give consent actually results in no consent at all. In such cases, the patient requires a healthcare surrogate to be designated through the process of a conservatorship, a will and an advance directive for health care, and/or the appointment of a power of attorney. These surrogates are sometimes referred to as the responsible party (RP). Failing a provision for consent to be granted by some preauthorized RP, healthcare and/or financial decisions require court intervention.

If a patient has a preapproved healthcare surrogate, as outlined by law or an advance directive, all treating professionals and facilities should have a copy of the document on file. This is an area of frequent abuse and boundary violations, even by well-meaning family members. The provider of service must be careful to assure that informed consent or permission of the RP has been granted before proceeding, even when the intended service seems necessary and/or obviously desired. Consent to proceed with any treatment or financial dealing must be with the consent of the RP, and all communication regarding the patient is with and through the RP.

---

**PRESCRIBED MEDICATIONS**

---

Medication management and polypharmacy are major concerns for older adults. An estimated 30% of individuals older than 65 years of age take five or more prescription medications [13]. This number does not take into account over-the-counter medications, vitamins, minerals, and dietary supplements. Taking multiple medications and supplements significantly increases the risk of interaction with foods, other medications, and alcohol.

Common medication problems include incorrect dosage, erratic drug use, misuse of over-the-counter medications, drug interactions, mixing medications and alcohol, use of drugs at the wrong time of the day, using medications prescribed for another person, using two or more medications with synergistic effects, and using several medications with profound side effects or that might be contraindicated due to comorbid conditions.

Aging itself can contribute to unforeseen medication problems. Older individuals tend to absorb, metabolize, and excrete medications at a slower rate. Many older people also have major complicating medical problems, such as Parkinson disease, cardiovascular difficulties, neurologic disorders, infections, and vertigo, that may be impacted by various medications. In general, older persons are at a greater risk for side effects. If present, cognitive deficits may lead to greater confusion regarding timed doses and medication use.

---

**SKILLED CARE FACILITIES  
AND ASSISTED LIVING**

---

The move to a higher level of care is not an easy decision for any impaired person, family members, or healthcare providers. Each patient has different circumstances that must be taken into account. The decision usually involves consideration of a variety of psychologic, medical, financial, practical, and family issues. Often, it is based on the inability of the family to fully provide the needed level of care. If the family has been the sole care provider, burnout and exhaustion may be factors. It may even depend on the ability to adapt the home to accommodate the new needs of the patient. When selecting a facility, the focus should be on location and the competency and personability of the staff.

Generally, a patient will need to be hospitalized for three days to qualify for referral to a skilled nursing facility under the Medicare guidelines. Admission to an assisted living program, on the other hand, is not covered by Medicare or most health insurance plans. Long-term care insurance may be a financial help to offset medical costs and the costs of alternative nursing care, including home care.

Selecting a skilled nursing or assisted living facility is difficult for many families. The following may be offered to families to assist in making the best possible decision:

- Is the facility within a reasonable distance to supportive family members?
- Is the facility able to provide the appropriate level of care and needed services anticipated?
- Is the facility stable, with a low staff turnover rate? Has the facility changed ownership several times?
- Is the facility nonprofit or for-profit?
- Does the facility have a positive record with the state (e.g., facility infractions, wrongful staff actions)?
- Is the food reasonably prepared and served in a manner consistent with the patient's culture and eating history?

---

**LONGEVITY CONCERNS**

---

The number of individuals 85 years of age and older is growing steadily in the United States. In 2020, there were 6.7 million individuals in this age-group; this number is expected to grow to 19 million by 2060 [14]. Many people who live past 85 years of age fear they will outlive their resources. Providing education about healthcare savings programs throughout life may be helpful, even into the aging years. Preparation for long-term assisted living is essential, such as having long-term healthcare insurance, having a healthcare reserve fund, and being compliant with healthcare treatment plans (if possible). Regular exercise, rest, social support, and a good attitude are among the essential factors needed for healthy longevity [15].

---

**CAREGIVER BURNOUT**

---

Care providers tend to experience burnout within a few years of constant care of a loved one. In general, male caregivers experience burnout sooner than women. Care providers should try to take respite breaks at least one day per week. Taking mini-vacations can be helpful. Respite care coverage for even a few hours a day can also be helpful. The underlying lesson is for caretakers to take care of themselves physically and mentally, so they are able to continue to provide care for the loved one.

---

**CONCLUSION**

---

The aging process can become a very challenging time in a person's life. It is often difficult for the aging person to understand and accept the changes that are taking place, to maintain a positive level of functioning for as long as possible, and to compensate for ongoing losses. It is vital for nurses to support these patients to best protect their health, safety, and well-being.

**Customer Information and Answer Sheet located on pages 103–104.**

**COURSE TEST - #39060 COMMON CONCERNS FOR PATIENTS WITH DEMENTIA**

*This is an open book test. Please record your responses on the Answer Sheet.*

*A passing grade of at least 70% must be achieved in order to receive credit for this course.*

*This 1 contact hour activity must be completed by July 31, 2027.*

---

1. Any suspicion of elder abuse should be reported to the adult social services department of the state and county in which the patient is living.  
A) True  
B) False
2. Social isolation and loneliness are risk factors for suicide in the elderly.  
A) True  
B) False
3. More passive suicide attempts (e.g., refusal to eat and/or drink water and fluids, rejection of prescribed medication) are especially common among older persons with large social networks and supports.  
A) True  
B) False
4. Older adults are less likely to hide their alcohol use and more likely to seek professional help.  
A) True  
B) False
5. Among nursing home residents, it is estimated that as many as 50% have problems related to alcohol.  
A) True  
B) False
6. Keeping pathways cleared and well lit can help decrease the risk of falls among older adults with dementia.  
A) True  
B) False
7. Hypersexuality may most commonly be a manifestation of vascular dementia.  
A) True  
B) False
8. The highest risk for wandering behavior among persons with dementia occurs at sundown.  
A) True  
B) False
9. A dementia diagnosis alone is considered grounds to revoke driving privileges.  
A) True  
B) False
10. Generally, a patient will need to be hospitalized for three days in order to qualify for referral to a skilled nursing facility under the Medicare guidelines.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**



# Medical Error Prevention and Root Cause Analysis

This course fulfills the Florida requirement for 2 hours  
of education on the Prevention of Medical Errors.

## Audience

This course is designed for all licensed healthcare professionals.

## Course Objective

The purpose of this course is to satisfy the requirement of the Florida law and provide all licensed healthcare professionals with information regarding the root cause process, error reduction and prevention, and patient safety.

## Learning Objectives

Upon completion of this course, you should be able to:

1. Describe how the Institute of Medicine defines “medical error.”
2. Describe the types of sentinel events the Joint Commission has identified.
3. Discuss what factors must be included in a root cause analysis in order for the Joint Commission to consider it “thorough” and “credible.”
4. Identify what types of adverse incidents must be reported to the Florida Agency for Healthcare Administration.
5. Identify the most common sentinel events reported to the Joint Commission.
6. Evaluate the most common misdiagnoses, as recognized by the Florida Board of Medicine, and outline the safety needs of special populations, including non-English-proficient patients.

## Faculty

**Marjorie Conner Allen, BSN, JD**, received her Bachelor of Science in Nursing degree from the University of Florida, Gainesville, in 1984. She began her nursing career at Shands Teaching Hospital and Clinics at the University of Florida, Gainesville. While practicing nursing at Shands, she gave continuing education seminars regarding the nursing implications for dealing with adolescents with terminal illness. In 1988, Ms. Allen moved to Atlanta, Georgia where she worked at Egleston Children’s Hospital at Emory University in the bone marrow transplant unit. In the fall of 1989, she began law school at Florida State University. After graduating from law school in 1992, Ms. Allen took a two-year job as law clerk to the Honorable William Terrell Hodges, United States District Judge for the Middle District of Florida. After completing her clerkship, Ms. Allen began her employment with the law firm

of Smith, Hulsey & Busey in Jacksonville, Florida where she has worked in the litigation department defending hospitals and nurses in medical malpractice actions. Ms. Allen resides in Jacksonville and is currently in-house counsel to the Mayo Clinic Jacksonville.

## Faculty Disclosure

Contributing faculty, Marjorie Conner Allen, BSN, JD, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Division Planner

Jane C. Norman, RN, MSN, CNE, PhD

## Senior Director of Development and Academic Affairs

Sarah Campbell

## Division Planner/Director Disclosure

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Accreditations & Approvals



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

## Designations of Credit

NetCE designates this continuing education activity for 2 ANCC contact hours.



IPCE CREDIT™

This activity was planned by and for the healthcare team, and learners will receive 2 Interprofessional Continuing Education (IPCE) credits for learning and change.

AACN Synergy CERP Category C.

## Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784;

California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### Special Approvals

This course fulfills the Florida requirement for 2 hours of education on the Prevention of Medical Errors.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

#### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

---

## INTRODUCTION

The Institute of Medicine's (IOM) 1999 publication *To Err is Human: Building a Safer Health System*, illuminated the unfortunate reality of medical errors in the healthcare industry. The report reviewed the prevalence of medical errors in the United States and highlighted measures that should be taken to prevent them. Specifically, the authors of the report noted that at least 44,000 and perhaps as many as 98,000 Americans were dying in hospitals each year as a result of medical errors and many more were being seriously injured [1]. They further

noted that, even when using the lower estimate of 44,000, deaths in hospitals due to medical errors exceeded the annual deaths attributable to motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516) [1]. A 2016 report stated that the average number of annual in-hospital deaths attributable to medical error might actually be much higher, at around 400,000 [2]. This report places medical errors as the third leading cause of death in the United States. Certainly, these numbers must be balanced against the millions of admissions to hospitals in the United States, which is in excess of 33 million annually [1; 3].

It does appear that some progress has been made in the past decade. The Agency for Healthcare Research and Quality found a 17% decline in hospital-acquired conditions between 2014 and 2017, or 910,000 fewer conditions and 20,500 fewer deaths than if the 2014 rate had remained steady [4]. Though the precise mechanism(s) responsible for this decline is not clear, it occurred following a concerted effort by federal agencies, organizations, and individual providers to curtail medical errors. However, the statistics indicate that medical errors continue to be an issue. Healthcare professionals should commit to continuing to pay greater attention to evaluating approaches for reducing errors and to building new systems to reduce the incidence of medical errors.

Spurred by a commitment to reducing medical error incidents, the Florida Legislature mandates that all healthcare professionals in Florida complete a two-hour course on the topic of prevention of medical errors [5]. This continuing education course is designed to satisfy the requirements of the Florida law and provide all licensed healthcare professionals with information regarding the root cause analysis process, error reduction and prevention, and patient safety, as well as information regarding the five most misdiagnosed conditions as determined by the Florida Board of Medicine.

---

## DEFINING "MEDICAL ERROR"

The IOM Committee on Quality of Healthcare in America defines error as "the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim" [1]. It is important to note that medical errors are not defined as intentional acts of wrongdoing and that not all medical errors rise to the level of medical malpractice or negligence. Errors depend on two kinds of failures: either the correct action does not proceed as intended, which is described as an "error of execution," or the original intended action is not correct, which is described as an "error of planning" [1]. A medical error can occur at any stage in the process of providing patient care, from diagnosis to treatment, and even while providing preventative care. Not all errors will result in harm to the patient. Medical errors that do result in injury are sometimes called preventable adverse events or sentinel events—sentinel because they signal the need for immediate investigation and response [6].

Preventable adverse events or sentinel events are defined as those events that cause an injury to a patient as a result of medical intervention or inaction on the part of the healthcare provider whereby the injury cannot reasonably be said to be related to the patient's underlying medical condition. Thus, for example, if a patient has a surgical procedure and dies postoperatively from pneumonia, the patient has suffered an adverse event. But was that adverse event preventable; was it caused by medical intervention or inaction? The specific facts of this case must be analyzed to determine whether the patient acquired the pneumonia as a result of poor handwashing techniques of the medical staff (i.e., an error of execution), which would indicate a preventable adverse event, or whether the patient acquired the pneumonia because of age and comorbidities, which would indicate a nonpreventable adverse event.

Healthcare professionals can learn much by closely scrutinizing and evaluating adverse events that lead to serious injury or death. The evaluation of such events would also enable healthcare professionals to improve the delivery of health care and reduce future mistakes. In addition, healthcare professionals should have a process in place to evaluate those instances in which a medical error occurred and did not cause harm to the patient. By reviewing these processes, healthcare professionals are afforded the unique opportunity to identify system improvements that have the potential to prevent future adverse events. The Joint Commission, recognizing the importance of analyzing both preventable adverse events and near-misses, has established guidelines for recognizing these events and requires healthcare facilities to conduct a root cause analysis to determine the underlying cause of the event [7].

---

## ROOT CAUSE ANALYSIS PROCESS

---

The Joint Commission is a national organization with a mission to improve the quality of care provided at healthcare institutions in the United States. It accomplishes this mission by providing accredited status to healthcare facilities. Accreditors play an important role in encouraging and supporting actions within healthcare organizations by holding them accountable for ensuring a safe environment for patients. Healthcare organizations should actively engage in a cooperative relationship with the Joint Commission through this accreditation process and participate in the process to reduce risk and facilitate desired outcomes of care.

Root cause analysis, as defined by the Joint Commission, is “a process for identifying the basic or causal factors that underlie variation in performance, including the occurrence or possible occurrence of a sentinel event” [6]. In the 2022 update, the Joint Commission defines a sentinel event as a “patient safety event (not primarily related to the natural course of the illness or underlying condition) that reaches a patient and results in death, severe harm (regardless of duration of harm), or permanent harm (regardless of severity of harm)” [6; 10]. Furthermore, the Joint Commission revision clarified the terms “severe” and “permanent” harm with regard to sentinel

events. “Severe harm” is an event or condition that reaches the individual, resulting in life-threatening bodily injury (including pain or disfigurement) that interferes with or results in loss of functional ability or quality of life that requires continuous physiologic monitoring or a surgery, invasive procedure, or treatment to resolve the condition [6; 10]. “Permanent harm” is an event or condition that reaches the individual, resulting in any level of harm that permanently alters and/or affects an individual's baseline [6; 10].

The following subsets of sentinel events are subject to review by the Joint Commission [6; 11]:

- The event has resulted in an unanticipated death or major permanent loss of function, not related to the natural course of the patient's illness or underlying condition
- or
- The event is one of the following (even if the outcome was not death or major permanent loss of function unrelated to the natural course of the patient's illness or underlying condition):
  - Suicide of any patient receiving care, treatment, and services in a staffed around-the-clock care setting or within 72 hours of discharge
  - Unanticipated death of a full-term infant
  - Abduction of any patient receiving care, treatment, and services
  - Any elopement (i.e., unauthorized departure) of a patient from a staffed around the-clock care setting (including the emergency department), leading to death, permanent harm, or severe temporary harm to the patient
  - Discharge of an infant to the wrong family
  - Rape, assault (leading to death or permanent loss of function), or homicide of any patient receiving care, treatment, and services
  - Rape, assault (leading to death or permanent loss of function), or homicide of a staff member, licensed independent practitioner, visitor, or vendor while on site at the healthcare organization
  - Hemolytic transfusion reaction involving administration of blood or blood products having major blood group incompatibilities (e.g., ABO, Rh, other blood groups)
  - Invasive procedure, including surgery, on the wrong patient or wrong site
  - Unintended retention of a foreign object in a patient after surgery or other invasive procedures
  - Severe neonatal hyperbilirubinemia (bilirubin >30 mg/dL)
  - Fluoroscopy resulting in permanent tissue injury when clinical and technical optimization were not implemented and/or recognized practice parameters were not followed

- Fire, flame, or unanticipated smoke, heat, or flashes occurring during an episode of patient care
- Any intrapartum (related to the birth process) maternal death
- Severe maternal morbidity
- Fall resulting in: any fracture; surgery, casting, or traction; required consult/management or comfort care for a neurological or internal injury; a patient with coagulopathy who receives blood products as a result of the fall; or death or permanent harm as a result of injuries sustained from the fall (not from physiologic events causing the fall)

Alternatively, the following examples are events that are NOT considered reviewable under the Joint Commission's sentinel event policy [6]:

- Any close call ("near miss")
- Full or expected return of limb or bodily function to the same level as prior to the adverse event by discharge or within two weeks of the initial loss of said function, whichever is the longer period
- Any sentinel event that has not affected a recipient of care (e.g., patient, individual, resident)
- Medication errors that do not result in death or major permanent loss of function
- Suicide other than in an around-the-clock care setting or following elopement from such a setting
- A death or loss of function following a discharge against medical advice
- Unsuccessful suicide attempts unless resulting in major permanent loss of function
- Minor degrees of hemolysis not caused by a major blood group incompatibility and with no clinical sequelae

For further definition of terms, please refer to the Joint Commission's Sentinel Event Policy and Procedures at <https://www.jointcommission.org/resources/patient-safety-topics/sentinel-event/sentinel-event-policy-and-procedures>.

As part of the accreditation requirement, the Joint Commission requires that healthcare organizations have a process in place to recognize these sentinel events, conduct thorough and credible root cause analyses that focus on process and system factors, and document a risk-reduction strategy and internal corrective action plan that includes measurement of the effectiveness of process and system improvements to reduce risk [6]. This process must be completed within 45 business days of the organization having become aware of the sentinel event.

The Joint Commission will consider a root cause analysis acceptable for accreditation purposes if it focuses primarily on systems and processes, not individual performance [6]. In other words, the healthcare organization should minimize the individual blame or retribution for involvement in a medical error. In addition, the root cause analysis should progress

from special causes in clinical processes to common causes in organizational processes, and the analysis should repeatedly dig deeper by asking why, then, when answered, why again, and so on. The analysis should also identify changes that can be made in systems and processes, either through redesign or development of new systems or processes, which would reduce the risk of such events occurring in the future. The Joint Commission requires that the analysis be thorough and credible. To be considered thorough, the root cause analysis must include [6]:

- A determination of the human and other factors most directly associated with the sentinel event and the process(es) and systems related to its occurrence
- Analysis of the underlying systems and processes through a series of "why" questions to determine where redesign might reduce risk
- Inquiry into all areas appropriate to the specific type of event
- Identification of risk points and their potential contributions to this type of event
- A determination of potential improvement in processes or systems that would tend to decrease the likelihood of such events in the future, or a determination, after analysis, that no such improvement opportunities exist

To be considered credible, the root cause analysis must meet the following standards [6]:

- The organization's leadership and the individuals most closely involved in the process and systems under review must participate in the analysis.
- The analysis must be internally consistent; that is, it must not contradict itself or leave obvious questions unanswered.
- The analysis must provide an explanation for all findings of "not applicable" or "no problem."
- The analysis must include consideration of any relevant literature.

Finally, as previously discussed, after conducting this root cause analysis, the organization must prepare an internal corrective action plan. The Joint Commission will accept this action plan if it identifies changes that can be implemented to reduce risk or formulate a rationale for not undertaking such changes, and if, where improvement actions are planned, it identifies who is responsible for implementation, when the action will be implemented, and how the effectiveness of the actions will be evaluated [6].

## FLORIDA LAW

Healthcare professionals have an obligation to report adverse events to leadership and ensure that organizations have processes in place to satisfy the Joint Commission requirement. In Florida, certain serious adverse incidents must also be reported to Florida's Agency for Health Care Administration (AHCA). Florida law requires that licensed facilities, such as

hospitals, establish an internal risk management program. As part of that program, licensed facilities must develop and implement an incident reporting system, which requires the development of appropriate measures to minimize the risk of adverse incidents to patients, as well as imposes an affirmative duty on all healthcare providers and employees of the facility to report adverse incidents to the risk manager or to his or her designee. The risk manager must receive these incident reports within 3 business days of the incident, and depending on the type of incident, the risk manager may have to report the incident to AHCA within 15 days of receipt of the report.

Florida Statute 395.0197 specifically defines an adverse incident as [8]:

For purposes of reporting to the agency pursuant to this section, the term “adverse incident” means an event over which health care personnel could exercise control and which is associated in whole or in part with medical intervention, rather than the condition for which such intervention occurred, and which:

- a) Results in one of the following injuries:
  1. Death;
  2. Brain or spinal damage;
  3. Permanent disfigurement;
  4. Fracture or dislocation of bones or joints;
  5. A resulting limitation of neurological, physical, or sensory function which continues after discharge from the facility;
  6. Any condition that required specialized medical attention or surgical intervention resulting from nonemergency medical intervention, other than an emergency medical condition, to which the patient has not given his or her informed consent; or
  7. Any condition that required the transfer of the patient, within or outside the facility, to a unit providing a more acute level of care due to the adverse incident, rather than the patient’s condition prior to the adverse incident
- b) Was the performance of a surgical procedure on the wrong patient, a wrong surgical procedure, a wrong-site surgical procedure, or a surgical procedure otherwise unrelated to the patient’s diagnosis or medical condition;
- c) Required the surgical repair of damage resulting to a patient from a planned surgical procedure, where the damage was not a recognized specific risk, as disclosed to the patient and documented through informed-consent process; or
- d) Was a procedure to remove unplanned foreign objects remaining from a surgical procedure.

In 2021, the Florida AHCA reported that a total of 184 deaths occurred as a result of hospital error, 21.4% of 859 adverse incidents reported for the year. The next most common incidents during this period were transfer of the patient to a unit

providing a more acute level of care due to the adverse incident (18.7%), fracture or dislocation of bones or joints (17.0%), surgical procedures unrelated to the patient’s diagnosis or medical needs (10.4%), surgical procedure to remove foreign object from a previous surgical procedure (10.2%), brain or spinal damage (5.0%), and surgical procedure performed on wrong site (4.3%) [9]. The following adverse incidents must be reported to the AHCA within 15 calendar days after their occurrence [8]:

- The death of a patient
- Brain or spinal damage to a patient
- The performance of a surgical procedure on the wrong patient
- The performance of a wrong-site surgical procedure
- The performance of a wrong surgical procedure
- The performance of a surgical procedure that is medically unnecessary or otherwise unrelated to the patient’s diagnosis or medical condition
- The surgical repair of damage resulting to a patient from a planned surgical procedure, where the damage is not a recognized specific risk, as disclosed to the patient and documented through the informed-consent process
- The performance of procedures to remove unplanned foreign objects remaining from a surgical procedure

Each incident will be reviewed by the AHCA, who will then determine the penalty to be imposed upon the responsible party [8]. All Florida healthcare professionals who practice in licensed facilities should familiarize themselves with these requirements and ensure that the facility in which they practice has processes in place to ensure compliance.

Unlike Florida’s mandatory reporting of serious adverse incidents, the Joint Commission recommends that healthcare organizations voluntarily report sentinel events, and it encourages the facilities to communicate the results of their root cause analyses and their corrective action plans. As a result of the sentinel events that have been reported, the Joint Commission has compiled Sentinel Event Alerts. These alerts are intended to provide healthcare organizations with important information regarding reported trends and, by doing so, highlight areas of potential concern so an organization may review its own internal processes to maximize error reduction and prevention with regard to a particular issue [7].

---

## ERROR REDUCTION AND PREVENTION

---

Between 2005 and 2021, the Joint Commission reviewed 14,731 sentinel events [11]. Some events, such as fire, impacted multiple patients. Sentinel event reviews during this time period were frequently conducted for patient fall; delay in treatment; unintended retention of a foreign body; wrong-patient, wrong-site, wrong-procedure surgery; patient suicide; operative and postoperative complications; and medication error [11].

## PATIENT FALLS

In 2021, the Joint Commission introduced a separate sentinel event line item for patient falls, making it the most frequently reported sentinel event that year. Patients who are at highest risk include the elderly, those who have an altered mental status due to chronic mental illness or acute intoxication, and those who have a history of prior falls. Additionally, the Joint Commission calls for an increased awareness to an under-recognized population at risk for falls. Newborns and infants are at risk for falls and/or drops, often due to maternal risk factors such as cesarean birth, use of pain medication within four hours, second or third postpartum night (specifically around midnight to early morning hours), and drowsiness associated with breastfeeding. It is obvious from these factors that a thorough and complete patient history may be the key to identifying those at risk.

The root causes of patient falls that healthcare facilities identified as sentinel events and reported to the Joint Commission included inadequate assessment; communication failures; lack of adherence to protocols and safety practices; inadequate staff orientation, supervision, staffing levels, or skill mix; deficiencies in the physical environment; and lack of leadership [19]. Risk reduction strategies to these root causes are fairly straightforward, although in practice, preventing falls is difficult. The most important are the use of a standardized assessment tool to identify fall and injury risk factors, assessing an individual patient's risks that may not have been captured through the tool, and interventions tailored to an individual patient's identified risks [19].

Because patient falls often result in morbidity, mortality, immobility, and early nursing home placement for patients, it is imperative that healthcare facilities initiate adequate fall prevention programs, which will ultimately reduce injuries. Failure to do so will result in a spiraling increase in the number of falls in healthcare facilities, particularly among the elderly who are at highest risk. As more Americans live beyond 65 years of age, the need to develop mobility protocols and programs to reduce the risk of falls and injuries for the older adult grows more urgent.

## DELAYS IN TREATMENT

According to the Joint Commission, more than half of all reported delay in treatment sentinel events in 2010–2014 resulted in patient death [16]. It is important to keep in mind that delays in treatment can occur in any healthcare setting. The most common reason for a delay in treatment is misdiagnosis; however, delays can also result from delayed test results, lack of physician availability, delayed administration of ordered care, incomplete treatment, and even inability to get an initial appointment or follow-up appointment in a timely manner [16]. The main root causes contributing to delays in treatment are inadequate assessments, poor planning, communication failures, and human factors. Additionally, 48% of patients self-reported a delay in accessing healthcare during the COVID-19 pandemic. One study suggests that delays in

treatment are likely due to widespread public health messages to avoid unnecessary visits, triage uncertainty, lack of providers, and lack of resources [36]. Recommendations from the Joint Commission include avoiding cognitive shortcuts, improving health information technology, incorporating diagnostic checklists into the electronic record, promoting provider-to-provider communication, engaging leadership in developing solutions, focusing organization attention on the scheduling process and on ordering tests and reporting test results, improving access to care, implementing a standardized communications method, maintaining adequate staffing levels, and increasing patient and family engagement/activation [16].

## UNINTENDED RETENTION OF A FOREIGN BODY

In 2021, unintended retained foreign objects were the third most frequently reported sentinel event reported to the Joint Commission [11]. The prevalence of these events has remained relatively stable since 2009, indicating that preventing these errors remains difficult for practitioners and facilities. The most commonly retained items are sponges, followed by catheter guidewires and other (a broad category encompassing a wide variety of items) [11].

In addition to harming patients and contributing to distrust in the medical system, the unintended retention of foreign objects significantly contributes to patient care costs [13]. The average total cost of care related to unintended retained foreign objects is \$166,000 to \$200,000 [13].

According to the sentinel event data, the most common root causes of unintended retained foreign objects reported to the Joint Commission are [13]:

- The absence of policies and procedures
- Failure to comply with existing policies and procedures
- Problems with hierarchy and intimidation
- Failure in communication with physicians
- Failure of staff to communicate relevant patient information
- Inadequate or incomplete education of staff

## WRONG-SITE SURGERY

Operating on the wrong part of a patient's body is an obvious sign that there is a problem in the operating room system. Interestingly, wrong-site surgery occurred more commonly in orthopedic procedures than in all other surgical specialties combined. The American Academy of Orthopaedic Surgeons takes this issue seriously, and it has taken special steps to eliminate the problem. For example, it recommends that a surgeon sign their initials at the correct site of surgery with an indelible pen. Unless the initials are visible, the surgeon should not make an incision [12]. Writing "NO" in large black letters on the side not to be operated on was suggested in the past, but this is discouraged due to possible confusion with the surgeon's initials. In spinal surgery, the Academy recommends that an intraoperative radiograph and radiopaque marker be used to determine the exact vertebral level of spinal surgery

[12]. Whatever the mechanism used to prevent and reduce the incidence of this error, it is clear that this is not just the surgeon's problem. All operating room personnel, including physicians, nurses, technicians, anesthesiologists, and other preoperative allied health personnel, should monitor procedures to ensure verification procedures are followed, especially for high-risk procedures.

Due to the prevalence of wrong-site, wrong-procedure, and wrong-person surgeries, the Joint Commission, along with more than 50 professional healthcare organizations, convened two summits to help reduce the occurrence of these errors. The first summit, convened in 2003, developed a Universal Protocol that consisted of the following: a preprocedure verification process; marking the operative/procedure site with an indelible marker; taking a "time-out" with all team members immediately before starting the procedure; and adaptation of the requirements to all procedure settings, including bedside procedures. However, the incidence of wrong-site surgeries continued to increase, and in 2007 and 2010, additional summits were organized to pinpoint barriers in compliance and discover new strategies to eliminate these errors [14]. As of 2019, the Universal Protocol has been incorporated into the National Patient Safety Goal chapter of the Joint Commission accreditation manual [15].

## PATIENT SUICIDE

It is estimated that between 48 and 65 hospital inpatient suicides occur per year in the United States. Most of these cases (31 to 52) occur in psychiatric units or involve psychiatric inpatients. The most common method is hanging [50]. Times of care transition are particularly risky, with a 200% increase in risk in the week after discharge from a psychiatric facility; the elevated risk continues for four years [18]. Other risk factors include previous suicide attempt or self-injury, mental or emotional disorders, history of trauma or loss, serious illness or chronic pain, substance use disorder, social isolation, and access to lethal means.

The most common root cause documented for patient suicide reported between 2010 and 2014 was shortcomings in assessment, most commonly psychiatric assessment [18]. In addition, nearly 25% of behavioral health facilities accredited by the Joint Commission were found noncompliant with the requirement to conduct an adequate suicide risk assessment in 2014.

The Joint Commission has recommended a number of suicide risk reduction strategies, including [18]:

- Review each patient's personal and family medical history for suicide risk factors.
- Screen all patients for suicide ideation, using a brief, standardized, evidence-based screening tool.
- Review screening questionnaires before the patient leaves the appointment or is discharged.
- Establish a collaborative, ongoing, and systematic assessment and treatment process with the patient involving the patient's other providers, family, and friends, as appropriate.

- To improve outcomes for at-risk patients, develop treatment and discharge plans that directly target suicidality.
- Educate all staff in patient care settings about how to identify and respond to patients with suicide ideation.
- Document decisions regarding the care and referral of patients with suicide risk.

A simple review of these measures demonstrates that healthcare providers can avoid the devastating impact of an inpatient suicide by implementing routine preventative strategies, such as removing harmful items and careful screening through the admission and discharge processes.

## OPERATIVE AND POSTOPERATIVE COMPLICATIONS

Many of the sentinel events reported to the Joint Commission regarding operative and postoperative complications occurred in relation to nonemergent procedures, such as interventional imaging and/or endoscopy, tube or catheter insertion, open abdominal surgery, head and neck surgery, orthopedic surgery, and thoracic surgery [17]. The majority of the reporting healthcare facilities cited miscommunication as the primary root cause. Other identified causes include failure to follow established procedures, incomplete preoperative assessment, inconsistent postoperative monitoring procedures, and failure to question inappropriate orders. In order to reduce the risk, reporting facilities have identified a number of strategies, including improving staff orientation and training, increasing educational opportunities for physicians, clearly defining expected channels of communication, and monitoring consistency of compliance with procedures. Healthcare facilities should review postoperative patient monitoring procedures to ensure an adequate level appropriate to the needs of the patient, regardless of the setting (e.g., operating room, endoscopy suite, radiology department) [17]. Based upon these findings, it is clear that direct communication among healthcare providers is key to preventing operative and postoperative complications. Healthcare facilities should provide more staff education regarding preventative measures, and healthcare providers can do their part by engaging in a healthy and mutual respect for all of the members of the healthcare team [17].

## MEDICATION ERRORS

Unquestionably, medication errors are one of the most common causes of avoidable harm to patients. These errors may occur at any of these critical points: when ordered or prescribed by a physician; during documentation; while transcribing; when dispensed by a pharmacist; when administered by a nurse; or during monitoring.

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as [20]:

Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient or consumer. Such events may be related to professional practice, healthcare

products, procedures, and systems, including prescribing: order communication; product labeling; packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.

It has been estimated that up to 50% of medication errors are caused by a provider writing the wrong medication, the wrong route or dose, or the wrong frequency, and nearly 75% of medication errors have been attributed to distraction of the care provider [24]. In addition, a number of medication errors can be linked to the prescriber who continually uses potentially dangerous abbreviations and dose expressions. Despite repeated warnings by the Institute for Safe Medication Practices about the dangers associated with using certain abbreviations when prescribing medications, this practice continues. To eliminate this factor, there are fairly simple steps that can eliminate much confusion. Prescribers should [21]:

- Avoid the use of the symbol “U” or “u” but rather spell “units” when ordering drugs, such as insulin.
- Spell out medication names completely rather than using abbreviations and acronyms.
- Avoid using abbreviations for “daily” (QD), “every other day” (QOD), or “four times daily” (QID), which are easily confused.
- Use leading zeros before a decimal point (e.g., 0.2 mg instead of .2 mg), and do not use trailing zeros (e.g., 2 mg instead of 2.0 mg).
- Write out “morphine sulfate” and “magnesium sulfate” instead of using the abbreviations (MS, MSO<sub>4</sub>, MgSO<sub>4</sub>).

The Institute for Safe Medication Practices publishes a list of error-prone abbreviations, symbols, and dose designations online at <https://www.ismp.org/recommendations/error-prone-abbreviations-list>.

Other factors contributing to prescriber errors are illegible or confusing handwriting and, a frequently cited cause of many adverse and sentinel events, the failure of healthcare providers to assess risk and prevent errors. Addressing illegibility may include developing appropriate policies and procedures, tracking and trending patterns, and evaluating results through peer review committees. Improving communication might include developing protocols for the use of verbal orders to assure that those from an onsite practitioner would be limited to an emergency situation only. No verbal orders should be taken for certain medications, such as for chemotherapy, and all verbal orders should be repeated for clarification and, whenever possible, reiterated to a third person. Another method of improving communication might involve reviewing the hospital formulary in collaboration with the Pharmacy and Therapeutics Committee of the medical staff to limit, where appropriate, the number of therapeutically and generically equivalent products [22].

It has been estimated that between 0.2% and 10% of prescriptions are dispensed incorrectly [23]. The three most common

dispensing errors are: dispensing an incorrect medication, dosage strength, or dosage form; miscalculating a dose; and failing to identify drug interactions or contraindications [24]. Safe medication dispensing practices may include a number of risk reduction strategies to reduce the incidence of errors that may cause harm to patients [22; 25; 54; 61]:

- Ensure that appropriate and current drug reference texts and/or online resources are immediately available to pharmacy personnel.
- Ensure that essential patient information, such as allergies, age, weight, current diagnoses, pertinent lab values, and current medication regimen, is available to the pharmacist prior to the dispensing of a new medication order.
- Require clarification of any order that is incomplete, illegible, or otherwise questionable using an established process for resolving questions.
- Whenever possible, dispense dosage units in a ready-to-administer form.
- Dispense single-dose vials and ampoules rather than multidose vials.
- Select oral rather than injectable routes, when possible.
- Require that a pharmacist double-check all mathematical calculations for neonatal and pediatric dilutions, parenteral nutrition solutions, and other compounded pharmaceutical products.
- Create an environment for the dispensing area that minimizes distractions and interruptions, provides appropriate lighting, air conditioning, and air flow, safe noise levels, and includes ergonomic consideration of equipment, fixtures, and technology.
- Require that a second pharmacist double-check the accuracy of order entry and dose calculations for all orders involving antineoplastic agents and other high-risk drugs dispensed by the pharmacy.
- Enhance the awareness of look-alike and sound-alike medications, and use warning signs to help differentiate medications from one another, especially when confusion exists between or among strengths, similar looking labels, or similar sounding names.
- Separate look-alike and sound-alike medications in pharmacy dispensing areas or consider repackaging or using different vendors.
- Follow-up and periodically evaluate the need for continued drug therapy for individual patients.

Once again, communication is likely the key to avoiding dispensing errors. Pharmacists should work closely with their staff to ensure that proper protocols are followed, and most importantly, when questions arise regarding a prescription, the pharmacist should take the time to contact the prescriber directly to obtain clarification.

The healthcare provider who has the responsibility to administer a medication has the final opportunity to avoid a mistake.



In most cases, particularly in inpatient settings, this responsibility falls to the nurse. Nurses are often taught in nursing school to review the five “rights” prior to administering any medication: the right patient is given the right drug in the right dose by the right route at the right time [26]. Medication errors generally fall into four categories, which mimic these five “rights.” The first is the failure to follow procedural safeguards, such as ensuring that essential patient information, including allergies, age, weight, and current medication regimen, is available. The second is unfamiliarity with a drug. In one case, a jury determined that a nurse was negligent for giving a drug without having reviewed the literature, which stated that the necessary precautions for the administration of the drug required the specialized skill of an anesthesiologist. The third category of drug administration is failure to use the correct mode of administration. A nurse in Delaware was held liable for administering a medication by injection after an order had been written to change the route to oral. The final category involves failure to obtain clarification if an order is incomplete, illegible, or otherwise questionable. In a case tried in Louisiana, a nurse was held liable for administering a medication that a physician ordered, notwithstanding that the dose was excessive. The nurse’s administration of the drug led to the patient’s death [27].

In addition, healthcare facilities should implement appropriate guidelines, policies, and procedures to ensure safe medication administration practice. These policies should require that staff members who administer medications [24; 25; 54; 61]:

- Are knowledgeable about the drug’s uses, precautions, contraindications, potential adverse reactions, interactions, and proper method of administration
- Resolve questions prior to medication administration
- Only administer medications that have been properly labeled with medication name, dose to be administered, dosage form, route, and expiration date
- Utilize a standard medication administration time schedule and receive education on how and when to incorporate newly started medication orders safely into the standardized schedule
- Have a second person verify a dosage calculation if a mathematical calculation of a dose is necessary
- Receive adequate education on the operation and use of devices and equipment used for medication administration (for example, patient-controlled anesthesia pumps and other types of infusion pumps)
- Have another person double-check infusion pump settings when critical, high-risk drugs are infused
- Document all medications immediately after administration

Finally, healthcare facilities should have proper quality assurance measures in place to monitor medication administration practices. Included among these would be protocols and guidelines for use with critical and problem-prone medications to help optimize therapies and minimize the possibility of

adverse events and to integrate “triggers” to indicate the need for additional clinical monitoring [25].

It is important to note that the pediatric population is especially vulnerable to medication errors. When children are prescribed adult medications, care must be taken to adjust dosage according to weight, requiring the physician to use pediatric-specific calculations. Also, many healthcare settings are not trained to care for the pediatric patient. Intolerance due to physiologic immaturity is also a factor in adverse response to medications, and in many cases, this population cannot communicate their discomfort due to adverse reactions. Risk reduction strategies include standardizing and effectively identifying medications and processes for drug administration, ensuring pharmacy oversight, and using technology, such as medication dispensing programs, infusion pumps, and bar-coding, judiciously [28].

### COMMON MISDIAGNOSES

As Florida healthcare professionals, it is important to be aware that in addition to wrong-site/wrong-procedure surgery, several medical conditions also continue to be misdiagnosed. As of 2024, the Florida Board of Medicine has determined the five most misdiagnosed conditions to be [29]:

- Oncology-related conditions
- Gastroenterology-related issues
- Cardiology-related issues
- Neurologic conditions
- Infectious disease-related conditions

It is important to be aware of the possibility of misdiagnosis and incorporate this knowledge into practice.

### Oncology-Related Conditions

The early detection and diagnosis of cancers is crucial for selecting the appropriate treatment approach and to ensure an optimum outcome. However, an estimated 12% of cancer patients are initially misdiagnosed, and the missed or delayed diagnosis of cancers remains a significant cause of medical malpractice claims [30; 31]. The causes of missed diagnoses vary widely among cancers in different parts of the body. In many cases, patients who do not fit the typical profile for a specific cancer (e.g., young age) may be underdiagnosed, and it is important that cancer is considered as part of the differential diagnosis in ambiguous cases [31; 32; 33]. In order to prevent missed or delayed cancer diagnosis, practitioners may take steps to ensure adherence to clinical guidelines for screening and diagnosis, use tools to facilitate communication, and engage strategies to ensure appropriate follow-up [55].

### Gastroenterology-Related Conditions

Gastroenterologic conditions may present with nonspecific complaints (e.g., abdominal pain, nausea) common to a variety of illnesses, complicating and delaying diagnosis. In one study of patients with pancreatic cancer, more than 30% were initially misdiagnosed, most commonly with gall bladder disease [58]. Diagnosis and screening for gastrointestinal disorders may be complicated by a lack of definitive test (e.g., irritable bowel

syndrome) or by limits on screening recommendations (e.g., colorectal cancer). However, delayed diagnosis can lead to worsening conditions and poorer prognosis.

In general, gastrointestinal syndromes/symptoms may be classified into three general diagnostic categories: organic, motility, or functional disorders [59; 60]. Functional GI disorders are idiopathic disorders of gut-brain interaction and, unlike organic and motility disorders, diagnosis involves identification of symptom clusters. As such, misdiagnosis is more common.

Another important consideration is GI symptom-specific anxiety, an important perpetuating factor that describes threatening interpretation and out-of-proportion behavioral response to GI sensations. This anxiety to real GI symptoms and the frequency of psychiatric comorbidity can lead to functional GI syndromes being dismissed as psychological or psychosomatic in nature.

### Cardiology-Related Issues

The clinical presentation of chest pain has many possible etiologies, ranging from benign (e.g., panic/anxiety, pneumonia, peptic ulcer, gastroesophageal reflux disease, and pericarditis) to life-threatening (e.g., pulmonary embolism, acute coronary syndrome [ACS], aortic dissection, and pneumothorax). In many cases, it is best to rule out the more urgently threatening possibilities before testing for other causes.

Of the potentially life-threatening causes of chest pain, ACS is the most prevalent. Although a large percentage of individuals with suspected ACS will be seen initially in emergency departments, patients in any healthcare setting, regardless of other diagnoses, may abruptly develop chest pain suspicious for ACS. When a patient presents with clinical signs suspicious for myocardial infarction, immediate medical intervention is directed at confirming a diagnosis and stratifying the person's risk for adverse events such as cardiac arrest and severe/significant damage to the myocardium [41]. It is important to note that while some patients will present with classic ACS-related chest pain (tightness, sensation of pressure, heaviness, crushing, vise-like, aching pain in the substernal or upper left chest), many patients, particularly women and older patients, will present with "atypical" ACS-related chest pain [45; 46]. Words commonly used to describe "atypical" chest pain associated with ACS include numbness, tingling, burning, stabbing, or pricking. Atypical chest pain location includes any area other than substernal or left sided, such as the back, area between shoulder blades, upper abdomen, shoulders, elbows, axillae, and ears [43; 44; 45; 46]. Aside from atypical clinical presentation, other possible causes of missed ACS diagnosis include failure of interpretation of the history, failure to correctly interpret the electrocardiogram, failure to perform an electrocardiogram when necessary, and lack of proper use of cardiac enzyme test [47].

### Infectious Disease-Related Conditions

Acute infection was the most commonly misdiagnosed disease in one study, with the potential adverse outcomes of sepsis, organ damage, and even death [37]. The presentation of infectious diseases may be atypical in certain populations (e.g., the

elderly), making detection even more difficult. In one survey of physicians, delayed diagnoses were found to commonly occur with tuberculosis, nontuberculous mycobacterial infections, syphilis, epidural abscess, infective endocarditis, and endemic fungal infections (e.g., histoplasmosis, blastomycosis) [38]. Diseases with general symptoms and varied presentations (e.g., Lyme disease) also present complicated clinical pictures. Adherence to established guidelines for the diagnosis and treatment of specific infectious diseases and attentive patient assessment and history are recommended in order to improve diagnostic accuracy [39; 40; 42]. In addition, early consultation with an infectious disease specialist has been identified as potentially mitigating factor [38].

### Neurologic Related Conditions

Delayed or missed diagnoses of neurologic conditions may result in serious morbidity and mortality. Headaches are a common presenting condition in acute and primary care, and an estimated 5% of all patients admitted to emergency departments have neurologic symptoms [34]. Acute headache with neurologic symptoms may be misdiagnosed as stroke [35; 64]. In addition, missed spinal fracture diagnoses are one of the leading causes of malpractice claims against radiologists [48].

One of the most common neurologic conditions is headache; however, it has been estimated that 50% of migraine patients remain undiagnosed or misdiagnosed, and only a small number (8% to 10%) of individuals with migraine take migraine-specific medications such as triptans or ergotamines [65; 66]. Patients suffering from daily migraines may be misdiagnosed with chronic sinusitis or rhinitis and repeatedly and unsuccessfully treated with broad-spectrum antibiotics [62; 63]. The diagnosis of migraine is based solely on a constellation of signs and symptoms, and a comprehensive medical and neurological examination is required to exclude secondary headache [56]. Useful evidence-based clinical guidelines for migraine screening have been developed and are summarized in the mnemonic POUND: pulsatile headache; one-day duration (4 to 72 hours); unilateral location; nausea or vomiting; and disabling intensity [57]. Competence of the clinician and effective communication with the patient play a crucial role in the diagnosis of migraine.

---

## OTHER CONSIDERATIONS FOR PATIENT SAFETY

---

The most important issue to improving patient safety is being aware of the particular safety hazards that may exist for various patient populations and on particular specialty units. In addition, education of the patient and the family should be a priority.

Infants and young children are not developmentally or cognitively able to participate in care and decision making, thus putting them at higher risk, especially for medication errors. In addition, when a medication error occurs in this population, infants and young children are at higher risk because of their

physical immaturity and increased sensitivity to the effects of drugs. The family or guardian of a pediatric patient should be encouraged to ask questions, especially if something seems wrong. In addition, a meta-analysis found that computerized provider order entry with clinical decision support reduced pediatric medication errors by 36% to 87% [51]. As such, the adoption of electronic support systems may help to reduce or eliminate these errors.

An estimated 30% of individuals 65 years of age or older who are living in the community fall each year [52]. Older patients may have poor vision, as a result of cataracts, glaucoma, and/or macular degeneration, and cardiovascular problems, which might result in syncope or postural hypotension. These conditions may affect patients' balance and stability. Bladder dysfunction, such as nocturia, may cause an elderly patient to have to ambulate more during the night in an unfamiliar environment, thereby increasing the risk of a fall. Lower extremity dysfunctions, such as arthritis, muscle weakness, or peripheral neuropathy, may make it more difficult to ambulate at any time. In addition to being at greater risk for falls, the elderly are also more prone to medication errors as their ability to understand instructions or to recognize an unfamiliar medication may be affected by dementia or other cognitive disorders. Interventions that can help prevent falls in the elderly include exercise programs, tai chi, vision improvement (e.g., first cataract surgery), and multifactorial assessment and intervention [52].

There are also unique factors that increase the risk of medical errors on specialty units. For instance, in critical care units, patients may be suffering from environmental psychosis, which could inhibit participation in their care. This is also true of lethargic and comatose patients. These patients are at particular risk because they cannot participate in the identification process. On psychiatric wards, patients may be suicidal or depressed, which may cause them to act out or attempt to harm themselves or others. Patients may also experience orthostatic side effects due to certain psychiatric medications, which may increase the incidence of falls. Obstetric patients are at higher risk for falls because they may have decreased sensation and mobility due to administration of epidural anesthesia, and they may also suffer from excessive blood loss, which could lead to postural hypotension [49]. Again, the key is identifying the unique needs of the particular population.

With regard to education, a number of organizations have developed guidelines to facilitate the role of patients as their own safety advocates. These guidelines are not intended to shift the burden of monitoring medical error to patients. Rather, they encourage patients to share responsibility for their own safety. As healthcare professionals, we should ensure that all of our patients are familiar with these guidelines. The Agency for Healthcare Research and Quality has developed a "Patient Fact Sheet" that outlines 20 tips for patients to help prevent

medical errors [53]. Although some of these suggestions may seem extreme, many patients now desire to have a more active role in their care. Some of these items have become routine or are currently required, such as consultations by pharmacists when a patient picks up a prescribed medication.

### USE OF AN INTERPRETER

As a result of the evolving racial and immigration demographics in the United States, interaction with patients for whom English is not a native language is inevitable. Because patient education is such a vital aspect of preventing medical errors, it is each practitioner's responsibility to ensure that information and instructions are explained in such a way that allows for patient understanding. When there is an obvious disconnect in the communication process between the practitioner and patient due to the patient's lack of proficiency in the English language, an interpreter is required.

Interpreters are more than passive agents who translate and transmit information back and forth from party to party. They should be professionally trained in ethics, accuracy, completeness, and impartiality. Furthermore, it is the interpreter's role to negotiate cultural differences and promote culturally responsive communication and practice. When they are enlisted and treated as part of the interdisciplinary clinical team, they serve as cultural brokers, who ultimately enhance the clinical encounter. In any case in which information regarding diagnostic procedures, treatment options, or medication/treatment measures is being provided, the use of an interpreter should be considered.

---

### CONCLUSION

Although the United States has one of the top healthcare systems in the world, it is apparent that the numbers of medical errors are at unacceptably high levels. The consequences of medical errors are often more severe than the consequences of mistakes in other industries. They may lead to death or to serious and long-term disability, which underscores the need for aggressive action in this area. As a starting point, we should become an active part of the solution. This will only happen if all healthcare professionals voice their concerns when they identify problems in a system or process. In addition, we should actively participate in the root cause analysis process, understanding that the goal is not to assign blame, but rather to identify how we can improve the process to provide the best quality care to our patients. Medical errors are costly, not only because patients may lose their lives or livelihoods, but also because patients lose trust in the system and colleagues lose faith in each other. To preserve the integrity of our system, we must correct this problem, and the solution begins with each of us.

Customer Information and Answer Sheet located on pages 103–104.

COURSE TEST - #91334 MEDICAL ERROR PREVENTION AND ROOT CAUSE ANALYSIS

*This is an open book test. Please record your responses on the Answer Sheet.*

*A passing grade of at least 70% must be achieved in order to receive credit for this course.*

*This 2 contact hour activity must be completed by August 31, 2025.*

1. The Institute of Medicine's (IOM) Committee on Quality of Healthcare in America defines error as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.  
A) True  
B) False
2. Patient rape is an example of a sentinel event subject to review by the Joint Commission.  
A) True  
B) False
3. A "thorough" root cause analysis is one in which the participants identify risk points and their potential contributions to this type of event.  
A) True  
B) False
4. A credible root cause analysis must be based upon a survey of everyone employed at the healthcare institution.  
A) True  
B) False
5. A wrong-site surgical procedure that did not result in the death of the patient must be reported to the risk manager within three business days according to Florida law.  
A) True  
B) False
6. The Joint Commission prepares and distributes Sentinel Event Alerts in order to recommend ways in which the healthcare facility can terminate employees whose actions result in a sentinel event.  
A) True  
B) False
7. Infant abduction is among the most common sentinel events reported to the Joint Commission.  
A) True  
B) False
8. The most common root cause documented for patient suicide was shortcomings in assessment, most commonly psychiatric assessment.  
A) True  
B) False
9. A medication error may occur when ordered by a physician, administered by a nurse, or dispensed by a pharmacist.  
A) True  
B) False
10. Approximately 32% of patients with cancer are initially misdiagnosed.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Domestic Violence: The Florida Requirement

This course fulfills the Florida requirement for 2 hours of Domestic Violence education every third renewal period.

*Have you already completed your Domestic Violence requirement? You can skip this course and still receive 24 hours of continuing education, including 16 general hours.*

## Audience

This course is designed for all Florida healthcare professionals required to complete domestic violence education.

## Course Objective

The purpose of this course is to enable healthcare professionals in all practice settings to define domestic violence and identify those who are affected by domestic violence in the United States. This course describes how a victim can be accurately diagnosed and identifies the community resources available in the state of Florida for domestic violence victims.

## Learning Objectives

Upon completion of this course, you should be able to:

1. Define domestic violence and its impact on health care.
2. Cite the general prevalence of domestic violence on a national and state level and identify state laws pertaining to the issue.
3. Describe how to screen and assess individuals who may be victims or perpetrators of domestic violence, including the importance of conducting a culturally sensitive assessment.
4. Identify community resources presently available for domestic violence victims and their perpetrators throughout Florida concerning legal aid, shelter, victim and batterer counseling, and child protection services.

## Faculty

**Marjorie Conner Allen, BSN, JD**, received her Bachelor of Science in Nursing degree from the University of Florida, Gainesville, in 1984. She began her nursing career at Shands Teaching Hospital and Clinics at the University of Florida, Gainesville. While practicing nursing at Shands, she gave continuing education seminars regarding the nursing implications for dealing with adolescents with terminal illness. In 1988, Ms. Allen moved to Atlanta, Georgia where she worked at Egleston Children's Hospital at Emory University in the bone marrow transplant unit. (A complete biography can be found at NetCE.com.)

**Alice Yick Flanagan, PhD, MSW**, received her Master's in Social Work from Columbia University, School of Social Work. She has clinical experience in mental health in correctional settings, psychiatric hospitals, and community health centers. In 1997, she received her PhD from UCLA, School of Public Policy and Social Research. Dr. Yick Flanagan completed a year-long post-doctoral fellowship at Hunter College, School of Social Work in 1999. In that year she taught the course Research Methods and Violence Against Women to Masters degree students, as well as conducting qualitative research studies on death and dying in Chinese American families. (A complete biography can be found at NetCE.com.)

## Faculty Disclosure

Contributing faculty, Marjorie Conner Allen, BSN, JD, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

Contributing faculty, Alice Yick Flanagan, PhD, MSW, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Division Planner

Jane C. Norman, RN, MSN, CNE, PhD

## Senior Director of Development and Academic Affairs

Sarah Campbell

## Division Planner/Director Disclosure

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Accreditations & Approvals



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

NetCE designates this continuing education activity for 2 ANCC contact hours.



This activity was planned by and for the healthcare team, and learners will receive 2 Interprofessional Continuing Education (IPCE) credits for learning and change.

AACN Synergy CERP Category B.

### Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### Special Approvals

This course fulfills the Florida requirement for 2 hours of Domestic Violence education every third renewal period.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

#### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

## INTRODUCTION

Domestic violence continues to be a prevalent problem in the United States today. Because of the number of individuals affected, it is likely that most healthcare professionals will encounter patients in their practice who are victims. Accordingly, it is essential that healthcare professionals are taught to recognize and accurately interpret behaviors associated with domestic violence. It is incumbent upon the healthcare professional to establish and implement protocols for early identification of domestic violence victims and their abusers. In order to prevent domestic violence and promote the well-being of their patients, healthcare professionals in all settings should take the initiative to properly assess all women for abuse during each visit and, for those women who are or may be victims, to offer education, counseling, and referral information.

Victims of domestic violence suffer emotional, psychologic, and physical abuse, all of which can result in both acute and chronic signs and symptoms of physical and mental disease, illness, and injury. Frequently, the injuries sustained require abused victims to seek care from healthcare professionals immediately after their victimization. Subsequently, physicians and nurses are often the first healthcare providers that victims encounter and are in a critical position to identify domestic violence victims in a variety of clinical practice settings where victims receive care. Accordingly, each healthcare professional should educate himself or herself to enhance awareness of the presence of abuse victims in his or her particular practice or clinical setting.

Specifically, healthcare professionals should be aware of the signs and symptoms associated with domestic violence. In addition, when family violence cases are identified, there should be a plan of action that includes providing information on, and referral to, local community resources related to legal aid, sheltering, victim counseling, batterer counseling, advocacy groups, and child protection.

## DEFINING DOMESTIC VIOLENCE

Domestic violence, which is sometimes also referred to as spousal abuse, battering, or intimate partner violence (IPV), refers to the victimization of an individual with whom the abuser has or has had an intimate or romantic relationship. Researchers in the field of domestic violence have not agreed on a uniform definition of what constitutes violence or an abusive relationship. The Centers for Disease Control and Prevention (CDC) defines IPV as, “violence or aggression that occurs in a romantic relationship” [1]. According to the Florida Department of Children and Families, domestic violence is “a pattern of abusive behaviors that adults use to maintain power and control over their intimate partners or former partners. People who abuse their partners use a variety of tactics to coerce, intimidate, threaten, and frighten their

victims” [2]. Domestic violence may include physical violence, sexual violence, emotional abuse, economic abuse, isolation, pet abuse, threats relating to children, and a variety of other behaviors meant to increase fear, intimidation, and power over the victim [2]. Florida law defines domestic violence as “any assault, aggravated assault, battery, aggravated battery, sexual assault, sexual battery, stalking, aggravated stalking, kidnapping, false imprisonment, or any criminal offense resulting in physical injury or death of one family or household member by another family or household member” [3]. Family or household members, according to Florida definition, must “be currently residing or have in the past resided together in the same single dwelling unit” [3]. Domestic violence knows no boundaries. It occurs in intimate relationships regardless of race, religion, culture, or socioeconomic status [2].

Whatever the definition, it is important for healthcare professionals to understand that domestic violence, in the form of emotional and psychologic abuse, sexual abuse, and physical violence, is prevalent in our society. Because of the similar nature of the definitions, this course will use the terms “domestic violence” and “IPV” interchangeably.

---

## NATIONAL AND STATE STATISTICS AND LEGISLATION

---

Domestic violence is one of the most serious public health problems in the United States [4]. More than 36.4% of women and 33.6% of men have a lifetime history of IPV [4]. In Florida, the weighted lifetime prevalence of IPV (including rape, physical violence, and/or stalking) is 37.4% among women and 29.3% among men [5]. Although many of these incidents are relatively minor and consist of pushing, grabbing, shoving, slapping, and hitting, IPV resulted in approximately 1,500 deaths in the United States in 2019, with 214 of those deaths occurring in Florida in the same year. Statistics indicate a slightly higher rate in 2020, with 217 deaths in Florida in 2020 [7; 8]. One of the difficulties in addressing the problem is that abuse is prevalent in all demographics, regardless of age, ethnicity, race, religious denomination, education, or socioeconomic status [2].

Victims of abuse often suffer severe physical injuries and will likely seek care at a hospital or clinic. The health and economic consequences of domestic violence are significant. Statistics vary from report to report, and due to the lack of studies on the national cost of domestic violence, the U.S. Congress funded the CDC to conduct a study to determine the cost of domestic violence on the healthcare system [9]. The 2003 CDC report, which relied on data from the National Violence Against Women Survey conducted in 1995, estimated the costs of IPV by measuring how many female victims were nonfatally injured; how many women used medical and mental healthcare services; and how many women lost time from paid work and household chores. The estimated total annual cost of IPV

against women in the 1995 survey was more than \$5.8 billion [9]. When updated to 2017 dollars, the amount was more than \$9.3 billion annually. The costs associated with IPV at this time would be considerably more, but no further studies have been conducted [10]. It should be noted that the costs of any one victimization may continue for years; therefore, these statistics most likely underestimate the actual cost of IPV [9].

The national rate of nonfatal domestic violence against women declined 72% between 1993 and 2011 [11]. The rate of overall violent crime fell by nearly 60% in this same time period [11]. Studies reveal that several factors may have contributed to the reduction in violence, including a decline in the marriage rate and decrease of domesticity, better access to federally funded domestic violence shelters, improvements in women’s economic status, and demographic trends, such as the aging of the population [13; 14]. Of note, declines in the economy and stress associated with financial hardship and unemployment are significant contributors to IPV in the United States. Following the economic downturn in late 2008, there was a significant increase in the use of the National Domestic Violence Hotline in 2009, with more than half of victims reporting a change in household financial situation in the last year [15]. This trend continued with the COVID-19 pandemic, with stressors from lockdown orders, unemployment, financial insecurity, childcare and homeschool responsibilities, and poor coping strategies (e.g., substance abuse) increasing the rate of domestic violence. Reports showed a 9.7% increase in domestic violence calls for service in the first two months state-mandated lockdowns were imposed; furthermore, the National Commission on COVID-19 and Criminal Justice reported an increase of 8.1% in domestic violence incidents within the first months of mandated stay-at-home orders [6].

## FLORIDA

In response to troubling domestic violence statistics, Governor Lawton Chiles appointed a Task Force on Domestic Violence on September 28, 1993, to investigate the problems associated with domestic violence in Florida and to compile recommendations as to how the problems should be approached and ultimately resolved. On January 31, 1994, the Task Force issued its first report on domestic violence. This report recommended standards to accurately measure the extent of domestic violence and strategies for increasing public awareness and education. It identified programs and resources that are available to victims in Florida, made legislative and budgetary suggestions for needed changes, provided a methodology for implementing these changes, and identified areas of domestic violence that require further study.

As a result of this report, Florida enacted legislation during the 1995 session implementing various suggestions of the Task Force. Specifically, the Legislature amended Section 455.222 of the Florida Statutes to require that all physicians, osteopaths, nurses, dentists, dental hygienists, midwives, psychologists, and psychotherapists obtain, as part of their biennial continuing

education requirements, a one-hour continuing education course on domestic violence [17]. In June of 2006, Governor Jeb Bush signed into law House Bill 699. The bill, which went into effect July 1, 2006, changed the domestic violence continuing education requirement from one hour every renewal period to two hours every third renewal period.

In 1997, at the request of the Governor's Task Force, a workgroup was established by the Florida Department of Law Enforcement (FDLE) to evaluate the feasibility of tracking incidents of domestic violence in the state [18]. This resulted in the creation of the Domestic Violence Data Resource Center (DVDRC). The original mission of the DVDRC was to collect information related to domestic violence and to report and maintain the information in a statewide tracking system [19]. Domestic Violence Fatality Review Teams were established to examine those cases of domestic violence that resulted in a fatality and identify potential changes in policy or procedure that might prevent future deaths. The teams were comprised of representatives from law enforcement, the courts, social services, state attorneys, domestic violence centers, and others who may come into contact with domestic violence victims and perpetrators [20]. In 2000, the creation of Florida Statute 741.316 required the FDLE to annually publish a report based on the data gathered by the Fatality Review Teams [19]. Due to budgetary constraints, responsibility of compiling this data transferred to the Department of Children and Families in 2008 [21].

As part of Governor Jeb Bush's initiative, the "Family Protection Act" was signed into law in 2001. The act requires a 5-day mandatory jail term for any crime of domestic battery in which the perpetrator deliberately injures the victim. The law also makes a second battery crime a felony offense, treating offenders as serious criminals. Additional legislation, signed into law in 2002, includes Senate Bills 716 and 1974. Senate Bill 716 protects domestic violence victims by including dating relationships of six months in the definition of domestic violence laws. Senate Bill 1974 requires judges to inform victims of their rights, including the right to appear, be notified, seek restitution, and make a victim-impact statement. Governor Bush also created the Violence Free Florida campaign to increase public awareness of domestic violence issues [22].

In 2003, Governor Bush signed House Bill 1099, which transferred funding authority of the Florida Domestic Violence Trust Fund from the Department of Children and Families to the Florida Coalition Against Domestic Violence. According to the Domestic Violence in Florida 2010–2011 Annual Report to the Legislature, this has strengthened domestic violence services provided by streamlining the process of allocating funds [23].

In 2007, the Domestic Violence Leave Act was signed into law by Governor Charlie Crist [21]. This law requires employers with 50 or more employees to provide guaranteed leave for domestic violence issues.

In 2020, the FDLE reported 106,736 domestic violence offenses [8]. In general, domestic violence rates have been declining since 1998. An estimated 19.5% of domestic violence incidents involved spouses and 27.8% involved cohabitants; 11.6% of the victims were parents of the offenders. Domestic violence offenses resulted in the death of 217 victims in Florida in 2020, a number that has been decreasing since 2014 [8]. Domestic violence accounted for 16.9% of the state's murders in 2020 [8].

In their 2019 Annual Report, Fatality Review Teams summarized 31 cases of domestic violence fatalities and near fatalities [49]. The most significant findings included the following observations [49]:

- The perpetrators were predominantly male (94%) with female victims (90%) and had prior criminal histories, non-domestic-violence-related (67%) and for domestic violence specifically (69%).
- In 31% of fatalities, the perpetrators had a known "do not contact" order filed against them, and 13% of perpetrators had a known permanent injunction for protection against them filed by someone other than the victim.
- Substance abuse histories by the perpetrator was identified in 77% of the cases and diagnosed mental health disorders in 45%.
- In most cases, neither the decedent nor perpetrator sought help from the various intervention programs available to them.

To obtain a copy of the most current Florida Statewide Domestic Violence Fatality Review report, please visit <https://www.myflfamilies.com/service-programs/domestic-violence/publications.shtml>.

---

## IDENTIFYING GROUPS AT RISK FOR DOMESTIC VIOLENCE

---

Healthcare professionals are in a critical position to identify domestic violence victims in a variety of clinical practice settings. Nurses are often the first healthcare provider a victim of domestic violence will encounter in a healthcare setting and should therefore be prepared to provide care and support for these victims. Although women are most often the victims, domestic violence extends to others in the household as well. For example, domestic violence includes abused men, children abused by their parents or parents abused by their children, elder abuse, and abuse among siblings [3].

Many victims of abuse sustain injuries that lead them to present to hospital emergency departments. Research has found that 49.6% of women seen in emergency departments reported a history of abuse and 44% of women who were ultimately killed by their abuser had sought help in an emergency department



in the two years prior to their death [25; 50]. Another study of 993 police-identified female victims of IPV found that only 28% of the women were identified in the emergency department as being victims of IPV [26]. These alarming statistics demonstrate that healthcare professionals who work in acute care, such as hospital emergency rooms, should maintain a high index of suspicion for battering of the patients that they see. Healthcare professionals who work in these settings should work with hospital administrators to establish and institute assessment mechanisms to accurately detect these victims.

For every victim of abuse, there is also a perpetrator. Like their victims, perpetrators of domestic violence come from all socioeconomic backgrounds, races, religions, and walks of life [1; 4]. Accordingly, healthcare professionals should likewise be aware that seemingly supportive family members may, in fact, be abusers.

### **PREGNANT WOMEN**

Because a gynecologist or obstetrician is frequently a woman's primary care physician, the American College of Obstetricians and Gynecologists (ACOG) recommends that all women be routinely assessed for signs of IPV (i.e., physical and psychological abuse, reproductive coercion, and progressive isolation), including during prenatal visits, and providers should offer support and referral information for those being abused [25]. According to the ACOG, IPV affects as many as 324,000 pregnant women each year [25]. A meta-analysis of 92 independent studies found that the average reported prevalence of emotional abuse during pregnancy was 28.4%, physical abuse was 13.8%, and sexual abuse was 8% [51]. As with all domestic violence statistics, these estimates are presumed to be lower than the actual incidence as a result of under-reporting and lack of data on women whose pregnancies ended in fetal or maternal death. This makes IPV more prevalent among pregnant women than some of the health conditions included in prenatal screenings, including pre-eclampsia and gestational diabetes [25]. Because 96% of pregnant women receive prenatal care, this is an optimal time to assess for domestic violence and develop trusting relationships with the women. Possible factors that may predispose pregnant women to IPV include being unmarried, lower socioeconomic status, young maternal age, unintended pregnancy, delayed prenatal care, lack of social support, and use of tobacco, alcohol, or illegal drugs [25; 51].

The overarching problem of violence against pregnant women cannot be ignored, especially as both mother and fetus are at risk. At this particularly vulnerable time in a woman's life, an organized clinical construct leading to immediate diagnosis and medical intervention will ensure that therapeutic opportunities are available to the pregnant woman and will reduce the potential negative outcomes [29]. Healthcare professionals should also be aware of the possible psychologic consequences of abuse during pregnancy. There is a higher risk of stress, depression, and addiction to alcohol and drugs in abused women. These conditions may result in damage to the fetus from tobacco, drugs, and alcohol and a loss of interest on

the part of the mother in her or her baby's health [16; 30]. Possible direct injuries to the fetus may result from maternal trauma [25].

Control of reproductive or sexual health is also a recognized trend in IPV. This type of abuse includes trying to impregnate or become pregnant against a partner's wishes, refusal to use birth control (e.g., condoms, oral contraceptives), or stopping a partner from using birth control [4].

### **CHILDREN**

Children exposed to family violence are at high risk for abuse and for emotional damage that may affect them as they grow older. The Department of Justice estimates that of the 76 million children in the United States, 46 million will be exposed to some type of violence during their childhood [52]. Results of the National Survey of Children's Exposure to Violence indicated that 11% of children were exposed to IPV at home within the last year, and as many as 26% of children were exposed to at least one form of family violence during their lifetimes [31]. Of those children exposed to IPV, 90% were direct eyewitnesses of the violence; the remaining children were exposed by either hearing the violence or seeing or being told about injuries [31]. Of note, according to Florida criminal law, witnessing domestic violence is defined as "violence in the presence of a child if an offender is convicted of a primary offense of domestic violence, and that offense was committed in the presence of a child under age 16 who is a family or household member with the victim or perpetrator" [32].

A number of studies indicate that child witnesses are at increased risk for post-traumatic stress disorder, impaired development, aggressive behavior, anxiety, difficulties with peers, substance abuse, and academic problems than the average child [33; 54; 55]. Children exposed to violence may also be more prone to dating violence (as a perpetrator or a victim), and the ability to effectively cope with partnerships and parenting later in life may be affected, continuing the cycle of violence into the next generation [34; 56].

In addition to witnessing violence, various studies have shown that these children may also become direct victims of violence, and children who both witness and experience violence are at the greatest risk for adverse psychosocial outcomes [53]. Research indicates that between 30% and 65% of husbands who batter their wives also batter their children [27; 35]. Moreover, victims of abuse will often turn on their children; statistics demonstrate that 85% of domestic violence victims abuse or neglect their children. The 2020 Crime in Florida report found that more than 13% of domestic homicide victims were children killed by a parent [8]. Teenage children are also victimized. According to the U.S. Department of Justice, between 1980 and 2008, 17.5% of all homicides against female adolescents 12 to 17 years of age were committed by an intimate partner [36]. Among young women (18 to 24 years of age), the rate is estimated to be 43% in the United States and 8% to 57% globally. Abused teens often do not report the

abuse. Individuals 12 to 19 years of age report only 35.7% of crimes against them, compared with 54% in older age groups [28; 37]. Accordingly, healthcare professionals who see young children and adolescents in their practice (e.g., pediatricians, family physicians, school nurses, pediatric nurse practitioners, community health nurses) should have the tools necessary to detect these “silent victims” of domestic violence and to intervene quickly to protect young children and adolescents from further abuse. Without such critical intervention, the cycle of violence will never end.

### ELDERLY

Abused and neglected elders, who may be mistreated by their spouses, partners, children, or other relatives, are among the most isolated of all victims of family violence. In a national study conducted by the National Institute of Justice in 2010, 4.6% of participants (community dwelling adults 60 years of age or older) were victims of emotional abuse in the past year, 1.6% physical abuse, 0.6% sexual abuse, 5.1% potential neglect, and 5.2% current financial abuse by a family member [38]. A 2017 study found a self-reported incidence of 11.6% psychological abuse, 2.6% physical abuse, 6.8% financial abuse, 4.2% neglect, and 0.9% sexual abuse [59]. The estimated annual incidence of all elder abuse types is 2% to 10%, but it is believed to be severely under-measured. According to one study, only 1 in 24 cases of elder abuse are reported to the authorities [39].

The prevalence rate of elder abuse in institutional settings is not clear. However, in a 2019 review of nine studies, 64% of elder care facility staff disclosed to having perpetrated abuse against an elderly resident in the past year [40]. In a random sample survey, 24.3% of respondents reported at least one incident of elder physical abuse perpetrated by a nursing home staff member [57].

As healthcare professionals in Florida, which leads the nation in percentage of older residents, it is important to understand that the needs of older Floridians will increase as will the numbers of elder victims of domestic violence. Because elder abuse can occur in family homes, nursing homes, board and care facilities, and even medical facilities, healthcare professionals should remain keenly aware of the potential for abuse. When abuse occurs between elder partners, it is primarily manifested in one of two ways: either as a long-standing pattern of marital violence or as abuse originating in old age. In the latter case, abuse may be precipitated by issues related to advanced age, including the stress that accompanies disability and changing family relationships [39].

It is important to understand that the domestic violence dynamic involves not only a victim but a perpetrator as well. For example, an adult son or daughter who lives in the parents’ home and depends on the parents for financial support may be in a position to inflict abuse. This abuse may not always manifest itself as violence but can lead to an environment in

which the elder parent is controlled and isolated. The elder may be hesitant to seek help because the abuser’s absence from the home may leave the elder without a caregiver [39]. Because these elderly victims are often isolated, dependent, infirm, or mentally impaired, it is easy for the abuse to remain undetected. Healthcare professionals in all settings should remain aware of the potential for abuse and keep a watchful eye on this particularly vulnerable group.

### MEN

Statistics confirm that domestic violence is predominantly perpetrated by men against women; however, there is evidence that women also exhibit violent behavior against their male partners [4]. Studies demonstrate approximately 5% of homicides against men are perpetrated by intimate partners [36]. It is persuasively argued that the impact on the health of female victims of domestic violence is generally much more severe than the impact on the health of male victims [42]. Approximately 512,770 women were raped and/or physically assaulted by an intimate partner in 2008, compared to 101,050 men [58]. In addition, 1 in 4 women has been physically assaulted, raped, and/or stalked by an intimate partner, compared with 1 out of every 10 men [1]. Rape, non-contact unwanted sexual experiences, and stalking against men are primarily perpetrated by other men, while other forms of violence against men were perpetrated mostly by women [5]. Male victims of IPV experienced 3 victimizations per 1,000 boys and men 12 years of age or older in 1994, and this rate decreased by 64%, to 1.1 per 1,000, in 2010 [11]. Of all homicides committed against men between 1980 and 2008, 7.1% were committed by an intimate partner [36]. Although women are more often victims of IPV, healthcare professionals should always keep in mind that men can also be victimized and assess accordingly.

### LESBIAN, GAY, BISEXUAL, TRANSGENDER, AND QUEER/QUESTIONING VICTIMS

Domestic violence exists in lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ+) communities, and the rates are thought to mirror those of heterosexual women—approximately 25% [43]. However, women living with female intimate partners experience less IPV than women living with men [8]. Conversely, men living with male intimate partners experience more IPV than do men who live with female intimate partners [8]. In addition, 78% of IPV homicide victims reported in 2017 were transgender women or cisgender men [24]. This supports other statistics indicating that IPV is perpetrated primarily by men. A form of abuse specific to the gay community is for an abuser to threaten or to proceed with “outing” a partner to others [41; 43].

Transgender individuals appear to be at particular risk for violence. According to a large national report, transgender victims of IPV were 1.9 times more likely to experience physical violence and 3.9 times more likely to experience discrimination than other members of the LGBTQ+ community [24].

In 2017, an annual national report recorded 52 incidences of hate violence-related homicides of LGBTQ+ people, the highest incident number recorded in its 20-year history [24]. This increasing prevalence of anti-LGBTQ+ violence can exacerbate IPV in LGBTQ+ communities. For example, a person who loses their job because of anti-trans bias may be more financially reliant on an unhealthy relationship. An abusive partner may also use the violence that an LGBTQ+ person experiences from their family as a way of isolating that person further [24].

Because of the stigma of being LGBTQ+, victims may be reticent to report abuse and afraid that their sexual orientation or biologic sex will be revealed. In one study, the three major barriers to seeking help were a limited understanding of the problem of LGBTQ+ IPV, stigma, and systemic inequities [41]. Many in this community feel that support services (e.g., shelters, support groups, crisis hotlines) are not available to them due to homophobia of the service providers. Unfortunately, this results in the victim feeling isolated and unsupported. Healthcare professionals should strive to be sensitive and supportive when working with homosexual patients.

---

## CHARACTERISTICS OF PERPETRATORS OF DOMESTIC VIOLENCE

---

Abuser characteristics have been studied far less frequently than victim characteristics. Some studies suggest a correlation between the occurrence of abuse and the consumption of alcohol. A man who abuses alcohol is also likely to abuse his mate, although the abuser may not necessarily be inebriated at the time the abuse is inflicted [44]. Domestic violence assessment questionnaires should include questions that explore social drinking habits of both victims and their mates.

Other studies demonstrate that abusive mates are generally possessive and jealous. Another characteristic related to the abuser's dependency and jealousy is extreme suspiciousness. This characteristic may be so extreme as to border on paranoia [12]. Domestic violence victims frequently report that abusers are extremely controlling of the everyday activities of the family. This domination is generally all encompassing and often includes maintaining complete control of finances and activities of the victim (e.g., work, school, social interactions) [12].

In addition, abusers often suffer from low self-esteem and their sense of self and identity is directly connected to their partner [12]. Extreme dependence is common in both abusers and those being abused. Due to low self-esteem and self-worth, emotional dependence often occurs in both partners, but even more so in the abuser. Emotional dependence in the victim stems from both physical and psychological abuse, which results in a negative self-image and lack of self-worth. Financial dependence is also very common, as the abuser often withholds or controls financial resources to maintain power over the victim [1; 4].

---

## SCREENING FOR DOMESTIC VIOLENCE AND ABUSE

---

There is no universal guideline for identifying and responding to domestic violence, but it is universally accepted that a plan for screening, assessing, and referring patients of suspected abuse should be in place at every healthcare facility. Guidelines should review appropriate interview techniques for a given setting and should also include the utilization of assessment tools. Furthermore, protocols within each facility or healthcare setting should include referral, documentation, and follow-up. This section relies heavily on the guidelines outlined in the Family Violence Prevention Fund's *National Consensus Guidelines on Identifying and Responding to Domestic Violence Victimization in Health Care Settings*; however, protocols should be customized based on individual practice settings and resources available [35]. The CDC has provided a compilation of assessment tools for healthcare workers to assist in recognizing and accurately interpreting behaviors associated with domestic violence and abuse, which may be accessed at <https://www.cdc.gov/violenceprevention/pdf/ipv/ipvandsvscreening.pdf> [45].

Several barriers to screening for domestic violence have been noted, including a lack of knowledge and training, time constraints, lack of privacy for asking appropriate questions, and the sensitive nature of the subject [35]. Although awareness and assessment for IPV has increased among healthcare providers, many are still hesitant to inquire about abuse [46]. At a minimum, those exhibiting signs of domestic violence should be screened. Although victims of IPV may not display typical signs and symptoms when they present to healthcare providers, there are certain cues that may be attributed to abuse. The obvious cues are physical. Injuries range from bruises, cuts, black eyes, concussions, broken bones, and miscarriages to permanent injuries such as damage to joints, partial loss of hearing or vision, and scars from burns, bites, or knife wounds. Typical injury patterns include contusions or minor lacerations to the head, face, neck, breast, or abdomen and musculoskeletal injuries. These are often distinguishable from accidental injuries, which are more likely to involve the extremities of the body. Abuse victims are also more likely to have multiple injuries than accident victims. When this pattern of injuries is seen, particularly in combination with evidence of old injury, physical abuse should be suspected [44].

In addition to physical signs and symptoms, domestic violence victims also exhibit psychologic cues that resemble an agitated depression. As a result of prolonged stress, various psychosomatic symptoms that generally lack an organic basis often manifest. For example, complaints of backaches, headaches, and digestive problems are common. Often, there are reports of fatigue, restlessness, insomnia, or loss of appetite. Great amounts of anxiety, guilt, and depression or dysphoria are also typical. Women who experienced IPV are also more likely to report asthma, irritable bowel syndrome, and diabetes [4]. Healthcare professionals should look beyond the typical

ASSESSMENT OF IMMEDIATE SAFETY FOR DOMESTIC VIOLENCE VICTIMS

- Are you in immediate danger?
- Is your partner at the health facility now?
- Do you want to (or have to) go home with your partner?
- Do you have somewhere safe to go?
- Have there been threats or direct abuse of the child(ren) (if applicable)?
- Are you afraid your life may be in danger?
- Has the violence gotten worse or is it getting scarier? Is it happening more often?
- Has your partner used weapons, alcohol, or drugs?
- Has your partner ever held you or your child(ren) against your will?
- Does your partner ever watch you closely, follow you or stalk you?
- Has your partner ever threatened to kill you, him/herself or your child(ren)?

Source: [35]

Table 1

symptoms of a domestic violence victim and work within their respective practice settings to develop appropriate assessment mechanisms to detect victims who exhibit less obvious symptoms.

The unique relationship dynamics of the abuser and abused are not easily detected under the best of circumstances. They may be especially difficult to uncover in circumstances in which the parties are suspicious and frightened, as might be expected when a victim presents to the emergency department. The key to detection, however, is to establish a proper assessment tool that can be utilized in the particular setting and to maintain a keen awareness for the cues described in this course. Screening for IPV should be carried out at the entry points of contact between victims and medical care (e.g., primary care, emergency services, obstetric and gynecologic services, psychiatric services, and pediatric care) [35].

The key to an initial assessment is to obtain an adequate history. Establishing that a patient’s injuries are secondary to abuse is the first task. Clearly, there will be times when a victim is injured so severely that treatment of these injuries becomes the first priority. After such treatment is rendered, however, it is important that healthcare professionals not ignore the reasons that brought the victim to the emergency department [35].

**ASSESSING DOMESTIC VIOLENCE AND ABUSE**

Healthcare providers have reported that even if routine screening and inquiry results in a positive identification of IPV, the next steps of assessing and referring are often difficult, and many feel that they are not adequately prepared [46]. According to the Family Violence Prevention Fund, the goals of the assessment are to create a supportive environment, gather information about health problems associated with the abuse,

and assess the immediate and long-term health and safety needs for the patient to develop an intervention [35].

Assessment of domestic violence victims should occur immediately after disclosure of abuse and at any follow-up appointments. Assessing immediate safety is priority. Having a list of questions readily available and well-practiced can help alleviate the uncertainty of how to begin the assessment (Table 1). If the patient is in immediate danger, referral to an advocate, support system, hotline, or shelter is indicated [35].

If the patient is not in immediate danger, the assessment may continue with a focus on the impact of IPV on the patient’s mental and physical health and the pattern of history and current abuse [35]. These responses will help formulate an appropriate intervention.

**CULTURALLY SENSITIVE ASSESSMENT**

During the assessment process, a practitioner should be open and sensitive to the patient’s worldview, cultural belief systems and how he/she views the illness [47]. This may reduce the tendency to over-pathologize or minimize health concerns of ethnic minority patients.

Pachter proposed a dynamic model that involves several tiers and transactions [48]. The first component of Pachter’s model calls for the practitioner to take responsibility for cultural awareness and knowledge. The professional should be willing to acknowledge that he/she does not possess enough or adequate knowledge in health beliefs and practices among the different ethnic and cultural groups he/she comes in contact with. Reading and becoming familiar with medical anthropology is a good first step.

The second component emphasizes the need for specifically tailored assessment [48]. Pachter advocates the notion that there is tremendous diversity within groups. For example, one cannot automatically assume that a Cuban immigrant adheres to traditional beliefs. Often, there are many variables, such as level of acculturation, age at immigration, educational level, and socioeconomic status, that influence health ideologies. Finally, the third component involves a negotiation process between the patient and the professional [48]. The negotiation consists of a dialogue that involves a genuine respect of beliefs. It is important to remember that these beliefs may affect symptoms or appropriate interventions in the case of domestic violence.

Culturally sensitive assessment involves a dynamic framework whereby the practitioner engages in a continual process of questioning. By incorporating cultural sensitivity into the assessment of individuals with a history of being victims or perpetrators of domestic violence, it may be possible to intervene and offer treatment more effectively.

---

## **INTERVENTIONS FOR DOMESTIC VIOLENCE AND ABUSE**

---

After the assessment is complete, the patient may or may not want immediate assistance or referral. It is important for healthcare providers to assure patients in a nonjudgmental manner that the decision of what they would like in terms of assistance is their choice and that the provider will help regardless of the decisions they are currently ready to make [35].

If the patient would like to immediately implement a plan of action, information for referral to a local domestic violence shelter to assist the victim and the victim's family should be readily available. The acute situation should be referred immediately to local law enforcement officials. Other resources in an acute situation include crisis hotlines and rape relief centers. After a victim is introduced into the system, counseling and follow-up are generally available by individual counselors who

specialize in the care of battered women and their spouses and children. These may include social workers, psychologists, psychiatrists, other mental health workers, and community mental health services. The goals are to make the resources accessible and safe and to enhance support for those who are unsure of their options [35].

In Florida, a 24-hour domestic violence hotline is available for toll-free counseling and information. The number is 800-500-1119. The counselors answering the toll-free line may refer the victim to her or his local domestic violence center. A list of Florida certified domestic violence centers organized by county may also be found on the Florida Department of Children and Families website at <https://www.myflfamilies.com/service-programs/domestic-violence>. Florida's domestic violence centers provide information and referral services, counseling and case management services, a 24-hour hotline, temporary emergency shelter for more than 24 hours, educational services for community awareness relative to domestic violence, assessment and appropriate referral of resident children, and training for law enforcement personnel.

---

## **DOCUMENTATION AND FOLLOW-UP**

---

It is imperative that healthcare professionals document all findings and recommendations regarding domestic violence in the victim's medical record, including a patient's denial of abuse, if applicable. If domestic violence is disclosed, documentation should include relevant history, results of the physical examination, findings of laboratory and other diagnostic procedures, and results of the assessment, intervention, and referral. The medical record can be an invaluable document in establishing the credibility of the victim's story when seeking legal aid [35].

Healthcare professionals should offer a follow-up appointment if disclosure of past or current abuse is present. Reassurance that assistance is available to the patient at any time is critical in helping to break the cycle of abuse [35].

**Customer Information and Answer Sheet located on pages 103–104.**

**COURSE TEST - #97923 DOMESTIC VIOLENCE: THE FLORIDA REQUIREMENT**

*This is an open book test. Please record your responses on the Answer Sheet.*

*A passing grade of at least 70% must be achieved in order to receive credit for this course.*

***This 2 contact hour activity must be completed by July 31, 2025.***

1. Most healthcare professionals will encounter patients in their practice who are victims of domestic violence.  
A) True  
B) False
2. The Florida Department of Children and Families' definition of domestic violence may include pet abuse, physical abuse, and/or emotional abuse.  
A) True  
B) False
3. Florida law defines domestic violence exclusively as spouse abuse or battering.  
A) True  
B) False
4. House Bill 1099 strengthened domestic violence services by streamlining the process of allocating funds.  
A) True  
B) False
5. Domestic violence resulted in 217 deaths in Florida in 2020.  
A) True  
B) False
6. The majority of children exposed to intimate partner violence are direct eyewitnesses.  
A) True  
B) False
7. Domestic violence injury patterns are more likely than accidental injuries to involve the extremities of the body.  
A) True  
B) False
8. In addition to physical signs and symptoms, domestic violence victims may also exhibit psychologic cues that resemble an agitated depression.  
A) True  
B) False
9. Assessment of domestic violence victims should occur immediately after disclosure of abuse and at any follow-up appointments.  
A) True  
B) False
10. Florida does not presently have a toll-free domestic violence hotline, although this was a recommendation of the Governor's Task Force on Domestic Violence.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Laws and Rules for Florida Nurses

This course fulfills the Florida requirement for 2 hours of education on Laws and Rules.

## **Audience**

This course is designed for all nurses licensed in Florida.

## **Course Objective**

The purpose of this course is to provide basic knowledge of the laws and rules governing the practice of nursing in Florida in order to increase compliance and improve patient care. Florida nurses are legally obligated to be aware of standards that govern professional accountability. Information contained in this course is not intended to be used in lieu of lawful guidelines, but as a learning tool that increases the understanding of some regulations as they apply to nurses who are licensed within the state of Florida.

## **Learning Objectives**

Upon completion of this course, you should be able to:

1. Describe the legislative purpose for the Nurse Practice Act.
2. Identify specific laws and rules related to the practice of nursing and nursing assisting.
3. Outline the pertinent levels of nursing practice in the State and the general scope of practice of each.
4. Discuss the general requirements for continuing licensure in the State.
5. Differentiate between ethical and legal practice.
6. Discuss the process for discipline related to nursing practice.
7. Create a professional plan for career maintenance and development within the limits of the law.

## **Faculty**

**Jane C. Norman, RN, MSN, CNE, PhD**, received her undergraduate education at the University of Tennessee, Knoxville campus. There she completed a double major in Sociology and English. She completed an Associate of Science in Nursing at the University of Tennessee, Nashville campus and began her nursing career at Vanderbilt University Medical Center. Jane received her Masters in Medical-Surgical Nursing from Vanderbilt University. In 1978, she took her first faculty position and

served as program director for an associate degree program. In 1982, she received her PhD in Higher Education Administration from Peabody College of Vanderbilt University. In 1988, Dr. Norman took a position at Tennessee State University. There she has achieved tenure and full professor status. She is a member of Sigma Theta Tau National Nursing Honors Society. In 2005, she began her current position as Director of the Masters of Science in Nursing Program.

## **Faculty Disclosure**

Contributing faculty, Jane C. Norman, RN, MSN, CNE, PhD, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## **Division Planner**

Sharon Cannon, RN, EdD, ANEF

## **Senior Director of Development and Academic Affairs**

Sarah Campbell

## **Division Planner/Director Disclosure**

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## **Accreditations & Approvals**



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

## **Designations of Credit**

NetCE designates this continuing education activity for 2 ANCC contact hours.

NetCE designates this continuing education activity for 2.4 hours for Alabama nurses.

AACN Synergy CERP Category B.

### Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### Special Approvals

This course fulfills the Florida requirement for 2 hours of education on Laws and Rules.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

#### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

## INTRODUCTION

Nursing practice acts have a long history in the United States, with the first standards being enacted in the early 1900s. In Florida, a period of major growth and expansion during this period resulted in an increase in the number of hospitals and training schools, which spurred the formation of professional nurses' associations and an interest in establishing standards for the delivery of nursing care [1]. The first practice act passed the Florida Legislature and was signed into law on June 7, 1913 [1].

The Florida Nurse Practice Act was legislated to safeguard the public, and the purpose of the Act is to ensure that minimum safety requirements are met by every nurse practicing in the state. The Nurse Practice Act, Chapter 464 of the Florida Statutes, includes laws governing scope of practice, licensure and certification, and violations and penalties [3]. Chapter 464 established the Florida Board of Nursing as an authority to adopt rules, develop standards for nursing programs, and discipline nurses who violate regulations [2]. Nurses who fall below Florida's required minimum competency or who present a danger to patients, coworkers, or others are prohibited from working in the state.

In addition to Chapter 464, nurses in Florida are regulated by Chapter 456, which includes general provisions for all health professions, and Title 64B9 of the Florida Administrative Code. Together, these laws and rules form the basis for the legal practice of nursing and the regulation of nursing by the state of Florida.

This course fulfills the education requirement on the laws and rules that govern the practice of nursing in Florida for all levels of nursing, including registered nurses (RNs), licensed practical nurses (LPNs), and advanced practice registered nurses (APRNs) [3]. While this course will provide an overview of the pertinent sections of the laws and rules, all nurses are encouraged to review them in their entirety in order to ensure compliance.

## STANDARDS OF PRACTICE

The basic standards of competent practice directly impact how all nurses in Florida provide care. Not only must a nurse possess the knowledge of lawful and current care standards, but the knowledge must be demonstrated through consistent practice and intervention to prevent unauthorized, inappropriate, erroneous, illegal, contraindicated, or intentional nonperformance of care.



The Nurse Practice Act governs the practice of RNs, LPNs, and APRNs. LPNs are those persons licensed to practice practical nursing, while RNs and APRNs are licensed to practice professional nursing, with various levels of specialization [3]. Both professional and practical nurses are responsible and accountable for making decisions that are based upon their educational preparation and experience in nursing.

According to the Nurse Practice Act, the practice of practical nursing means [3]:

The performance of selected acts, including the administration of treatments and medications, in the care of the ill, injured, or infirm; the promotion of wellness, maintenance of health, and prevention of illness of others under the direction of a registered nurse, a licensed physician, a licensed osteopathic physician, a licensed podiatric physician, or a licensed dentist; and the teaching of general principles of health and wellness to the public and to students other than nursing students. A practical nurse is responsible and accountable for making decisions that are based upon the individual's educational preparation and experience in nursing.

The practice of professional nursing is defined by the Act as “the performance of those acts requiring substantial specialized knowledge, judgment, and nursing skill based upon applied principles of psychological, biological, physical, and social sciences” [3]. The Florida Statutes further define the scope of practice of professional nursing as [3]:

- The observation, assessment, nursing diagnosis, planning, intervention, and evaluation of care; health teaching and counseling of the ill, injured, or infirm; and the promotion of wellness, maintenance of health, and prevention of illness of others
- The administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized by the laws of this state to prescribe such medications and treatments
- The supervision and teaching of other personnel in the theory and performance of any of the above acts

#### ADVANCED PRACTICE REGISTERED NURSES

In addition to the practice of professional nursing, APRNs are certified in advanced or specialized nursing practice. This umbrella term includes certified nurse midwives, certified nurse practitioners, certified registered nurse anesthetists, clinical nurse specialists, and psychiatric nurses [3]. In accordance with the Act, APRNs may perform acts of nursing diagnosis and treatment of alterations of the health status as well as medical diagnosis and treatment, prescription, and operation as authorized within the framework of an established supervisory protocol [3]. Specifically, within the established framework, an APRN may [3]:

- Prescribe, dispense, administer, or order any drug; however, an APRN may prescribe or dispense a controlled substance only if she or he has graduated from a program leading to a Master's or doctoral degree in a clinical nursing specialty area with training in specialized practitioner skills
- Initiate appropriate therapies for certain conditions
- Perform additional functions as may be determined by rule
- Order diagnostic tests and physical and occupational therapy
- Order any medication for administration to a patient in a facility as defined by rule

All APRNs are required to obtain and maintain malpractice insurance or demonstrate proof of financial responsibility prior to licensure, with some exceptions [10]. Proof of compliance with this rule or exemption must be provided to the Board office within 60 days of certification and at each biennial renewal.

Rule 64B9-4.011 states, “APRNs whose protocols permit them to dispense medications...must register with the Board of Nursing by submitting a completed Dispensing Application for Advanced Practice Registered Nurse (APRN), form number DH-MQA 1185” [10]. The APRN dispensing practitioner must comply with all applicable state and federal laws and regulations.

---

#### CONTINUING LICENSURE IN FLORIDA

---

The Florida Board of Nursing is responsible for adopting rules establishing the procedure for the biennial renewal of nursing licenses. All Florida nurses are required to renew their licenses and complete mandated continuing education every two years. The Act stipulates that up to 30 hours of continuing education may be required each biennium [3]. Initial licenses that were issued for less than 24 months are required to complete one hour for each month for which the license was valid. As part of this requirement, all licensees must complete an approved two-hour course on the prevention of medical errors and a two-hour course on the laws and rules that govern the practice of nursing in Florida. Starting in 2019, licensees must also complete a two-hour course on human trafficking every renewal period. Beginning with 2018 renewals, a two-hour course on recognition of impairment in the workplace must be completed every other biennium. Every third renewal (or every six years), licensees must successfully complete two hours of continuing education on domestic violence in addition to the 24-hour requirement. A one-hour course on HIV/AIDS must be completed prior to a licensee's first renewal. In addition to these requirements, beginning in 2017, all APRNs must complete at least three hours of continuing education on the safe and effective prescription of controlled substances for each

biennial renewal. Beginning with 2021 renewals, each biennial, APRNs who engage in autonomous practice must complete at least 10 hours of continuing education (in addition to other mandated continuing education) appropriate to this level of care as approved by the Board [3].

Completion of all mandated continuing education must be reported to the Board. Failure to document compliance with the continuing education requirements or furnishing false or misleading information regarding compliance is grounds for disciplinary action.

A nurse may maintain his or her license in inactive status if there is no intent to practice nursing in the upcoming biennium. However, this requires that the licensee apply for inactive status and renew the license as inactive every two years; completion of continuing education is not required for these renewals. A license to practice nursing that is not renewed at the end of the biennium shall automatically revert to delinquent status [10].

In accordance with Rule 64B9-1.013 of the Florida Administrative Code, all licensed nurses must maintain on file with the Board of Nursing the current address at which any notice required by law may be served [10]. If a nurse moves, even out of state, he or she must notify the Board in writing of the new address within 60 days. In addition, all licensed nurses must alert the Board to their current place of practice. Place of practice is defined as one of the following [10]:

- Acute care facility
- Long-term care facility
- Rehabilitation facility
- Clinic
- Physician's office
- Home health care agency
- Educational institution
- Office of independent nursing practice
- Correctional facility
- Mental health facility
- Occupational health facility
- Managed health care organization or insurance company
- Community health facility
- Other

If a nurse wishes to activate an inactive license, he or she may do so by applying to the Department and paying a reactivation fee. As part of the application process, the licensee must disclose convictions or findings of guilt and/or disciplinary action(s) in or out of state [10]. In addition, the nurse must provide proof of completion of all continuing education for all biennial licensure periods for which the individual was inactive.

Completion of a Board-approved nursing refresher course is required to activate a license that has been inactive for five years or more if the licensee does not hold an active license in good standing in another state [10]. The refresher course must include at least 80 hours of classroom instruction and 96 hours of clinical experience in medical/surgical nursing and any specialty area of practice of the licensee.

---

## ETHICAL AND LEGAL ISSUES IN NURSING PRACTICE

---

In addition to their legal obligations, nurses have ethical obligations to their patients. The practice of nursing is primarily one of caring, and the ethical theories for nursing are often referred to as “the ethics of caring.” Nurses are expected to address both ethical and legal issues in their practice, which can be complex. As medical advancements and new technology progress, these must be incorporated into established ethical standards. The American Nurses Association has established the Code of Ethics for Nurses, which is intended to act as “a guide for nurses to use in ethical analysis and decision-making” [5]. The full text of this Code is available at <https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses>. Major ethical issues that may arise in the practice of nursing are related to the provision of patient-centered care, confidentiality, advocacy, delegation, self-care, and supporting colleagues and the profession.

There are also a variety of legal issues that affect the provision of nursing care and maintenance of a nursing license. It is important to note that, although possibly related, the laws governing nursing practice are different from the ethical framework(s) that nurses use to guide decision making. Laws pertaining to documentation, licensure, and standards of care have been established to ensure that nurses practice within a defined scope of practice and are aware of the boundaries of independent nursing action and responsibilities. These laws also act to hold nurses accountable for maintaining an acceptable standard of patient care. However, perhaps the greatest concern for nurses is the threat of negligence or malpractice claims.

According to tort law, four elements must be established for a ruling of malpractice [6]:

- **Duty:** The nurse owed a duty to meet a particular standard of care.
- **Breach of duty:** The nurse failed to perform the owed duty.
- **Causation:** There is a causal connection between the nurse's failure and the patient's injury.
- **Damages:** An injury occurred for which monetary compensation is adequate relief.

These elements must be shown by a “preponderance of the evidence,” defined as more than 50% probability, a lower standard than the “beyond a reasonable doubt” used in criminal law [7; 8]. Malpractice cases are decided on the basis of what a “jury is likely to think is fact” rather than actual fact [9].

---

## DISCIPLINARY ACTIONS

---

The Board of Nursing was created to assure protection of the public from nurses who do not meet minimum requirements for safe practice or who pose a danger to the public [3]. Violations of the laws established by the Board to ensure safe nursing practice are punishable by disciplinary action. These penalties are in addition to the results of any legal or civil proceedings that may be brought by the State or by patients or affected parties.

Acts requiring disciplinary or legal action are outlined in sections 464.016, 464.017, and 464.018 of the Nurse Practice Act [3]. According to section 464.016, the following acts are considered felonies in the third degree [3]:

- Practicing advanced or specialized, professional, or practical nursing unless holding an active license or certificate to do so
- Using or attempting to use a license or certificate that has been suspended or revoked
- Knowingly employing unlicensed persons in the practice of nursing
- Obtaining or attempting to obtain a license or certificate by misleading statements or knowing misrepresentation

In addition, the following acts constitute misdemeanors in the first degree [3]:

- Using the name or title “Nurse,” “Registered Nurse,” “Licensed Practical Nurse,” “Clinical Nurse Specialist,” “Certified Registered Nurse Anesthetist,” “Certified Nurse Practitioner,” “Certified Nurse Midwife,” “Advanced Practice Registered Nurse,” or any other name or title that implies that a person was licensed or certified as same, unless such person is duly licensed or certified
- Knowingly concealing information relating to violations of this part

These actions are punishable by law according to sections 775.082, 775.083, and 775.084 of the Statutes, Constitution, and Laws of Florida [3].

Several actions are also considered grounds for denial of a license or disciplinary action. According to section 464.018, this includes [3]:

- Procuring, attempting to procure, or renewing a license to practice nursing by bribery, by knowing misrepresentations, or through an error of the Department or the Board
- Having a license to practice nursing revoked, suspended, or otherwise acted against, including the denial of licensure, by the licensing authority of another state, territory, or country
- Being convicted or found guilty of, or entering a plea of *nolo contendere* to, regardless of adjudication, a crime in any jurisdiction that directly relates to the practice of nursing or to the ability to practice nursing
- Being convicted of or found guilty of, or entering a plea of guilty or *nolo contendere* (no contest) to, regardless of adjudication, any of the following offenses:
  - A forcible felony
  - Theft, robbery, and related crimes
  - Fraudulent practices
  - Lewdness and indecent exposure
  - Assault, battery, and culpable negligence
  - Child abuse, abandonment, and neglect
  - Abuse, neglect, and exploitation
  - For an applicant for a multistate license or for a multistate license-holder, a felony offense under Florida law or federal criminal law
- Having been found guilty of, regardless of adjudication, or entered a plea of no contest or guilty to, any offense prohibited under Section 435.04 or similar statute of another jurisdiction; or having committed an act which constitutes domestic violence
- Making or filing a false report or record, intentionally or negligently failing to file a report or record required by state or federal law, or willfully impeding or obstructing such filing or inducing another person to do so (limited to reports or records signed in the nurse’s capacity as a licensed nurse)
- False, misleading, or deceptive advertising
- Unprofessional conduct
- Engaging or attempting to engage in the possession, sale, or distribution of controlled substances for any other than legitimate purposes
- Being unable to practice nursing with reasonable skill and safety to patients by reason of illness or use of alcohol, drugs, narcotics, or chemicals or any other type of material or as a result of any mental or physical condition
- Failing to report any person who the licensee knows is in violation of this part or of the rules of the Department or the Board to the Department or a consultant operating an impaired practitioner program, if appropriate

- Knowingly violating any provision of this part, a rule of the Board or the Department, or a lawful order of the Board or Department previously entered in a disciplinary proceeding or failing to comply with a lawfully issued subpoena of the Department
- Failing to meet minimal standards of acceptable and prevailing nursing practice, including engaging in acts for which the licensee is not qualified by training or experience
- Delegating professional responsibilities to a person when the nurse delegating such responsibilities knows or has reason to know that such person is not qualified by training, experience, certification, or licensure to perform them

For a full list of punishable acts, please refer to Chapter 464.018 of the Florida statutes.

Sexual misconduct is considered a breach of mutual trust and can irreparably damage the nurse-patient relationship. According to section 464.017, “Sexual misconduct in the practice of nursing means violation of the nurse-patient relationship through which the nurse uses said relationship to induce or attempt to induce the patient to engage, or to engage or attempt to engage the patient, in sexual activity outside the scope of the practice or the scope of generally accepted examination or treatment of the patient” [3]. Sexual misconduct in the practice of nursing is prohibited and is grounds for disciplinary action.

Disciplinary actions encompass a wide range of possible punishments, and the action chosen will depend on the individual circumstances (e.g., the severity of the violation, the number of past offenses). The Board may take the following actions in response to violations listed above [4]:

- Refusal to certify, or to certify with restrictions, an application for a license
- Suspension or permanent revocation of a license
- Restriction of practice or license
- Imposition of an administrative fine not to exceed \$10,000 for each count or separate offense
- Issuance of a reprimand or letter of concern
- Placement of the licensee on probation for a period of time and subject to such conditions as the Board may specify
- Corrective action
- Imposition of an administrative fine for violations regarding patient rights
- Refund of fees billed and collected from the patient or a third party on behalf of the patient
- Requirement that the practitioner undergo remedial education

Nurses who have been found guilty on three separate occasions of violations relating to the use of drugs or narcotics or involving the diversion of drugs or narcotics from patients to personal use or sale are not eligible for reinstatement of licensure [3].

In the annual report of fiscal year 2020–2022, more than 800 nurses licensed in Florida had received disciplinary actions. The most common orders are suspension of the nursing license (36%), limitations/obligations of a nursing license (12%), revocation of the nursing license (10%), and voluntary surrender of a nursing license (8%) [11]. In most cases, nurses are also responsible for paying any costs associated with their order (e.g., investigation, court costs).

Certain offences may be resolved by mediation. Rule 64B9-8.012 states that mediation is an acceptable resolution for the first instance of the following violations [10]:

- Issuance of a worthless bank check to the Department or the Board for initial licensure or renewal of license, provided the licensee does not practice on a delinquent license
- Failure to report address changes, provided the failure does not constitute failure to comply with an order of the Board
- Failure to pay fines and investigative costs by the time ordered
- Failure to timely submit documentation of completion of continuing education imposed by Board order
- Failure to update a practitioner profile within 15 days

---

## EXCEPTIONS

---

In addition to the limitations listed in this course, it is important to note that there are exceptions to the Nurse Practice Act. The law expressly states that the Act does not prohibit [3]:

- The care of the sick by friends or members of the family without compensation, the incidental care of the sick by domestic servants, or the incidental care of non-institutionalized persons by a surrogate family
- Assistance by anyone in the case of an emergency
- The practice of nursing by students enrolled in approved schools of nursing
- The practice of nursing by graduates of prelicensure nursing education programs, pending the result of the first licensing examination for which they are eligible following graduation, provided they practice under direct supervision of a registered professional nurse
- The rendering of services by nursing assistants acting under the direct supervision of a registered professional nurse

- Any nurse practicing in accordance with the practices and principles of the body known as the Church of Christ Scientist
- The practice of any legally qualified nurse or licensed attendant of another state who is employed by the U.S. Government, or any bureau, division, or agency thereof, while in the discharge of official duties
- Any nurse currently licensed in another state or territory of the United States from performing nursing services in this state for a period of 60 days after furnishing to the employer satisfactory evidence of current licensure in another state or territory and having submitted proper application and fees to the Board for licensure prior to employment. If the nurse licensed in another state or territory is relocating to this state pursuant to his or her military-connected spouse's official military orders, this period shall be 120 days after furnishing to the employer satisfactory evidence of current licensure in another state or territory and having submitted proper application and fees to the Board for licensure prior to employment. The Board may extend this time for administrative purposes when necessary.
- The rendering of nursing services on a fee-for-service basis or the reimbursement for nursing services directly to a nurse rendering such services by any government program, commercial insurance company, hospital or medical services plan, or any other third-party payor
- The establishment of an independent practice by one or more nurses for the purpose of rendering to patients nursing services within the scope of the nursing license
- The furnishing of hemodialysis treatments in a patient's home, using an assistant chosen by the patient, provided that the assistant is properly trained (as defined by the Board by rule) and has immediate telephonic access to a registered nurse who is licensed pursuant to this part and who has dialysis training and experience
- The practice of nursing by any legally qualified nurse of another state whose employment requires the nurse to accompany and care for a patient temporarily residing in this state for not more than 30 consecutive days, provided the patient is not in an inpatient setting, the Board is notified prior to arrival of the patient and nurse, the nurse has the standing physician orders and current medical status of the patient available, and prearrangements with the appropriate licensed health-care providers in this state have been made in case the patient needs placement in an inpatient setting
- The practice of nursing by individuals enrolled in board-approved remedial courses

---

## CONCLUSION

---

It is the responsibility of the Florida Board of Nursing to enforce the laws and rules regulating the practice of nursing as the law is currently stated—not how individuals may wish the law to be. However, as nurses are affected by these rules and regulations, they have the responsibility to keep informed of regulatory changes and provide public comment regarding regulations. Board meetings are held every two months, generally during the first week of every even month, and are open to the public. The full board meetings include disciplinary cases, application review, committee reports, rule discussions, and other necessary Board actions. For more information, please contact the Board at 850-488-0595 or <https://floridasnursing.gov>.

Customer Information and Answer Sheet located on pages 103–104.

**COURSE TEST - #31253 LAWS AND RULES FOR FLORIDA NURSES**

*This is an open book test. Please record your responses on the Answer Sheet.  
A passing grade of at least 70% must be achieved in order to receive credit for this course.*

***This 2 contact hour activity must be completed by October 31, 2025.***

1. The purpose of the Nurse Practice Act is to encourage the growth and expansion of hospitals and training schools.  
A) True  
B) False
2. The Nurse Practice Act is Chapter 464 of the Florida Statutes.  
A) True  
B) False
3. The Nurse Practice Act governs the practice of registered nurses, licensed practical nurses, and advanced practice registered nurses.  
A) True  
B) False
4. According to the Nurse Practice Act, the practice of practical nursing may be conducted under the direction of a registered nurse, licensed dentist, or licensed physician.  
A) True  
B) False
5. Ordering diagnostic tests and physical and occupational therapy is a part of the scope of practice for licensed practical nurses.  
A) True  
B) False
6. At least 40 hours of continuing education must be completed every biennium in order to maintain a nursing license in Florida.  
A) True  
B) False
7. Apology is one of the elements that must be established for a ruling of malpractice.  
A) True  
B) False
8. Using the name or title "Registered Nurse" without being duly licensed or certified is considered a misdemeanor in the first degree under the Nurse Practice Act.  
A) True  
B) False
9. Nurses who have been found guilty on three separate occasions of violations relating to the use of drugs or narcotics involving the diversion of drugs or narcotics from patients to personal use or sale are not eligible for reinstatement of licensure.  
A) True  
B) False
10. Board meetings are held annually.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Recognizing Impairment in the Workplace: The Florida Requirement

This course fulfills the Florida requirement for 2 hours of education on Recognizing Impairment in the Workplace.

*Have you already completed your Impairment in the Workplace requirement? You can skip this course and still receive 24 hours of continuing education, including 16 general hours.*

## Audience

This course is designed for nurses in Florida who may intervene to prevent or identify impairment in the workplace.

## Course Objective

The purpose of this course is to provide nurses with an appreciation of the impact of impairment on the provision of nursing care and on patient health as well as the skills to identify and report instances of workplace impairment.

## Learning Objectives

Upon completion of this course, you should be able to:

1. Outline the epidemiology and scope of impairment in the healthcare workplace.
2. Discuss unique risk factors for substance abuse in nurses.
3. Identify the signs of impairment in the nursing workplace.
4. Analyze the process and legal obligations involved in reporting an instance of impairment in the workplace.
5. Describe the treatment programs available for nurses who have been impaired in the workplace.

## Faculty

Nancy Campbell, RN, BSN, PHN, received her Bachelor of Science in Nursing degree from California State University, Bakersfield in 1987. She has nursing experience in a variety of clinical settings, including medical/surgical, community health, and preschool health. She was a nurse case manager for a community program supporting teen parents and a public health nurse focusing on communicable disease management. Her primary focus and passion is on direct patient care and patient education. She is presently employed as a registered nurse for the Head Start program in Tulare County, California.

## Faculty Disclosure

Contributing faculty, Nancy Campbell, RN, BSN, PHN, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Division Planner

Jane C. Norman, RN, MSN, CNE, PhD

## Senior Director of Development and Academic Affairs

Sarah Campbell

## Division Planner/Director Disclosure

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Accreditations & Approvals



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

## Designations of Credit

NetCE designates this continuing education activity for 2 ANCC contact hours.

NetCE designates this continuing education activity for 2.4 hours for Alabama nurses.

AACN Synergy CERP Category B.

## Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider

#V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### Special Approvals

This course fulfills the Florida requirement for 2 hours of education on Recognizing Impairment in the Workplace.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

---

## INTRODUCTION

---

Impairment of a healthcare professional can place everyone in a workplace at risk for injury. First and foremost is the risk to patients, who trust healthcare professionals to provide safe, reliable, and effective care. The ethical duty to not harm patients is a cornerstone of nursing, yet impaired healthcare workers injure patients daily. Another concern is the potential for impaired nurses to harm other professionals in the workplace, either directly or indirectly. Direct harm falls on a spectrum ranging from serious, injury-causing accidents to excessive absenteeism, which puts additional strain on staff.

Presenteeism (i.e., reporting for work while impaired) places colleagues in the difficult position of having to work harder as a result of another's impairment, working in a potentially dangerous environment, and facing the dilemma of reporting a coworker, colleague, or friend.

Reporting impairment can be a difficult ethical situation for healthcare professionals, who often cover for impaired colleagues out of friendship or loyalty and who fear that reporting may ruin the nurse's career or their own. The truth is that the circumstances causing impairment have already eroded a nurse's professional abilities to some degree, and in most states, including Florida, good-faith reporters (i.e., those with sincere and honest intentions) are protected from retaliation by whistleblower laws. Conversely, not reporting a known impaired nurse is a violation of the Nurse Practice Act that can lead to disciplinary action by the Florida Board of Nursing.

Injury to patients and coworkers is increasingly likely when a worker is impaired, but impairment also gravely affects the individual nurse, whose health, safety, career, and social and financial standing are at risk if interventions are not undertaken. The American Nurses Association (ANA) definition of impairment describes a broad array of conditions that can interfere with workplace functioning, including mental or physical illness, fatigue, substance abuse, and other personal circumstances that adversely affect job performance [2]. Though fatigue and certain personal circumstances may be more easily resolved, these types of impairment still pose a danger. Fatigue, acute physical illness, and personal issues (e.g., stress, relationship problems) are generally dealt with in a different manner than impairment related to chemical dependence, other psychologic disorders, and chronic physical conditions. It should be remembered that alcohol and/or substance abuse is a type of medical and psychologic disorder, and helping the nurse obtain treatment so she or he can get healthy and return to work is the ultimate goal of reporting and intervention. Nearly all states, including Florida, now offer nurses found to be impaired at work an alternative to criminal prosecution, the chance to retain their license, and a return to nursing if they agree to enter and participate in an intervention program.

This course presents information on recognizing the signs and symptoms of emotional, mental health, and substance-related workplace impairment. Strategies for intervention and reporting (e.g., how and to whom impairment should be reported) are also outlined, particularly within the context of the Florida Nurse Practice Act. Treatment of impairment, including intervention programs, employer initiatives for impaired nurses, and returning to work, will be discussed. In the state of Florida, the Intervention Project for Nurses (IPN) is the Department of Health's contracted program to address nurse impairment; this program will be discussed in detail.



## SCOPE OF THE PROBLEM

---

Historically, the rate of substance use disorder among health-care professionals was thought to be much higher than in the general public, due to job stress and easy access to pharmaceutical drugs. However, the rate among nurses and physicians is now estimated to be only slightly higher than or equal to the rate found in the general public (10% to 15%) [3; 5; 6; 9]. The ANA has reported that approximately 15% of all nurses abuse substances to the point at which interference with vocational practice can be expected [13; 17]. Based on these data, up to 525,000 of the more than 3.5 million nurses in the United States have substance use disorders that may affect job performance [12]. Furthermore, one survey indicated that alcohol abuse continues to rise among nurses, particularly since the start of the COVID-19 pandemic [4]. Nurses make up the greatest proportion of healthcare workers in the country; therefore, substance-related impairment among nurses is a major healthcare problem, despite similar rates of abuse and dependency among other healthcare professionals [9].

According to the Nurse Worklife and Wellness Study, past-year illicit drug use among nurses was 5.7% and prescription drug misuse was 9.9% [6]. Another study found that while the rate of drug dependence was similar among female nurses and women in the general population, the rate of prescription drug abuse was much higher (more than double) among nurses; use of street-type drugs (e.g., cocaine, cannabis) was found to be lower in nurses than in the general population [5]. Reasons cited for the higher rates of prescription drug abuse included easier access, familiarity with dosages and effects, and comfort experimenting with drugs commonly prescribed to patients [6]. This phenomenon, referred to as “pharmacologic optimism,” is based on the ingrained belief that pharmaceutical drugs cause profound healing with few to no negative effects, an idea that is established early in some nurses [9]. Aside from alcohol, which is the most commonly abused substance among nurses, one study identified the classes of drugs most often abused, in order of frequency, as amphetamines, opioids, sedatives, tranquilizers, and inhalants. In this study, abuse was defined as prescription drug use without a script, using greater than the prescribed dosage, or using a drug for indications other than those prescribed [6; 9]. In many instances of abuse, drugs were obtained through diversion. Drugs are diverted in several different ways [6; 11]:

- A physician writes a prescription for the nurse in the absence of a true indication.
- The nurse steals scripts and falsifies prescriptions for him- or herself.
- A whole dose of an injectable drug ordered for a patient is used by the nurse and replaced with saline, or the nurse retains the correct (drug-filled) syringe and replaces it with another filled with saline.
- Partial doses of medications are administered to patients while the nurse saves or uses the remainder.

- A nurse applies a skin patch to him- or herself before transferring it to the patient.
- A nurse removes syringes or ampules from a sharps waste container to scavenge any remaining drugs.
- The nurse has a colleague who, without actually witnessing the disposal, cosigns a record indicating waste while the nurse actually retains or takes the drug dose.
- The nurse obtains medications for patients who have not asked for them or who refused them.
- The nurse signs out medications for a patient who has been transferred.

All of these examples of diversion techniques have been documented, including cases in which patients have been infected with hepatitis C when a nurse used a syringe of opioid narcotic intended for them before replacing the missing contents with saline and injecting the patient [11]. One study found that 65% of nurses addicted to a pharmaceutical drug were diverting medication from their workplace [19]. Most addicted nurses in this study admitted to treating patients while impaired.

---

## UNIQUE RISK FACTORS

---

In addition to the common risk factors for substance abuse in all individuals, several unique risk factors have been identified for nurses, including [9; 15]:

- Positive attitudes toward drugs and drug use (i.e., “pharmacologic optimism”)
- Relaxed physician prescribing practices in the facility
- Lack of pharmaceutical controls in a facility
- Little or no education regarding substance use disorders
- Enabling by peers and managers
- Role strain

The prevalence of substance misuse varies by nurse specialty. Critical care, psychiatric, emergency room, and oncology nurses have been found to have the highest rates of substance misuse, but alcohol misuse, particularly binge drinking (four or more drinks for women or five or more drinks per occasion for men), is a significant problem among oncology nurses [9; 19]. Another study found that binge drinking was more common among all nurses than in the general population 35 years of age or older [10]. The Nurse Worklife and Wellness Study showed the highest rates of drug misuse among nurses occurred in those working in home health/hospice care (19%) followed by those working nursing homes (15.8%) [6]. In addition, staff nurses, charge nurses/coordinators/managers, and other administrators had 9- to 12-times the odds of substance use disorder compared with educators/researchers [6].

Gender is another factor for substance abuse in nursing professions. Male nurses are more likely to abuse substances and are over-represented in treatment programs [9]. However, the majority of RNs (90.9%) and LPNs (92.4%) in the United States are women; therefore, the vast majority of nurses with substance use disorders are women [9; 12]. Studies have shown that men's addiction runs a more acute course, with less pronounced physical and mental effects; men also tend to seek help sooner for the actual addiction. In contrast, women's addiction tends to be prolonged, with a greater mental and physical toll. Women typically seek help for the manifestations of addiction, such as depression, anxiety, and insomnia, which can delay treatment for the root cause [9].

---

### IDENTIFYING IMPAIRMENT IN THE WORKPLACE

---

It is important that nurses have the ability to recognize signs and symptoms of impaired practice and be able to differentiate a pattern of impairment from isolated incidents that may be caused by job stress. Studies have shown that most nurses are not able to accurately identify impairment in the workplace because they have little education on signs and symptoms of impairment in a professional setting and among other professionals [3; 18]. This is compounded by the fact that some individuals, particularly experienced healthcare providers, may be able to function at a high level while under chemical influence. Failure to identify impairment or a belief that reporting is unnecessary because an individual is able to function normally despite alcohol/drug abuse may result in a failure to document and report suspected impairment, inadvertently enabling the substance abuse [3]. On the other hand, nurses who have the knowledge and confidence to identify impairment are empowered to confront colleagues and report their peers according to employer protocol.

### DEFINITION OF IMPAIRMENT

The Florida Legislature defines impairment among health professionals as “a potentially impairing health condition that is the result of the misuse or abuse of alcohol, drugs, or both, or a mental or physical condition that could affect a practitioner's ability to practice with skill and safety.” [21]. As defined, Impaired practice is not strictly related to substance abuse disorders; common mental health disorders, such as depression and anxiety, have the potential to interfere with nurses' ability to provide adequate patient care as well [24]. In a meta-analysis of research related to the impact of mental disorders on the work performance of nurses and other healthcare professionals, strong evidence was found to support a relationship between mental disorders and general errors, medication errors, near errors, impaired patient safety, and decreased patient satisfaction [26]. This is a particular concern given the fact that nurses are at greater risk for certain mental health issues (e.g., depression) than the general public [24].

Physical disability may also impede nurses' performance, and steps should be taken to create disability inclusive workplaces [27]. Some nurses may be hesitant to disclose disabilities or known limitations for fear of losing their jobs [28]. Physical limitations are not grounds for dismissal, and failure to disclose poses a greater safety risk than working with healthcare professionals with known disabilities.

### SIGNS OF IMPAIRMENT

Signs of impairment related to substance abuse among healthcare professionals fall into three general categories: job performance issues, emotional and mental status, and workplace drug diversion [7]. Impairment specifically related to substance abuse may present differently in nurses than in the general public. Signs of impairment related to job performance include [7; 8; 22]:

- An excessive number of mistakes at work (e.g., frequent medication errors, errors of judgment in patient care)
- “Job shrinkage” (i.e., the nurse progressively performs the minimal amount of work necessary)
- Increased difficulty meeting deadlines or adhering to schedules
- Frequent or unexplained disappearances
- Implausible and/or elaborate excuses for unusual behavior
- Dishonesty over trivial matters
- Illegible or sloppy charting
- Tremors or shaking
- Extended breaks or lunch hours
- Excessive absence due to alleged illness, particularly following scheduled days off
- Last-minute requests for time off
- Absence without notice
- Smell of alcohol or cannabis
- Excessive use of breath mints, chewing gum, mouthwash, or perfume

Signs of changes in emotional and mental status include [7; 8; 22]:

- Inappropriate or uncharacteristic responses to criticism (e.g., crying, uncontrolled anger, snapping at or arguing with colleagues)
- Emotional lability (e.g., becoming uncommonly gregarious or quiet, withdrawn, or irritable; has recurrent mood swings and is unpredictable)
- Reduced alertness (e.g., forgetfulness, preoccupation, appearing dazed and confused, slow reaction time)
- Increasing isolation from coworkers (e.g., avoiding informal staff gatherings, eating or taking breaks alone, requesting transfer to another shift)

- Increased and uncharacteristic problem with authority
- Change in dress and/or appearance

Signs that a healthcare professional is diverting drugs for personal use include [7; 8; 22]:

- Volunteering to work with patients who receive regular or large amounts of pain medication
- Consistently volunteering to be the medication administrator
- Often signing out more controlled drugs than coworkers
- Failing to obtain co-signatures
- Frequently reporting medication spills or other waste
- Reports reflecting excessive use of pain medications on patients
- Discrepancies in end-of-shift medication counts
- Evidence of tampering with vials, other drug containers, or medication counts Waiting until alone to open the narcotics box or cabinet, or disappearing after opening it
- An increase in patients' complaints of unrelieved pain
- Defensiveness when questioned about medication errors
- Consistently coming to work early and staying late

Nurse supervisors and managers should maintain an active role in identifying impairment in the workplace by refusing to allow personal manipulation by another nurse or to fear confronting a nurse if patient safety is in jeopardy. It is important to reduce or change a nurse's role or patient assignment and not accept excuses for or ignore poor performance [16]. Several tools have been developed to assess nurses' job performance and fitness for work, such as the Common Risky Behaviors Checklist, which assesses five dimensions: absence/tardiness, cognitive impairment, unprofessional communication/boundaries, physical impairment, and drug diversion [24; 25]. These measures may be completed by supervisors or individual nurses (i.e., self-report).

---

## REPORTING COLLEAGUES AND MANDATORY REPORTING LAW

---

Florida law requires that a Board-licensed nurse make a good faith report of another individual's known workplace impairment, whether the situation is acute or there is growing suspicion. But, reporting a colleague is a decision with which many nurses struggle [3]. Experienced, older nurses are more likely to report impairment because they have likely witnessed the negative effects in coworkers at some point; younger and less experienced nurses are less likely to report. Many professionals choose to ignore the problem because they

think someone else will or is already handling the situation [1; 3]. One study identified several factors that contribute to failure to report by coworkers, including feeling like a "tattle-tale," fear of revenge or retaliation, fear the colleague might react in a violent manner, not wanting to be responsible for jeopardizing a colleague's job, not being confident enough in one's own observations or instincts to confront a colleague, not being an expert in chemical dependence, and believing the intervention would be better dealt with by an expert [3]. Although these concerns may be valid, nursing is a profession that holds patient safety and healing as the highest duty—and not one of these concerns seems related to protecting patients. Furthermore, few of the reasons for non-reporting show any regard for helping a coworker to heal. Nursing is about action, and there is no excuse for failing to act.

### FLORIDA LAW

The Florida Statutes Chapter 464.018 Disciplinary Actions defines nursing impairment and describes the conditions and actions an impaired nurse will face. The section states that the following constitutes grounds for disciplinary action or denial of a license [14]:

Being unable to practice nursing with reasonable skill and safety to patients by reason of illness or use of alcohol, drugs, narcotics, or chemicals or any other type of material or as a result of any mental or physical condition. In enforcing this paragraph, the department shall have, upon a finding of the State Surgeon General or the State Surgeon General's designee that probable cause exists to believe that the licensee is unable to practice nursing because of the reasons stated in this paragraph, the authority to issue an order to compel a licensee to submit to a mental or physical examination by physicians designated by the department. If the nurse refuses to comply with such order, the department's order directing such examination may be enforced by filing a petition for enforcement in the circuit court where the nurse resides or does business. The nurse against whom the petition is filed shall not be named or identified by initials in any public court records or documents, and the proceedings shall be closed to the public...A nurse affected by this paragraph shall at reasonable intervals be afforded an opportunity to demonstrate that she or he can resume the competent practice of nursing with reasonable skill and safety to patients.

The Florida Statutes Chapter 464.018 Disciplinary Actions also contains the mandatory reporting law. Reporting known impairment in Florida is mandatory, not optional. Failure to report an impaired individual who is providing health care can lead to disciplinary action by the Board of Nursing. The following act constitutes grounds for denial of a license or disciplinary action [14]:

Failing to report to the department any person who the nurse knows is in violation of this part or of the rules of the department or the board. However, a person who the licensee knows is unable to practice nursing with reasonable skill and safety to patients by reason of illness or use of alcohol, drugs, narcotics, chemicals, or any other type of material, or as a result of a mental or physical condition, may be reported to a consultant operating an impaired practitioner program...rather than to the department.

### HOW TO REPORT AN IMPAIRED NURSE

Nurses should be familiar with their organization's policies and procedures for reporting employee substance abuse or other impairment and those regarding assistance programs [16]. When aware of the resources available to an impaired nurse, including the process, programs, and benefits of employee assistance programs or alternative-to-discipline programs, nurses are better prepared and more likely to report impairment. In 1983, the Florida legislature established the IPN as a contact point for nursing impairment reporting, as a treatment and rehabilitation facilitator, and as a monitoring program for impaired nurses within the state [20]. Florida nurses are required to report suspected impaired practice to the IPN and/or the Florida Department of Health [21]. Reporting to either of these entities fulfills the mandatory reporting obligation. With the knowledge that recovery, nonpunitive rehabilitation, and returning to work are the goals of such programs, nurses should feel confident that their colleagues will receive the help they need to overcome their impairment [3]. In the long-term, the report will be beneficial to the impaired nurse, and in the short-term, patients are being protected from harm.

Before making a report, documenting changes in the suspected nurses' behavior and work performance is recommended [16]. The signs and symptoms listed in the previous section of this course are a good starting point. Taking note of specific actions or behaviors will help when making the report and/or confronting a colleague or supervisee.

In the past, professional organizations recommended confronting the impaired individual directly, but this strategy was found to be unrealistic and is no longer endorsed [2; 3; 16; 22]. The ANA Code of Ethics no longer recommends confronting colleagues as the initial course of action before notifying a supervisor [3]. The 2015 ANA Code of Ethics states that "the nurse's duty is to take action to protect patients and to ensure that the impaired individual receives assistance. This process begins with consulting supervisory personnel, followed by approaching the individual in a clear and supportive manner and by helping the individual access appropriate resources" [2]. The Code further states that "nurses must follow policies of the employing organization, guidelines outlined by the profession, and relevant laws to assist colleagues whose job performance may be adversely affected by mental or physical illness, fatigue, substance abuse, or personal circumstances" [2]. The Florida Nurse Practice Act clearly states that the IPN

or the Department of Health must be notified, but does not specify how an intervention must proceed [21].

Some sources suggest that the best outcomes are achieved when a professional or other personnel trained in intervention confronts the individual [22]. Many facilities have employee assistance or human resources personnel who are trained to intervene. The IPN offers intervention training [23].

The ANA Code of Ethics also provides the following additional advice regarding intervening in cases of suspected workplace impairment [2]:

- The nurse should extend compassion and caring to colleagues throughout the processes of identification, remediation, and recovery.
- Care must also be taken in identifying impairment in one's own practice and in seeking immediate assistance.
- In instances of impaired practice, nurses within all professional relationships should advocate for appropriate assistance, treatment, and access to fair institutional and legal processes. Advocacy includes supporting the return to practice of individuals who have sought assistance and, after recovery, are ready to resume professional duties.
- If impaired practice poses a threat or danger to patients, self, or others, regardless of whether the individual has sought help, a nurse must report the practice to persons authorized to address the problem.
- Nurses who report those whose job performance creates risk should be protected from retaliation or other negative consequences.
- If workplace policies for the protection of impaired nurses do not exist or are inappropriate—that is, they deny the nurse who is reported access to due legal process or they demand resignation—nurses may obtain guidance from professional associations, state peer assistance programs, employee assistance programs, or similar resources.

---

### TREATMENT PROGRAMS

---

When a nurse is reported to either the IPN or the Department of Health, the referral triggers a consultation with the reporter and/or the employer of the impaired nurse [1]. This is followed by an intervention and evaluation. The intervention typically occurs one to three days after a report (whereas a standard disciplinary process typically takes 9 to 12 months to remove a nurse from practice) [1]. If a nurse self-reports to the IPN, the intake and evaluation process begins immediately. In Florida, the IPN is charged with accepting reports, evaluating referrals, determining the proper course of action, monitoring the nurse's progress in treatment, and case managing all individuals returning to work [13]. The IPN program objectives are to [13]:

- Ensure public health and safety through a program that provides close monitoring of nurses who are unsafe to practice due to the use of drugs, including alcohol, and/or psychiatric, psychologic, or physical condition
- Require the nurse to withdraw from practice immediately, and until such time that the IPN is assured that he/she is able to safely return to the practice of nursing
- Facilitate early intervention, thereby decreasing the time between the nurse's acknowledgment of the problem and his/her entry into a recovery program
- Provide a program for affected nurses to be rehabilitated in a therapeutic, non-punitive, and confidential process
- Provide an opportunity for retention of nurses within the nursing profession
- Provide a cost-effective alternative to the traditional disciplinary process
- Develop a statewide resource network for referring nurses to appropriate services
- Provide confidential consultations for nurse managers

Although the IPN assesses referrals to the program to decide the best course of action for the individual, the program does not actually provide treatment for addiction or other diseases/disorders. Rather, the IPN directs individuals to approved treatment programs and providers [1]. Additional services provided by the IPN include advocacy for participants; tracking meeting attendance and discussing recovery progress with group facilitators; comprehensive monitoring of nurses following discharge from treatment; providing random drug screening of participants and detecting relapse; and reporting compliance issues to the proper authority [1; 13]. If at any time during the process the nurse refuses to participate in the program or fails to comply with program guidelines, including after returning to work, the individual is referred to the Department of Health for discipline, which entails investigation, hearings, and disciplinary action.

### RETURNING TO WORK

Following completion of approved treatment, the IPN determines if nurses in the program are ready to return to practice based on several criteria, including the individual's stability in recovery, cognitive functioning, decision-making/problem-solving ability, use of good judgment, ability to deal with stressful situations, and development of a support system [1]. A signed advocacy contract and completed relapse prevention workbook must also be submitted. Stability in recovery is crucial and is indicated by advocacy contract compliance, consistently negative random urine drug screens, regular attendance at support

and monitoring groups, and favorable monitoring reports [1]. Progress reports are generated by treatment providers, nurse support group facilitators, and by the nurses in recovery (i.e., self-reports).

The support system for nurses returning to work includes a weekly support group for ongoing self-care and relapse prevention. A coworker is also established as a workplace monitor to provide feedback to the IPN on the nurse's job performance [1]. If a nurse was referred to the IPN due to pharmaceutical use or diversion, it is recommended that the nurse be assigned a labor exchange colleague assigned to handle patient medication duties. Other restrictions for these individuals may include no overtime or floating; no multiple employers; and no agency, hospice, or home care employment [1].

The Florida Board of Nursing allows nurses two opportunities to return to work after referral for diversion of drugs or narcotics [14]. A nurse will not have their license reinstated after a third violation of drug diversion for sale or personal use.

---

### PROMOTING SAFETY IN THE WORKPLACE AND PROVIDING ASSISTANCE

---

Employers should have clear policies and procedures for fostering and maintaining a drug- and alcohol-free workplace and ensuring that nurses are fit to practice. When system deficiencies are found to exist, these should be remedied. Employees benefit from a sense that policies are enforced equally and without exception; otherwise, uncertainty will exist as to whether poor behavior is overlooked or ignored if an employee is well liked or has perceived seniority. The National Council of State Boards of Nursing (NCSBN) recommends several employer policies to promote safety, including drug testing before employment, testing when there is suspicion of drug use, and conducting regular fitness-to-practice evaluations [9].

All employees should be familiar with and abide by their facility's policies, guidelines, and procedures. The NCSBN recommends that nurses be familiar with procedures (internal and external) related to how to document concerns, how and when to report impairment, return to practice after treatment, and relapse management [9]. Nurses should also be provided with information about employee assistance programs (if applicable), including a clear understanding of the confidentiality of such programs.

**COURSE TEST - #31112 RECOGNIZING IMPAIRMENT IN THE WORKPLACE:  
THE FLORIDA REQUIREMENT**

*This is an open book test. Please record your responses on the Answer Sheet.*

*A passing grade of at least 70% must be achieved in order to receive credit for this course.*

***This 2 contact hour activity must be completed by October 31, 2025.***

1. The rate of alcohol and drug dependency among nurses and physicians is estimated to be slightly higher than or equal to the rate found in the general public (10% to 15%).  
A) True  
B) False
2. Use of street-type drugs (e.g., cocaine, cannabis) is higher in nurses than in the general population.  
A) True  
B) False
3. A positive attitude toward drugs and drug use (i.e., “pharmacologic optimism”) is a unique risk factor for substance use in nurses.  
A) True  
B) False
4. Male nurses are more likely than female nurses to abuse substances and are over-represented in treatment programs.  
A) True  
B) False
5. Impaired nursing practice is defined as isolated incidents that may be caused by job stress.  
A) True  
B) False
6. Frequently reporting medication spills or other waste may be a sign that a healthcare professional is diverting drugs for personal use.  
A) True  
B) False
7. Experienced, older nurses are more likely to report impairment because they have likely witnessed the negative effects in coworkers at some point.  
A) True  
B) False
8. Reporting suspected impaired practice to Florida’s Intervention Project for Nurses does not fulfill the mandatory reporting obligation.  
A) True  
B) False
9. The American Nurses Association Code of Ethics recommends confronting potentially impaired colleagues as the initial course of action, before notifying a supervisor.  
A) True  
B) False
10. When a nurse is reported for suspected impairment at work, intervention typically occurs within one to three days.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Recognizing and Reporting Human Trafficking in Florida

This course fulfills the Florida requirement for 2 hours of education on Human Trafficking.

## Audience

This course is designed for all health and mental health professionals in Florida who may identify and intervene in cases of human trafficking and exploitation.

## Course Objective

The purpose of this course is to provide physicians, nurses, and other healthcare professionals an in-depth, practical review of human trafficking, including the definition and scope of the problem, the means of identification and assessment of individuals who may be victims, guidance on reporting of cases, and interventions and resources available to victims.

## Learning Objectives

Upon completion of this course, you should be able to:

1. Define human trafficking.
2. Identify the forms of human trafficking.
3. Identify economic, political, social, and cultural factors that contribute to human trafficking.
4. Analyze the trafficking experience, including how traffickers recruit and the financial implications of trafficking.
5. Explain the psychological, health, and social consequences of human trafficking.
6. Utilize interviewing strategies to assess and identify victims and promote the ethical treatment of trafficking victims.
7. Describe the appropriate steps for reporting suspected cases of trafficking.
8. Describe various interventions and resources for human trafficking victims.

## Faculty

**Alice Yick Flanagan, PhD, MSW**, received her Master's in Social Work from Columbia University, School of Social Work. She has clinical experience in mental health in correctional settings, psychiatric hospitals, and community health centers. In 1997, she received her PhD from UCLA, School of Public Policy and Social Research. Dr. Yick Flanagan completed a year-long post-doctoral fellowship at Hunter College, School of Social Work in 1999. In that year she taught the course Research Methods and Violence Against Women to Masters degree students, as well as conducting qualitative research studies on death and dying in Chinese American families. (A complete biography can be found at NetCE.com.)

## Faculty Disclosure

Contributing faculty, Alice Yick Flanagan, PhD, MSW, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Division Planner

Jane C. Norman, RN, MSN, CNE, PhD

## Senior Director of Development and Academic Affairs

Sarah Campbell

## Division Planner/Director Disclosure

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

## Accreditations & Approvals



JOINTLY ACCREDITED PROVIDER™  
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

NetCE designates this continuing education activity for 2 ANCC contact hours.



IPCE CREDIT™

This activity was planned by and for the healthcare team, and learners will receive 2 Interprofessional Continuing Education (IPCE) credits for learning and change.

AACN Synergy CERP Category B.

## Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### Special Approvals

This course meets the Florida requirement for Human Trafficking education.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

#### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

## INTRODUCTION

Although human trafficking has always existed, it has begun to receive increased attention as a result of awareness and outreach efforts. Gaining recognition of a problem as a social issue often involves various groups making compelling claims using persuasive rhetoric and dramatic statistics [1]. Human trafficking, sometimes referred to as “modern slavery,” has garnered attention as a human rights issue from a broad spectrum of organizations, including feminists, religious conservatives, labor activists, immigration specialists, mental health and healthcare professions, the media, politicians, and the public, all of whom have responded to the gravity of the condition. It is through this process of claims-making and counter claims-making that “conditions” that may not necessarily have initially attracted attention can develop into a recognized social prob-

lem [1; 2]. How the problem is described or constructed will influence public opinion, which will then ultimately facilitate action from governmental agencies, social service organizations, and international agencies [3; 4; 5].

This course will provide a basic overview of human trafficking (e.g., the scope, definitions and frameworks, contributing factors, different forms). The course will attempt to provide practitioners a glimpse of the lives of human trafficking victims, including the physical, psychological, social, and sexual abuse that human trafficking victims experience and the types of control tactics perpetrators use. Specific interventions and responses will be covered, including mental health, social services, educational, prevention, and legal efforts. Finally, for practitioners who do work with human trafficking victims, the emotional toil that it takes upon practitioners as well as the importance of self-care will be discussed. The course will end by offering an array of resources. Practitioners will be encouraged to view films and documentaries about human trafficking, as this is one way to “enter the lives” of human trafficking victims and better understand the dynamics of the complex world of human trafficking.

## SCOPE OF HUMAN TRAFFICKING

As the issue of human trafficking is so complex, it is difficult to determine the scope of the problem. Many scholars and researchers believe that published estimates are just educated guesses. On a global level, the International Labour Organization has estimated that there are 40.3 million human trafficking victims at any given time [6]. The estimates for the United States are not totally clear, but there were approximately 78,000 human trafficking victims reported to the U.S. State Department in 2016; only an estimated 0.2% are rescued [7; 120]. According to Polaris, which founded and runs the National Human Trafficking Hotline, there have been a total of 73,946 cases of human trafficking reported since 2007 [7; 12; 120; 121].

Weitzer’s content analysis of websites and publications about human trafficking found that human trafficking is portrayed as an epidemic, growing at alarming rates, with some government reports estimating 40,000 to 50,000 individuals trafficked in the United States each year [8; 120]. Weitzer argues that many of the reports have overestimated the scope of the problem and points out that the estimates fluctuate drastically year to year [9]. Sex trafficking tends to be portrayed more frequently due to its sensationalism. In a study of 50 human trafficking campaigns in Spain between 2004 and 2017, 40 (80%) depicted sex trafficking and exploitation involving women [10].

The U.S. Department of Justice reported 1,045 convictions for human trafficking-related crimes in 2017, including forced labor and sex trafficking of adults and minors. This was an increase of more than 78% over the number reported in 2015 [6]. In 2016, the International Labour Organization



stated that there were 4.8 million victims of sex trafficking, and 15.4 million in forced marriages. The majority (62%) of those trafficked are in Asia and Pacific regions [11]. In 2017, it is estimated that there are 24.9 million people around the world who are in forced labor [11].

Florida ranks third in the United States in terms of cases of trafficked persons [12]. In 2020, the National Human Trafficking Hotline received 2,539 contacts (e.g., phone calls, texts, e-mails) and 738 human trafficking cases reported in Florida. The most common type was sex trafficking (70.1%), followed by labor trafficking (14.6%) and combined sex/labor trafficking (5.6%) [12]. The majority of victims were female (82.1%) and adult (67.3%).

---

## DEFINITIONS OF HUMAN TRAFFICKING

The United Nations defines human trafficking as [13]:

The recruitment, transportation, transfer, harbouring or receipt of persons, by means of threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation or the prostitution or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude, or the removal of organs.

In essence, this definition involves three elements: the transport of the person, the force or coercion of the victim, and the abuse and exploitation [14]. The United Nations Office on Drugs and Crime divides the definition of human trafficking into three sections: the act, means, and purpose [15]. The act, or what is done, generally refers to activities such as recruitment, transportation, transfer, harboring, or receipt of persons. The means of trafficking consists of threats or use of force, coercion, abduction, fraud, deception, abuse of power or vulnerability, or giving payments or benefits to a person in control of the victim. Finally, these acts are carried out for the purpose of exploitation, which includes prostitution, sexual exploitation, forced labor, slavery or forced servitude, and the removal of organs [15]. It is important to remember that human trafficking is not human smuggling. Human smuggling involves an individual being brought into a country through illegal means and is voluntary. The individual has provided some remuneration to another individual or party to accomplish this goal [16].

## interactive activity

Watch the 12-minute video clip The Top 10 Facts About the “S” Word at <https://www.youtube.com/watch?v=TJIDBKZmRrE>.

This video provides a snapshot of modern slavery, including the economics of slavery and the various types of slavery worldwide.

The Trafficking Victims Protection Act (TVPA) defines human trafficking to include both sex trafficking and labor trafficking [17]. Sex trafficking is the recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person for the purposes of a commercial sex act, in which the commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such an act has not attained 18 years of age. Labor trafficking is the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purposes of subjection to involuntary servitude, peonage, debt bondage, or slavery. A victim need not be physically transported from one location to another for the crime to fall within this definition.

In many cases, women and children are considered the typical victims of human trafficking. Hart posits that women are more vulnerable to trafficking due to the lack of social safety nets in many developing countries [18]. Coupled with women’s subordinate social statuses in many cultures, this leads to the “feminization of poverty.” Although the social conditions may make women and children more vulnerable to human trafficking, the reality is that men are also victims of human trafficking.

Overall, the definition of human trafficking is ambiguous because of the many intersections with other issues (e.g., sexual abuse, domestic violence, forced marriage, forced labor) [19]. It occurs both domestically and internationally, but is primarily a hidden problem. This makes research efforts, the prosecution of perpetrators, and policy and community efforts to protect victims even more challenging [19].

---

## FORMS OF TRAFFICKING

### SEX TRAFFICKING

The TVPA of 2000 is a U.S. federal statute passed by Congress to address the issue of human trafficking and offers protection for human trafficking victims [17]. This statute defines sex trafficking as, “the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act” [17]. A commercial sex act is, “any sex act on account of which anything of value is given to or received by any person” [17]. In other words, it usually involves the illegal transport of humans into another country to be exploited

in a sexual manner for financial gains [20]. However, it does not always involve the transport of victims from one region to another; such cases are referred to as “internal trafficking” [21]. Victims of sex trafficking could be forced into prostitution, stripping, pornography, escort services, and other sexual services [22]. Victims may be adult women or men or children, although there is a higher prevalence of women and girls. The term “domestic minor sex trafficking” has become a popular term used to connote the buying, selling, and/or trading of children younger than 18 years of age for sexual services within the country, not internationally [22; 23]. An element of force, fraud, or coercion is not necessary, as the victims are children and inherently vulnerable [23]. In the United States, the children most vulnerable to domestic minor sex trafficking are those who are homeless, abused, runaways, and/or in child protective services [22].

Although highly controversial, it is said that sex trafficking victims differ from sex workers in that sex trafficking victims are forced to involuntarily perform sexual services and are often not paid for their “work.” Sex trafficking involves the use of force and coercion and can encompass other forms of criminal sexual activities, including forced erotic dancing, “mail-order brides,” and pornography [21]. On the other hand, individuals involved in prostitution make a decision to provide sex services for a fee. The decision to enter prostitution does not eliminate the possibility of being a victim of trafficking if one is held against his/her will through physical and/or psychological abuse [24]. It is also important to remember that this does not necessarily mean prostitution is a choice these individuals would have made if other options were available or that they have a choice in selecting their sexual partners and/or sexual activities [25].

### interactive activity

Visit the PBS Frontline website (<https://www.pbs.org/wgbh/pages/frontline/slaves/map>) and read the transcripts of interviews with a sex trafficker and five Eastern European female victims who were deceived into sexual slavery.

### BONDED LABOR/FORCED LABOR

The United Nations has defined debt bondage as [26]:

The status or condition arising from a pledge by a debtor of his personal services or of those of a person under his control as security for a debt, if the value of those services as reasonably assessed is not applied towards the liquidation of the debt or the length and nature of those services are not respectively limited and defined.

Essentially, because the individual does not have money as collateral for the debt owed, the individual pledges his/her labor or, in some cases, the labor of a child or another individual

for an unspecified amount of time [27]. These individuals may be transported or trafficked into another country for the purpose of forced labor.

In many cases of bonded labor, the initial loan may be welcomed by the individual. However, the victims do not realize that with the low wages, unspoken high interest rates and other continually accruing fees, and the perpetrator’s manipulation of the “accounts,” laborers can never repay the loans. Some estimate that half of all persons in forced labor are bonded laborers. The majority of bonded labor cases occur in India, Bangladesh, and Pakistan [28]. Some families find themselves in a cycle of poverty as the debt cannot be paid off and is passed down from generation to generation [27]. Bonded labor can involve laborers in brick kilns, mines, stone quarries, looming factories, agricultural farms, and other manufacturing factories [27]. In the United States, individuals may be trafficked to work long hours in garment factories, restaurants, and other manufacturing sectors. Frequently, the employer/captor will take away victims’ identifications, monitor their movements, socially isolate them, and/or threaten deportation if they do not comply [29]. Migrant workers are at high risk of forced labor [24].

In the United States, forced labor is predominantly found in five sectors [29]:

- Prostitution and sex industry
- Domestic servitude
- Agriculture
- Sweatshops and factories
- Restaurant and hotel work

It is speculated that most of the forced labor occurs in California, Florida, New York, and Texas, all major routes for international travel [29].

Domestic servitude refers to a category of domestic workers (usually female) who work as servants, housekeepers, maids, and/or caregivers, often in private homes. In some cases, young women are lured with the promise of a good education and work, and when they arrive in the United States, they are exploited economically, physically, and/or sexually. Their passports or identification papers are taken away, and they are told they have to pay off the debt incurred for their travel, processing fees, and any other bogus expenses. Because they do not speak English, they find they have no other recourse but to endure exploitive working conditions [30]. Unfortunately, as in many sectors of forced labor, there are no regulations to monitor the conditions under which domestic servants operate [29].

### interactive activity

Watch the 20-minute documentary A Global Alliance Against Forced Labour, produced by the International Labour Organization (ILO) at <https://www.netce.com/courseoverview.php?courseid=2424>.

## CHILD LABOR

Child labor can be viewed as a specific form of bonded labor or forced labor. However, not all child laborers have been trafficked. Child labor is defined by International Labour Organization (ILO) as economic labor performed by a child younger than 15 years of age or hazardous labor done by a child 18 years of age or younger. Child labor is deeply rooted in poverty and the infrastructure and political stability of the country as well as market forces [31]. A joint report by UNICEF and the ILO estimates that there are 160 million child laborers in the world as of 2020, of which 63 million are girls and 97 million are boys. This report indicates an increase of 8.4 million child laborers, and the first time that rates have increased in more than two decades of declining child labor [32]. The largest numbers of child laborers are found in Asia and the Pacific region; however, there is evidence that the number of child laborers in sub-Saharan Africa is increasing due to population growth, extreme poverty, and inadequate social protection measures [32].

The definition of child labor is controversial because the definitions for “work” and “childhood” are ambiguous and often culturally defined [33]. On a conceptual level, work may be beneficial for the socialization and educational processes of children [33; 34]. So, it is important to differentiate between child work and child labor. Child work has been defined as activities that are supervised by an adult and that promote the development and growth of the child, while child labor does not benefit the child [31]. Many definitions of child labor create a dichotomy whereby child work is considered not harmful while child labor has negative emotional, intellectual, and social consequences [35]. Work that is exploitive for children has been defined as working long hours at a young age, work that is poorly compensated, and work that produces physical, social, and psychological stress that will hamper development, access to education, and self-esteem [36]. The ILO adds that child labor is work that interferes, deprives, and interrupts schooling and places children in the position of trying to balance school and long work hours [34].

It is important to remember that child labor occurs in the United States. Runaway and homeless youths are at greatest risk, often lured by promises of work and housing [37]. The Polaris Project found that the top three forms of child labor trafficking in the United States were begging, peddling, and traveling sales crews [37].

## CHILD CONSCRIPTION

In some cases of trafficking, children are kidnapped and trafficked to serve as soldiers. Other times, children are coerced by a narrative indicating they will be serving a higher purpose and avenge the deaths of family and friends; this is known as comradeship [38]. Some children are actively recruited and may be promised a small salary to “voluntarily” join. In a study of 132 cases of child conscription in Columbia, 18% of the children were motivated by perceived economic rewards [39].

Many children lack educational opportunities or hope for a better future, perceiving soldiering as the only option [38]. Conscripted girls often cite educational opportunities as a motive [38]. In Nepal, former female soldiers also indicated they were driven to volunteer in the armed groups by a fear that if they stayed with their families they would be married away as children or raped [38].

It is estimated that at any one time 250,000 to 300,000 children younger than 18 years of age are currently serving as child soldiers [40; 41]. Traffickers prefer to recruit children to serve as soldiers because they are inexpensive and more easily molded and shaped to comply and obey without question [42]. They are also more likely to kill fearlessly and recklessly. Child soldiers are treated as adults, without any regard to how the physical and psychological rigors of war will affect them psychologically and developmentally. In Uganda, where children are kidnapped or recruited as child soldiers relatively often, the Lord’s Resistance Army has been known to initiate new child soldiers in brutal ritualized killings of others so as to terrorize them into submission and annihilate any moral conscience they may have about killing [42]. In Afghanistan, children have been recruited by the Taliban and have served as suicide bombers [28].

It can be difficult to comprehend the atrocities that these children witness and experience. Bayer, Klasen, and Adam conducted a study involving 169 former Ugandan and Congolese child soldiers who were an average of 15.3 years of age [43]. Almost all (92.9%) reported having witnessed a shooting, 89% witnessed someone wounded, and 84% witnessed someone seriously beaten. A total of 54.4% reported having killed someone, and 27.8% reported that they were forced to engage in sexual activity [43]. In another study, the researchers found that the experience of conscription among children produced significant emotional and psychological traumas and a host of cognitive and behavioral problems [24]. In this study of 19 child soldiers, 18 had volunteered to join the army and one had been abducted. Although most of the children volunteered into the army, their participation became involuntary. Some tried to run away or disobey, which resulted in beatings and imprisonment. If captured, they were told to commit suicide [24]. The reintegration of child soldiers is not easy. Many are stigmatized when they return to their home villages, as their families and friends fear that these former child soldiers may be violent [41; 44].

## interactive activity

Listen to a National Public Radio interview with Ishmael Beah, a former child soldier, at <https://www.npr.org/2007/02/21/7519542/ishmael-beahs-memoirs-of-a-boy-soldier>.

## FACTORS THAT CONTRIBUTE TO HUMAN TRAFFICKING

---

### GLOBALIZATION

Human trafficking has been called one of the “darkest sides of globalization” [45]. Globalization is the term used to describe the interconnectedness of countries and nations, which facilitates easy communication, exchange of ideas, and flow of goods, capital, and services [45]. Crimes such as human trafficking are affected by globalization just as legitimate businesses are [46]. Furthermore, the ideals of Western capitalism may reinforce human trafficking as a business or industry, with its emphasis on the free market and the flow of goods and services across international borders [46].

Globalization has also created the need for cheaper labor [28; 47]. A study involving 160 countries examined the effects of globalization and human trafficking trends [48]. Researchers found a positive relationship between globalization and trafficking for forced labor, prostitution, and debt bondage.

### POVERTY

Poverty and incessant economic stressors caused by civil wars, natural disasters, and collapses of government systems all contribute to human trafficking [18; 23; 49]. Families entrenched in deep poverty may feel they have no other recourse but to sell a child or may be more easily lured with promises of money and a better future [49; 50; 51]. In one study, the odds of being trafficked were nine times greater for those who felt extremely hopeless about upward mobility compared with those with lower levels of hopelessness [49].

### SOCIAL AND FAMILIAL DISORGANIZATION

Community factors (such as high social disorganization characterized by violence, unemployment, substance use disorder, and high crime) contribute to higher risk of trafficking [23]. In addition, families marked by instability (e.g., domestic violence, child abuse, continual unemployment) are also at higher risk of having a member trafficked [23].

### CORRUPTION

Human trafficking cannot occur without the existence of corruption within existing infrastructures. Public officials, police officers, and local leaders in many developing countries have been known to take bribes to provide protection to parties involved in various aspects of human trafficking [45; 48; 52].

### DIGITAL TECHNOLOGY

The rampant use of digital technology, such as the Internet, greatly facilitates sex trafficking. The relative anonymity of online contact can empower traffickers to recruit or sell victims. Graphic images of women and children engaged in sexual acts can be easily disseminated over the Internet [53]. Traffickers may employ the Internet for advertising, marketing to those interested in making pornography [53]. In addition, social media sites such as Facebook, Craigslist, and Instagram have

been used as a means of facilitating trafficking (e.g., by connecting and grooming potential victims) [54; 55; 56]. Newsgroups offer opportunities for those interested in locating women and children for sexual exploitation.

In a qualitative study, smartphones were found to be integral in the business of trafficking [54]. Researchers indicated the phones were used “to maintain contact with each other, in order to facilitate the business ‘transactions’ and stay in touch with transnational ‘partners’ and other traffickers who remained in the country of origin” [54; 55].

### RACIALIZED SEXUAL STEREOTYPES

Race and ethnicity have been inextricably linked to sexual violence and victimization. Myths regarding sexuality in certain cultures or racial fetishization may affect trafficking patterns. For example, there is an over-representation of Asian women on American Internet pornography sites in part due to popular myths sexualizing, eroticizing, and exoticizing Asian women. This has translated into trafficking, as traffickers respond to the demand for young Asian women and girls in part fueled by these stereotypes of exotic, docile, submissive, and eager-to-please Asian women [30]. These stereotypes devalue and dehumanize people, which is the underlying core of human trafficking. This contributes to the acceptability of the exploitation of individuals, particularly members of marginalized groups [57].

These racial stereotypes go beyond simply framing the victims in a particular manner [58]. They raise implicit questions regarding how the powers of state are depicted. In other words, the patriarchal attitudes of certain countries lead to “bad” or “backward” cultural practices or ways of being that then cause trafficking—setting up is a dichotomy of the “West” and “others” [58].

### CULTURE

Although many are careful in linking cultural factors to the etiology of human trafficking for fear of imposing judgment on a particular culture, many maintain that cultural ideologies that tolerate sexual trafficking, bonded labor, and child labor may be a stronger factor than poverty in predicting trafficking rates [30; 36]. For example, some cultures emphasize collectivism and prioritizing the needs of the family and group first before the needs of the individual. Some children may feel they have to sacrifice themselves for their family when traffickers promise money [30]. Traffickers also know that they can threaten to hurt victims’ families to keep them from escaping [30].

Furthermore, in many cultures, boys are more highly valued than girls, and as a result, girls are considered more dispensable [30]. Sons are considered the family’s social security, staying with the family while daughters marry into other families. Therefore, girls may be more likely to be sold into slavery than boys.

Child labor is also inextricably tied to cultural factors. In India, for example, child labor is common because it is believed that children in the lower levels of caste system (i.e., the “untouch-

ables”) should be socialized early to understand their positions in society [36]. It has been observed that when traditional cultural and societal norms about women’s roles were relaxed in some European countries and more women entered the labor force, child labor decreased [36]. Ultimately, it is difficult to unravel the effects of poverty and culture because the pressures of poverty can lead families to use tradition as a justification to sacrifice young men, women, and children [36].

Ultimately, the conversation about human trafficking is complex, and to attempt to isolate the causes is beyond challenging. Multiple factors have been suggested as possibly predicting human trafficking, including macroeconomic factors (e.g., gross domestic product per capita), unemployment rates, LGBTQ+ discrimination, cultural oppression, and lack of protection of women’s rights [59; 60]. In addition, the COVID-19 pandemic has potentially exacerbated the rates of isolation, poverty, and lack of resources/funding, all of which are risk factors for human trafficking [24]. In one study, ease of land access to the destination country appeared to be a powerful predictor in terms of the number of individuals trafficked [59].

---

## THE TRAFFICKING EXPERIENCE

---

Five stages of the trafficking experience have been identified [61; 62; 63]:

- **Pre-departure stage:** The period before the victim becomes involved in the trafficking situation. This may include recruitment and preparing for travel.
- **Travel and transit stage:** The time after recruitment during which the victim “agrees” or is coerced into the trafficked situation. This phase also includes the journey whereby the trafficker(s) brings the victim(s) to their work destination. It is important to remember that this stage can be very dangerous and can involve numerous transit points.
- **Destination stage:** This is the period during which the victim arrives at the intended destination. This stage is marked by exploitation, abuse, victimization, and coercion. One way to control the victims is to continually inflate their debt so they have to constantly work to pay it off. Another is to confine and isolate victims.
- **Detention, deportation, and criminal evidence stage:** If a victim is arrested by the police or immigration authorities, victims are held in legal proceedings and they often fear deportation, and/or retaliation from the trafficker(s).
- **Integration and re-integration stage:** During this stage, government and nongovernment agencies provide services to victims that involve a long process of attempting to reintegrate the victim back into his/her community.

## TRAFFICKERS: AN OVERVIEW

Much attention has been focusing on victims of trafficking; however, it is important to also understand the perpetrators.

### Methods of Recruitment

It has been suggested human traffickers employ five general strategies to recruit and traffic victims [64; 65; 66; 67]:

- **Kidnapping:** Traffickers may kidnap their victims. They may lure them with food or treats or take them by force. Victims with few if any social ties are highly vulnerable, as no one will miss them or report their disappearance.
- **Targeting poor families:** Traffickers may convince families to sell their children (often daughters). Because many families in developing countries live in abject poverty, traffickers will stress to victims’ families how the money will help them to survive. Other traffickers may tell families that selling their daughter will provide her with more promising opportunities.
- **Developing a false romantic relationship with victim:** A tactic often used with young girls, perpetrators pose as boyfriends by romancing victims, buying gifts, and proclaiming their love. Victims have a difficult time believing that their boyfriends would hurt or deceive them, making them easy targets for trafficking.
- **Fake storefronts:** Some employment, modeling, or marriage agencies are fronts for illegal trafficking operations. A potential victim might be lured with the promise of employment, a lucrative modeling contract, or an arranged marriage in the United States. After victims have been lured in, traffickers come to assess their “product.” Perpetrators may be family members or friends.
- **Legal storefronts:** Some legal businesses in the tourism, entertainment, and leisure industries integrate trafficking activities into their business structure.
- **Recruiting local sex workers:** Traffickers might hire sex workers working in local night clubs from brothel owners or simply lure sex workers by promising them a more affluent future. As victims get older, they may later recruit younger victims.

### The Financial Profits

Unfortunately, human trafficking can be a lucrative business. According to the ILO, profits from forced labor, trafficking, and modern slavery are estimated to be \$150 billion annually [68]. The majority of this total is attributable to commercial sexual exploitation (\$99 billion) followed by construction/manufacturing/mining (\$34 billion), agriculture (\$9 billion), and domestic work (\$8 billion) [68].

The receiving country and location of trafficking will affect the profits. For example, if a girl is kidnapped from a village in Nepal and taken to India, she can be sold in India for \$1,000 [64]. If she is then trafficked to the United States, she could be sold for \$20,000.

Interestingly, the “cost” of a slave has not risen over time. According to Bales, the cost of obtaining a slave to work in the agriculture sector in 2007 was about \$100; in 1850, this same slave would cost the equivalent of \$40,000 in 2007 currency [69]. In one study, it was approximated that in the United States, a trafficker can make an average of about \$300,000 per victim lifetime, which would total \$32 billion annually [70]. Income in larger cities (e.g., Atlanta, San Diego, Washington, DC) may be even greater.

---

## CONSEQUENCES OF HUMAN TRAFFICKING: IMPACT ON VICTIMS

---

The social realities of victims of human trafficking are difficult to comprehend, and some may wonder why victims remained silent and complied with their traffickers. The Silence Compliance Model was created to explore the factors that promote victims’ seeming willingness to comply to their traffickers’ demands [71]. This model has three categories: coercion, collusion, and contrition. Victims are coerced, brutalized, and threatened, and basic necessities of life are withheld from them. Methods of psychological coercion include isolation, induced exhaustion, threats, degradation, and monopolizing perception [72]. This serves to silence victims and create a sense of helplessness. By isolating and controlling victims’ movements and limiting their exposure to the outside world, traffickers have complete monopoly of their attention and perception of reality [72]. Victims are then forced to collude with the traffickers as a result of their relative isolation, fear, false sense of belonging, and complete dependence on the trafficker. Finally, victims feel contrite, ashamed, stigmatized, and remorseful of the things they have been made to do [71].

### PSYCHOLOGICAL AND MENTAL HEALTH CONSEQUENCES

Victims of trafficking experience a host of psychological, mental health, and emotional distress. Depression, suicidal ideation, substance use, and anxiety are typically cited mental health problems [23]. Post-traumatic stress disorder (PTSD) is also common given the trauma many victims experience, including physical and/or sexual violence and abuse; victims forced into prostitution experience continual, daily sexual assault [73]. In a study of 192 European women who were trafficked but who managed to escape, the overwhelming majority (95%) disclosed that they experienced physical and sexual violence during the time of their trafficked experience [74]. More than 90% reported sexual abuse, and 76% reported physical abuse.

Trafficked victims experience fear from the start of their capture through the transit phase and after they arrive at their destination. During the transit stage, many victims experience dangerous border crossings, risky types of transports, injury, beatings, and sexual assault [61]. Upon arrival to their destination, many trafficking victims have been socially isolated, held in confinement, and deprived of food [75]. All sense of

security is stripped from them—their personal possessions, identity papers, passports, visas, and other documents [61; 75]. The continual fear for their personal safety and their families’ safety and the perpetual threats of deportation ultimately breed a sense of loss of control and learned helplessness. It is not surprising that depression, anxiety, and PTSD are common symptoms experienced by trafficked victims.

In a study of 164 survivors of human trafficking who returned to Nepal, the authors examined the extent to which they experienced PTSD, depression, and anxiety [76]. All of the survivors experienced some level of these disorders, but the survivors who were trafficked for sex experienced higher levels of depression and PTSD compared to those who were not trafficked for sex. In a study with Moldovan survivors of human trafficking, researchers found that six months after their return, 54% had diagnosable mental health issue. Specifically, 35.8% met the diagnostic criteria for PTSD, 12.5% met the criteria for major depression, and 5.8% were diagnosed with an anxiety disorder [77].

There is also some evidence that trafficked victims may experience complex PTSD, a type of PTSD that involves an acute change of the victims’ sense of self, their relationship with others, and their relationship with God or higher being [78]. These persons direct anger inwardly (toward themselves) in addition to toward their perpetrators, which results in a loss of faith in themselves and the world [63; 75; 78]. Perhaps due to self-directed anger and shame, some will engage in risky sexual behaviors, self-harm, and substance abuse. Some victims also have difficulty managing and expressing how they are feeling, while others experience dissociation [75].

Substance abuse is also common among victims. In interviews, trafficked women discussed how traffickers forced them to use substances like drugs and/or alcohol so they could work longer hours, take on more clients, and/or perform sexual acts that they could not normally [61]. Other victims used substances as a means to cope with their situations. Trafficked individuals who are gender and/or sexual minorities report shame, confusion, and sexual identity issues if forced into heterosexual relationships [63].

Children forced into labor experience grueling hours and are frequently beaten by their captors. According to Clawson and Goldblatt, underage victims of domestic sex trafficking fluctuate through a range of emotions from despair, shame, guilt, hopelessness, anxiety, and fear [79]. Depending upon the level of trauma, some engage in self-destructive behaviors like self-mutilation or suicide attempts. For some, their ambivalence toward the perpetrators may be confusing. On the one hand, they want to escape the abuse, yet simultaneously, they may have a sort of traumatic bond with the perpetrators [79].

Children forced into conscription will also experience a host of psychological symptoms. In a study comparing former Nepalese child soldiers and children who were never conscripted, former child soldiers experienced higher levels of depression, anxiety, PTSD, psychological difficulties, and functional impairments

[80]. In another study of former child soldiers from the Congo and Uganda, one-third met the criteria for PTSD [43]. The researchers found there was a relationship between greater levels of PTSD symptoms and higher levels of feelings of revenge and lower levels of openness to reconciliation [43]. In-depth narrative interviews of former child soldiers from northern Uganda found that the children spoke of the violence and atrocities they witnessed without any emotion, as if they had removed themselves from their experiences [81]. This speaks to how the victims have to numb themselves psychologically in order to cope. The researchers also found that the children who lost their mothers were more traumatized by this experience than the violence they witnessed as soldiers.

Some have argued that the diagnostic criteria of PTSD may not be easily applied to those from different cultures. As a result, it is important to assess for other psychiatric disorders, such as depression. Japan, for example, never used the PTSD diagnosis prior to 1995, despite the fact that they have a large and intricate mental health system [82]. Ultimately, PTSD cannot be universally applied to every culture and for every humanitarian crisis; therefore, if a human trafficking victim does not necessarily fall within the Diagnostic and Statistical Manual of Mental Disorders criteria for PTSD, one cannot necessarily conclude that they have not experienced trauma or are not traumatized [82].

## SOCIAL CONSEQUENCES

When rescued and attempting to reintegrate into their communities, victims of human trafficking often experience stigma, ostracism, and marginalization [80; 83]. For example, in Nepal, community members perceived returning child soldiers who had performed acts such as carrying dead bodies or coed sleeping as in violation of Hindu cultural norms [80]. One documentary following former child soldiers living in a refugee camp in northern Uganda found that preconceived notions and myths about child soldiers often led to ridicule and ostracism after they were liberated from the army and returned home.

However, girls who were recruited as soldiers, who were forced to have sex, or who return with children appear to be the most marginalized group [84]. In a qualitative study of former girl soldiers in Sierra Leone, researchers found that, compared to returning boy soldiers, girls were perceived to have violated gender norms and values about sexuality. Although psychologically and developmentally they were still children, the community perceived and treated them as “damaged” or “unclean” women. Their communities were not able to integrate them back in despite the victimization they experienced. These girls lacked voice and experienced shame, marginalization, poverty, and powerlessness upon their return [84]. In a study of former child soldiers in Uganda, the children reported having difficulty finding jobs or getting married when they returned home. Girls who had been raped were stigmatized and made to feel unwelcome in their communities. Others stated that their community perceived them as murderers [44].

## HEALTH CONSEQUENCES

In studies of trafficked women, headaches, fatigue, dizziness, back pain, pelvic pain, stomach pain, sexually transmitted infections (STIs), unwanted pregnancies, and gynecologic infections were common, generally the result of continual physical, psychological, and sexual abuse [23; 74]. Victims of labor trafficking also experience health issues related to the type of work, workplace conditions, malnutrition, and violence [85]. It is important to remember that some of these somatic complaints, such as headaches, fatigue, and gastrointestinal problems, may be underlying symptoms of anxiety, depression, and stress [74]. Some cultural groups might not use the terms “depression,” “sad,” or “anxious,” but may use metaphors and somatic symptoms to describe their pain, all of which are embedded within cultural ideologies. The most common culture-based idioms of distress are somatic symptoms. Some groups tend not to psychologize emotional problems; instead, they experience psychological conflicts as bodily sensations (e.g., headaches, bodily aches, gastrointestinal problems, and dizziness).

Using an in-depth, direct interview survey designed to explore each stage of the trafficking experience, a multi-country European study identified a range of aversive health, sexual, and reproductive consequences common among women and adolescent victims of human trafficking [61]:

- Pre-departure stage: All victims reported having had limited knowledge of the health implications of having sex with strangers, and only 1 in 25 felt well-informed regarding the risks of acquiring HIV or other STIs.
- Travel and transit stage: Half of those interviewed reported having been confined, beaten, and/or raped during the journey.
- Destination stage: A large majority reported having been “intentionally hurt” (as evidenced by contusions, lacerations, loss of consciousness, and signs of head trauma); subjected to solitary confinement and deprived of human contact and adequate food and nutrition; subject to a variety of physical ailments, including headache, fever, undiagnosed pelvic pain, urinary tract infection, STIs, rash/scabies, and oral/dental health issues. All had experienced repeated sexual abuse or coercion, and 1 in 4 reported at least one unintended pregnancy (often involving negative outcomes of abortions performed in unsafe and unhealthy conditions).

In the context of forced prostitution among trafficked victims, safeguards against infection (e.g., regular condom use), early diagnosis, and adequate antimicrobial treatment are inconsistently employed or absent entirely [61]. Consequently, in addition to unwanted pregnancy, the risk for pelvic inflammatory disease and subsequent infertility is relatively high. Moreover, the relationship between forced prostitution and HIV infection is stronger when sexual violence is involved. Women who are forced into prostitution are 11 times more likely to

become HIV-infected than women who entered prostitution voluntarily [86]. Sexual violence may increase the transmission risk as a result of open abrasions and injuries to the vagina. Furthermore, sexual violence can negatively impact self-esteem, which could then deter victims from advocating more strongly for condom use [86].

Among child victims of human trafficking, healthy growth and development is especially problematic. Malnourishment and poor hygiene often lead to delayed bone growth, poorly formed teeth, and early dental caries [87]. The intense nature of child labor also has severe negative physical and health consequences. Children working in unsafe conditions without protection, such as in mines or mills, can lead to respiratory problems such as asthma and bronchitis [88]. A study of adult and child laborers on tobacco farms in Kazakhstan found that the workers were unaware that exposure to tobacco and pesticides could affect their health. Protective garments were also rare, with many children not even having gloves [89].

Under normal circumstances, young children are still developing physically; however, such adverse conditions can halt their development. The lungs of adolescent boys typically experience the most rapid growth around 13 to 17 years of age; working in conditions characterized by excessive toxic dust or unclean air makes them more vulnerable to developing silicosis and fibrosis [88]. In the United States, young children participating in agricultural work are at risk of the major traumas associated with farm work, such as injuries caused by tractors or falling from heights, in addition to those injuries associated with repetitive stress and exposure to toxins. Children have thinner layers of epidermis, which make them more vulnerable to the toxicity of pesticides, and this can ultimately increase their risks for certain cancers [88]. Children working in gold mines do intensive digging, lifting, and transporting and mix mercury with the crushed ore, often with their bare hands. Mercury toxicity can lead to neurologic symptoms such as loss of vision, tremors, and memory loss [89].

---

## IDENTIFICATION AND ASSESSMENT

---

Healthcare providers are often the most likely to encounter a victim of human trafficking under circumstances that provide an opportunity to intervene. Yet, many providers lack the training and confidence to identify and assist victims. In a survey of 110 emergency department physicians, nurses, and physician assistants, the majority (76%) reported having a knowledge of human trafficking, but only 13% felt equipped to identify a trafficking victim and only 22% were confident in their ability to provide satisfactory care for such patients [90]. Less than 3% had ever received any training on this topic. In a separate survey of healthcare and social service providers, only 37% had ever received training on identification of trafficking victims [91].

Because human trafficking and exploitation are, by nature, covert processes, the identification and rescue of the victim can be difficult. Traffickers move victims from one area to

another to reduce the risk of identification, and one of the main problems with the assessment of such individuals is that practitioners may only have a one-time encounter with the victim [92; 119].

### POTENTIAL RED FLAGS

Bruises, scars, and other signs of physical abuse may be missed on examination, as victims are often beaten in areas hidden by clothing (e.g., the lower back) so as not to affect the victim's outer appearance. Physical trauma symptoms may be present, commonly on the torso, breast, and/or genital areas [70]. Burns, broken bones, pelvic pain, and/or STIs (particularly in children) may also be red flags [93]. However, more common physical injuries are also typical with other circumstances, making physical exam of limited value. The entire clinical picture should be considered.

It may also be helpful to assess for tattoos and/or other modifications (e.g., branding, piercings). Some perpetrators use tattoos to identify victims or to signify "ownership" [56].

With regard to episodic clinical encounters, recommendations for providing safe assessments in a culturally sensitive manner are lacking. The U.S. Department of Homeland Security maintains a useful website that addresses practical issues of human trafficking for allied professional groups, known as the Blue Campaign [87]. Included are diagnostic and interviewing tips to help healthcare providers recognize, intervene, and refer trafficking victims. Emergency and primary care providers should be cognizant of clues that a patient may be the victim of trafficking and prepared to engage in greater depth of inquiry with special attention to the following indicators [87; 93; 94; 95; 119]:

- Does someone, other than family, who behaves in a controlling manner, accompany the patient? Traffickers attempt to guard and control most every aspect of the victim's life, while maintaining isolation from family, friends, and other common forms of human interaction.
- Are there inconsistencies in answers to basic questions (e.g., name, age, address)?
- Does the patient speak English? If not, has he or she recently been brought to this country, and from where? Many victims of human trafficking have recently been trafficked from other countries. As discussed, common sending countries/regions include Eastern Europe, Asia, Latin America, Africa, India, and Russia.
- If the patient is accompanied by someone other than a family member, who does the talking, and why? Attempt to interview and examine the patient separately and alone, using an interpreter if necessary. Probe in a sensitive manner for detailed information on the situation and relationship.
- Does the patient show signs of psychosocial stress (e.g., appears withdrawn, submissive, fearful, anxious, depressed)? Can the individual account for this?



- Are there visible signs of physical abuse (e.g., bruises, lacerations, scars)? How does the individual explain these?
- Does the patient lack a passport or other immigration and identification documentation (e.g., driver's license, social security number, visa)? If so, what explanation is given? To control victims' movements, traffickers often take away passports and any legal identification documents.
- What is the patient's home and work situation? Basic questions about what they eat, where they live and sleep, who else lives with them, and what work they do can be revealing. For example, "Can you leave your work or job situation if you wish?" or "When you are not working, can you come and go as you please?"
- Is the explanation given for the clinical visit consistent with the patient's presentation and clinical findings?
- Does the victim appear fearful when asked questions about citizenship, country of origin, immigration status, or residence? This may indicate a fear of deportation.
- If the victim is a minor, is s/he in school? Living with parents or relatives? If not, what reasons are given for these circumstances?

### SCREENING QUESTIONS

Examples of questions to screen for human trafficking include [96; 97; 98]:

- Can you tell me about your living situation?
- Has anyone ever threatened you with violence if you attempted to leave?
- Does anyone force/require you to have sexual intercourse for your work?
- Has anyone ever threatened your family if you attempted to leave?
- Does anyone make you feel scared at work?
- Are you free to come and go as you wish?
- Does your home have bars on windows, blocked windows/doors, or security cameras?
- How many hours do you work?
- Have you ever worked without receiving payment you thought you would get?
- Do you owe your employer money?
- Do you have to ask permission to eat, sleep, use the bathroom, or go to the doctor?

The Polaris Project has developed a flow chart for the assessment of potential trafficking victims, available at <https://humantraffickinghotline.org/sites/default/files/Assessment%20Tool%20-%20Medical%20Professionals.pdf>. If a person is thought to be a victim, one should follow workplace protocols and/or contact the National Human Trafficking Hotline at (888) 373-7888 for next steps.

### INTERVIEWING TRAFFICKED VICTIMS: BEST PRACTICE GUIDELINES

Service providers should repeatedly weigh the risks and benefits of various actions when interviewing human trafficking victims [65; 99; 100]. The following interviewing recommendations were published by the World Health Organization to encourage service providers to continually and ethically promote human trafficking victims' safety during every phase of the interviewing process [93; 101]:

- Each victim and trafficking situation should be treated as unique; there are no standard templates of experiences. Listen carefully to the victim's story. Each story told is unique, and each patient will voice distinctive concerns. Believe each story, no matter how incredible it may seem. As rapport and trust build (perhaps very slowly), accounts may become more extensive.
- Always be safe and assume the victim is at risk of physical, psychological, social, and legal harm.
- Evaluate the risks and benefits of interviewing before starting the interviewing process. The interviewing process should not invoke more distress. In other words, the interviewing process should not end up re-traumatizing the victim.
- Provide referrals for services where necessary; however, it is necessary to be realistic and not make promises that cannot be kept. Trust is vital because it has been severed on so many levels for trafficking victims.
- Victims' readiness to change will not be based on what societal defines as "ready" or social expectations. Some victims will eagerly grasp new opportunities, while others may be fearful of potential traffickers' threat and be less receptive to help.
- Determine the need for interpreters and if other service providers should be present during the interviewing phase. Ensure that everyone involved is adequately prepared in their knowledge about human trafficking, how perpetrators control their victims, and how to ask questions in a culturally sensitive manner. Keep in mind that often times, traffickers will offer to help with the interpreting. Using interpreters from the same community of the victim should be avoided to prevent breaches in confidentiality.
- All involved should be prepared for an emergency plan. For example, is there a set plan for a victim who indicates he/she is suicidal or in danger of being hurt?
- Always be sure to obtain informed consent. Remember the informed consent process is going to be unfamiliar to many victims. In addition, self-determination and autonomy have been compromised by continual threats and being forced to commit dehumanizing acts. Avoid using legal and technical jargon.

It is important to use a trauma-informed approach when assessing and caring for potential victims, which requires that practitioners understand the impact of trauma on all areas of an individual's life [102]. Physical, emotional, and psychological safety is at the heart of trauma-informed care. Providers should assume that human trafficking victims are describing their reality to the best of their ability, given the trauma they have experienced. Responses and behaviors (e.g., being guarded, defensive, belligerent) may be coping mechanisms [102].

---

### REPORTING

---

If screening and assessment findings indicate that an individual may be a victim of human trafficking, one should contact the National Human Trafficking Hotline at 1-888-373-7888. A text telephone (TTY) option for people who are deaf, hard of hearing, or speech impaired can be accessed by dialing 711. Reporting by text is available by texting the National Human Trafficking Hotline at 233733. Online chat is also accessible at <https://humantraffickinghotline.org>.

The National Human Trafficking Hotline collects information about the location of the trafficking case and the name of the suspected trafficker. The hotline will also request non-personally identifying information, such as the city and state of the reporter and how he or she learned of the hotline; reporting can be done anonymously. Reporters and/or victims are only asked to provide information they feel comfortable sharing, and the hotline does not share information with external agencies unless permission is given or when required by law. Hotline calls are managed by anti-trafficking hotline advocates, who are specifically trained. After receiving a report of suspected human trafficking, the National Human Trafficking Hotline will assess each case individually to determine if a case should be reported to a local, state, or federal investigative and/or service agency equipped to investigate the tip and/or respond to the needs of the potential victim.

Under the child abuse laws, practitioners who are mandated reporters and who are suspicious that a minor is being abused should immediately report the abuse. Persons in Florida who know, or have reasonable cause to suspect, that a child is abused, neglected, or abandoned must immediately report such knowledge or suspicion to the Florida Abuse Hotline of the Department of Children and Families at 1-800-96-ABUSE (1-800-962-2873).

---

### INTERVENTIONS AND RESOURCES

---

#### EDUCATION AND PREVENTION

Education is believed to be a key ingredient in the prevention of human trafficking. Raising awareness through advertisements, campaigns, and other creative vehicles regarding recruitment threats, the various deception techniques employed, the different forms of human trafficking, and the consequences of human trafficking can decrease the incidence [64; 103].

Because the general public often believes human trafficking is a problem that only occurs in developing countries, there is a clear need for public education about trafficking and safety for young children and women in and outside the United States [22]. The U.S. Department of Homeland Security provides brochures and posters about human trafficking through its Blue Campaign, which are available to be ordered (at no cost) from <https://www.dhs.gov/blue-campaign/request-materials> [87]. Posting these brochures or posters increases the possibility that a trafficked victim will self-report [100].

Education about human trafficking has become a higher international priority. Innovative and creative approaches are being implemented to disseminate information about human trafficking, particularly how perpetrators recruit high-risk groups (e.g., youths with disabilities, runaways) [67]. For example, groups have used street plays to educate communities about child labor dangers in India [104].

#### interactive activity

Watch a video produced by the ILO exploring the use of street plays to educate communities about child labor in India at <https://www.netce.com/courseoverview.php?courseid=2424>.

Although the topic of human trafficking has become more common in public discourse, service providers and law enforcement authorities remain under-educated about human trafficking. They are not sure what to look for, what to ask, and what to do if they do identify individuals who are victims of human trafficking [103]. Law enforcement officials require training to identify and assess potential victims at various borders and ports of entry. If a minor is accompanied by an adult who is not the child's parent or legal guardian, this should raise a red flag [103]. Furthermore, to work effectively to identify human trafficking victims, there is a need for service providers to navigate and collaborate with a complex host of government, social service, mental health, and nongovernment legal entities [103].

#### MENTAL HEALTH AND SOCIAL SERVICES

Care and services provided to victims can be organized into three distinct categories: immediate and concrete services at the time of rescue; services related to recovery; and long-term services pertaining to reintegration [105]. When trafficking victims are rescued, a great deal of counseling services and practical, day-to-day assistance will be required. Housing, transportation, food, clothing, medical care, dental care, financial assistance, educational training, reunification (for those who wish to return to their homeland), and legal aid are some of the concrete services needed [71]. Practitioners should connect, coordinate, and case manage these services as much as possible. During this stage, it is also important to understand victims' needs, their strengths, and their risks and vulnerabilities [75].

Safety planning is also crucial in the immediate rescue stage. Traffickers may be continuing to try to locate some victims; placing victims in safe houses may be necessary [63]. The National Human Trafficking Hotline encourages that safety planning be based on the unique needs and circumstances of the individual.

During the recovery and reintegration stages, as discussed, human trafficking victims experience an array of mental health and psychological issues. Mental health counseling is vital, but it is important to remember that the concept of counseling or talk therapy may be foreign to victims from non-Western cultures [65]. The expression of emotions may be in opposition to cultural values of emotional restraint, which can be intensified by feelings of shame and guilt resulting from experiences with sexual and physical assault. Beyond the paramount importance of the practitioner gaining the patient's trust, practitioners may educate patients about the counseling process and explore their patients' expectations about counseling, healing, and recovery [106]. As noted, victims' symptoms may not only be a manifestation of the trauma but also coping mechanisms to cope with self-blame, shame, and trauma [56].

Given differing cultural beliefs about healing, it is crucial that practitioners be open to alternative treatment and explore with patients the use of traditional healing methods [65]. There are many indigenous healing interventions victims may be using, including cultural rituals, faith healing, therapeutic touch, herbal remedies, and spiritual practices [107]. These interventions are multi-layered, taking into account the physical, psychological, communal, and spiritual [107]. These healing methods are historically rooted in specific cultures, and therefore, practitioners should become familiar with traditional healing methods and how they can be integrated with Western counseling techniques [106]. For example, given many cultural groups' beliefs that unmarried girls are defiled if raped, a cultural cleansing ritual may be needed as a first step to help a community accept a returning victim who was sexually assaulted during her trafficking experience [30]. After this ritual is performed, it is possible that both the patient and her family may be more open to counseling and other services.

Other trauma interventions that might be beneficial include cognitive-behavioral therapies, eye movement and desensitization reprocessing therapies, mindfulness techniques, and expressive therapies [56; 63].

Physicians, social workers, nurses, therapists, and counselors must be familiar with legal, case management, educational, job and life skills training, and housing services in the community. Human trafficking victims are not only unfamiliar with navigating the social service system, but many are also not proficient in English. Therefore, practitioners will serve as coordinators and advocates, linking necessary services. In one study, the majority of agencies had to rely on collaboration in order to refer clients [108]. Social workers and practitioners relied on word-of-mouth and community meetings to learn about services in order to better meet the needs of human trafficking victims. Furthermore, because many community

organizations and agencies are not familiar with human trafficking, practitioners must take a primary role in educating colleagues about the complex dynamics of human trafficking.

It is important to remember that the evidence supporting interventions and therapies for victims of human trafficking is in its infancy [105]. Most efficacy studies of therapies and interventions do not involve experimental designs, which makes it difficult to draw definitive conclusions regarding efficacy. Future work is needed to develop and evaluate interventions that address the multilayered and complex needs of human trafficking survivors.

### interactive activity

For more information on how to identify and assist victims, watch the information video *Labor Trafficking Awareness: Medical Clinic*, produced by the Blue Campaign public awareness campaign, an initiative of the U.S. Department of Homeland Security, at <https://www.dhs.gov/medialibrary/assets/video/21856>.

## ADVOCACY

Physicians, social workers, nurses, allied health professionals, counselors, and psychologists will find themselves in multiple roles when working with victims of human trafficking. Advocacy is one of these roles and involves the practitioner being an agent for change. This consists of engaging in activities that alter the social conditions at the individual, family, community, and institutional levels [109]. One way to advocate on behalf of human trafficking victims is by signing petitions or joining credible organizations concerned with changing the circumstances that lead to human trafficking. Many organizations have petitions established on their websites for individuals to persuade policymakers, legislators, and government officials to advocate for the protection of human trafficking victims, create greater awareness of the problem, and prosecute traffickers, including:

- <https://www.freetheslaves.net>
- <https://polarisproject.org>
- <https://www.stopthetraffik.org>

## LAWS AND POLICIES

### Justice for Victims of Trafficking Act

In 2015, the Justice for Victims of Trafficking Act (JVTA) became law, allowing survivors formal input in federal anti-trafficking policy and providing incentives for states to enact laws to prevent the prosecution of child victims for crimes committed as a direct result of being subjected to trafficking. The JVTA provides additional bases of criminal liability for those who patronize or solicit trafficking victims for commercial sex and creates a new offense prohibiting the advertising of sex trafficking activity. It also clarifies that traffickers in

child sex trafficking cases who had a reasonable opportunity to observe the victim can no longer claim ignorance about a victim's age as a defense [24].

### Victims of Trafficking and Violence Protection Act

A wide range of laws have been established to protect human trafficking victims and to prosecute perpetrators. A general knowledge of these laws is helpful when caring for victims and seeking appropriate social services. The TVPA was enacted in 2000 and reauthorized in 2003, 2005, 2008, 2013, and 2018 by the Trafficking Victims Protection Reauthorization Acts [24; 110]. It emphasizes the three Ps: prevention, protection, and prosecution [111]. The prevention component consists of training and awareness; the protection dimension gives trafficked victims the ability to receive services using federal funds like other refugees; and the prosecution component focuses on laws and policies for the prosecution of traffickers.

Because victims of trafficking are often viewed as criminals, this law states that victims of severe trafficking should not be penalized for any illegal behaviors or acts they engaged in as a result of being trafficked, including entering the United States with false documents or no documentation or working without appropriate paperwork [64]. This law also allows T Nonimmigrant Status (T visas) to be granted to victims of trafficking so they may remain in the United States with the purpose of collaborating with the federal authorities to prosecute the perpetrators. During this time, victims are offered a range of benefits and services, including access to the Witness Protection Program [64]. After three years, victims can apply for permanent resident status [16].

One of the criticisms of the Act is that it places the burden of demonstrating innocence and coercion on the victim [112]. The Act also fails to recognize the complex dynamics of human trafficking. For example, it focuses more on sex trafficking versus other forms [113]. Many victims have been abused and terrorized by the perpetrators, who they must now provide information and evidence against to stay in the country. Victims are continually fearful that they will be deported [112].

Victims who are of minor age are eligible for Unaccompanied Refugee Minors programs, the Children's Health Insurance program, and Temporary Assistance to Needy Families [103]. Furthermore, victims between 16 and 24 years of age are eligible for work permits and can apply for the Job Corps program [103]. However, it is important to remember that the key to this law is that the victim must have experienced a "severe form" of trafficking and the victim must be willing to assist in the apprehension and prosecution of the perpetrator to receive services [114].

### Preventing Sex Trafficking and Strengthening Families Act

The Preventing Sex Trafficking and Strengthening Families Act was signed into law in 2014. In accordance with this law, child welfare agencies are required to monitor and report the number of child sex trafficking victims. Cases of suspected or known child sex trafficking must also be reported to law enforcement [37].

### Trafficking Victims Protection Reauthorization Act

The Trafficking Victims Protection Reauthorization Act was introduced and signed into law in 2013. It allocated \$5 million in 2009, \$7 million in 2010, \$7 million in 2011, \$8 million annually through 2017, and \$19.5 million (including \$3.5 million annually for the National Human Trafficking Hotline) to provide services to victims and to prevent human trafficking [22; 110; 115; 116]. It amends the TVPA and assists foreign governments to implement programs to prevent human trafficking. Victims of human trafficking in other countries are also eligible for assistance through organizations that have grants from the U.S. government [115]. Greater monitoring of trafficking trends through databases will also be implemented. The Act also declares that it is not a defense that a defendant is not criminally liable or is subject to reduced criminal liability due to acceptance of the illicit conduct in the foreign jurisdiction.

### The Prosecutorial Remedies and Other Tools to End the Exploitation of Children Today Act

The Prosecutorial Remedies and Other Tools to End the Exploitation of Children Today Act was enacted in 2003. This law maintains that all sexual activity with minors, within or outside the United States, is illegal. American citizens who engage in sex with minors in any country and who are caught will be prosecuted in the United States [64].

As of 2022, all 50 states have enacted criminal anti-trafficking laws. In addition, every state has a law on labor trafficking, and all have passed criminal statutes for sex trafficking [117].

### SOAR to Health and Wellness Act

The SOAR (Stop, Observe, Ask, and Respond) to Health and Wellness Act was signed into law in 2018. It directs the Department of Health and Human Services to develop a program to train healthcare providers and practitioners to identify possible human trafficking victims, to work with law enforcement agencies, and to refer victims to services [7].

### Florida House Bill 369

In 2015, The Florida Legislature passed House Bill 369, which mandates the display of a human trafficking public awareness sign in a wide range of locations, including [118]:

- Every public rest area, turnpike service plaza, weigh station, primary airport, passenger rail station, and welcome center in the state
- Emergency rooms at general acute care hospitals
- Strip clubs or other adult entertainment establishments
- A business or establishment that offers massage or bodywork services for compensation that is not owned by a healthcare professional

The sign must contain text, in both English and Spanish, regarding the steps to take if you or someone you know is the victim of trafficking, exploitation, and/or forced labor.

## RESOURCES

For more information and to become involved in advocacy movements, please utilize the following resources. In some cases, the tools provided may be valuable for patient and/or peer training. In particular, the National Human Trafficking Hotline provides free, downloadable awareness materials for victims, first responders, and healthcare and mental health professionals, including a flyer available in 20 languages.

### Alliance for Children in Trafficking

<https://www.napnappartners.org/provider-public-resources>

### Coalition to Abolish Slavery & Trafficking

<https://castla.org>

### Coalition Against Trafficking in Women

<http://www.catwinternational.org>

### Futures Without Violence

<https://www.futureswithoutviolence.org>

### HEAL Trafficking

<https://healtrafficking.org>

### Human Rights Watch

<https://www.hrw.org>

### International Justice Mission

<https://www.ijm.org>

### International Labour Organization

<https://www.ilo.org>

### Office of Refugee Resettlement

<https://www.acf.hhs.gov/orr>

### National Human Trafficking Hotline

<https://humantraffickinghotline.org>

### Polaris Project

<https://polarisproject.org>

### Salvation Army

<https://www.salvationarmyusa.org>

### Urban Justice Center

### Sex Workers Project

<https://swp.urbanjustice.org>

### U.S. Department of Health and Human Services Administration for Children and Families

<https://www.acf.hhs.gov>

### U.S. Department of Health and Human Services Administration for Children and Families SOAR to Health and Wellness Training

<https://www.acf.hhs.gov/otip/training/soar-to-health-and-wellness-training>

### Services Available to Victims of Human Trafficking:

#### A Resource Guide for Social Service Providers

<https://www.acf.hhs.gov/otip/training-technical-assistance/resource/services-available-victims-human-trafficking>

### U.S. Department of Homeland Security

#### Blue Campaign

<https://www.dhs.gov/blue-campaign>

### U.S. Department of Justice

#### Bureau of Justice Assistance

<https://www.bja.ojp.gov>

### U.S. Department of Justice

#### Office for Victims of Crime

<https://ovc.ojp.gov>

### U.S. Department of Labor

#### Bureau of International Labor Affairs

<https://www.dol.gov/agencies/ilab>

### U.S. Department of State

#### Office to Monitor and Combat Trafficking in Persons

<https://www.state.gov/bureaus-offices/under-secretary-for-civilian-security-democracy-and-human-rights/office-to-monitor-and-combat-trafficking-in-persons>

---

## CONCLUSION

---

Human trafficking is a severe human rights violation. Because the roots of human trafficking are multifaceted, no one solution exists to eliminate this problem. Unfortunately, as the problem grows, practitioners will be confronted with the issue in their patient populations. Practitioners should be committed to the collaboration amongst disciplines to address poverty, racism, discrimination, and oppression in order to reduce the vulnerable positions of human trafficking victims and their families. Because of the social justice component in the codes of ethics of professionals such as physicians, nurses, social workers, psychologists, and counselors, all practitioners can play a key role in the individual, community, and systemic levels to help address this gross abuse of power. One way to begin is to educate oneself and one's respective disciplines about the global nature of human trafficking and the complex dynamics of the problem.

### interactive activity

To view an excerpt of U.S. Vice President Kamala Harris's keynote address at Examining the Roots of Human Trafficking and Exploitation, the 2014-2015 UCLA School of Law Symposium, visit <http://www.netce.com/coursecontent.php?courseid=2424>.

Customer Information and Answer Sheet located on pages 103-104.

COURSE TEST - #97111 RECOGNIZING AND REPORTING HUMAN TRAFFICKING IN FLORIDA

*This is an open book test. Please record your responses on the Answer Sheet.*

*A passing grade of at least 70% must be achieved in order to receive credit for this course.*

*This 2 contact hour activity must be completed by August 31, 2025.*

1. The United Nations Office on Drugs and Crime divides the definition of human trafficking into three sections: the act, means, and purpose.  
A) True  
B) False
2. Domestic servitude refers to a category of domestic workers (usually female) who work as servants, housekeepers, maids, and/or caregivers, often in private homes.  
A) True  
B) False
3. Digital technology, such as the Internet, greatly inhibits sex trafficking.  
A) True  
B) False
4. Myths that certain races or ethnicities are more erotic and exotic do not affect sex trafficking patterns.  
A) True  
B) False
5. Developing a false romantic relationship with a victim is a method of recruitment used by human traffickers.  
A) True  
B) False
6. Post-traumatic stress disorder is uncommon among human trafficking victims.  
A) True  
B) False
7. Child laborers who work in agricultural fields might be more susceptible to certain cancers due to their rapid growth.  
A) True  
B) False
8. When interviewing a victim of human trafficking, it is important to assess if an interpreter is needed and ensure the interpreter is knowledgeable about the dynamics of human trafficking.  
A) True  
B) False
9. If a practitioner suspects an individual is a victim of human trafficking, he/she should contact the National Human Trafficking Hotline.  
A) True  
B) False
10. One of the criticisms of the Trafficking Victims Protection Act of 2000 is that it places the burden of demonstrating innocence and coercion on the victim.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Pathophysiology: The Hepatobiliary System

This course satisfies 15 hours of general CE.

## Audience

This course is designed for nurses in all practice settings.

## Course Objective

As health care becomes more complex, it is essential that the theoretical concepts of the basis of illness (pathophysiology) be well understood. The purpose of this course is to reinforce the scientific rationales for the interventions nurses perform and the decisions nurses make as patients move through the ever-changing struggle with their illness.

## Learning Objectives

Upon completion of this course, you should be able to:

1. Identify and describe the anatomical structure of the liver.
2. Explain the liver's functions, integrating how these processes inter-relate with the hepatic and biliary systems.
3. Describe the anatomical location and structure and regulatory mechanisms of the gallbladder.
4. Discuss the pathophysiologic effects of hepatobiliary dysfunction, including how these conditions impact overall health and clinical management.
5. Review the impact of hepatobiliary dysfunction on the integumentary, cardiovascular, and neurologic systems.
6. Analyze how psychosocial and lifestyle factors influence the risk and progression of hepatobiliary disorders.
7. Conduct a comprehensive nursing assessment by effectively gathering and analyzing subjective and objective data related to hepatobiliary function.
8. Outline and interpret various diagnostic studies for hepatobiliary disorders, including the purpose, procedure, and nursing implications for advanced diagnostic tests.
9. Identify and formulate nursing diagnoses for patients with hepatic or biliary dysfunction based on comprehensive assessments.
10. Outline a comprehensive nursing care plan for patients with hepatobiliary dysfunction.
11. Differentiate between congenital disorders of the hepatic and biliary systems, specifically Gilbert syndrome and Alagille syndrome.
12. Discuss cirrhosis, including demonstrating an ability to apply appropriate therapeutic measures for managing complications and execute specific nursing interventions.
13. Differentiate between various forms of alcohol-induced liver disease.
14. Evaluate the role of metabolic dysfunction in the development of metabolic dysfunction-associated steatotic liver disease (MASLD).
15. Compare and contrast primary and secondary biliary cholangitis, including approaches to management.
16. Identify and differentiate between various infectious and inflammatory disorders of the hepatobiliary system.
17. Describe the various neoplastic and obstructive disorders affecting the hepatobiliary system.
18. Outline the key criteria for liver transplantation candidacy and the processes involved in donor organ selection and transplantation.

## Faculty

**Jane C. Norman, RN, MSN, CNE, PhD**, received her undergraduate education at the University of Tennessee, Knoxville campus. There she completed a double major in Sociology and English. She completed an Associate of Science in Nursing at the University of Tennessee, Nashville campus and began her nursing career at Vanderbilt University Medical Center. Jane received her Masters in Medical-Surgical Nursing from Vanderbilt University. (A complete biography can be found at NetCE.com.)

**Mary Franks, MSN, APRN, FNP-C**, is a board-certified Family Nurse Practitioner and NetCE Nurse Planner. She works as a Nurse Division Planner for NetCE and a per diem nurse practitioner in urgent care in Central Illinois. Mary graduated with her Associate's degree in nursing from Carl Sandburg College, her BSN from OSF Saint Francis Medical Center College of Nursing in 2013, and her MSN with a focus on nursing education from Chamberlain University in 2017. (A complete biography can be found at NetCE.com.)

### Faculty Disclosure

Contributing faculty, Jane C. Norman, RN, MSN, CNE, PhD, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

Contributing faculty, Mary Franks, MSN, APRN, FNP-C, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

### Division Planner

Margo A. Halm, RN, PhD, ACNS-BC, FAAN

### Senior Director of Development and Academic Affairs

Sarah Campbell

### Division Planner/Director Disclosure

The division planner and director have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

### Accreditations & Approvals



In support of improving patient care, NetCE is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American

Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

### Designations of Credit

NetCE designates this continuing education activity for 15 ANCC contact hours.

NetCE designates this continuing education activity for 3 pharmacotherapeutic/pharmacology contact hours.

AACN Synergy CERP Category A.

### Individual State Nursing Approvals

In addition to states that accept ANCC, NetCE is approved as a provider of continuing education in nursing by: Alabama, Provider #ABNP0353 (valid through 07/29/2025); Arkansas, Provider #50-2405; California, BRN Provider #CEP9784; California, LVN Provider #V10662; California, PT Provider #V10842; District of Columbia, Provider #50-2405; Florida, Provider #50-2405; Georgia, Provider #50-2405; Kentucky, Provider #7-0054 (valid through 12/31/2025); South Carolina, Provider #50-2405; West Virginia, RN and APRN Provider #50-2405.

### About the Sponsor

The purpose of NetCE is to provide challenging curricula to assist healthcare professionals to raise their levels of expertise while fulfilling their continuing education requirements, thereby improving the quality of healthcare.

Our contributing faculty members have taken care to ensure that the information and recommendations are accurate and compatible with the standards generally accepted at the time of publication. The publisher disclaims any liability, loss or damage incurred as a consequence, directly or indirectly, of the use and application of any of the contents. Participants are cautioned about the potential risk of using limited knowledge when integrating new techniques into practice.

### Disclosure Statement

It is the policy of NetCE not to accept commercial support. Furthermore, commercial interests are prohibited from distributing or providing access to this activity to learners.

### How to Receive Credit

- Read the following course.
- Complete the test.
- Return your Customer Information/Answer Sheet and payment to NetCE by mail, or complete online at [www.NetCE.com/FL25](http://www.NetCE.com/FL25).
- A full Works Cited list is available online at [www.NetCE.com](http://www.NetCE.com).

## INTRODUCTION

The liver, the gallbladder, and the exocrine pancreas are classified as accessory organs of the gastrointestinal tract and digestion. They introduce digestive hormones and enzymes into the alimentary canal, ensuring that the nutrients critical to life can be absorbed selectively by the small intestines into the bloodstream. In addition to producing digestive secretions, the liver and the pancreas have other important functions. The exocrine pancreas, for example, supplies the insulin and glucagon needed in cell metabolism, whereas the liver synthesizes glucose, plasma proteins, and blood clotting factors and is responsible for the degradation and elimination of drugs and hormones, among other functions. The liver and gallbladder perform several regulatory functions essential to the maintenance of homeostasis. The liver synthesizes a number of substances, including coagulation factors that are vital to life. The gallbladder plays an important role in the digestive process, in particular the digestion of fats. Although the human body can survive the loss of the gallbladder, survival without a liver is not possible [1; 2]. This course focuses on functions and disorders of the liver, the biliary tract, and the gallbladder.



## STRUCTURAL AND FUNCTIONAL INTER-RELATIONSHIPS

The hepatic and biliary systems are both structurally and functionally inter-related. The liver, the largest of the internal organs, performs the following functions [3]:

- Storage and filtration of blood (a vascular function)
- Production of bile (a regulatory function)
- Removal of bilirubin from the body (an excretory function)
- Metabolism of carbohydrates, fats, and protein (a metabolic function)
- Storage of vitamins A, D, and B12
- Synthesis of coagulation factors
- Detoxification of chemicals

The principal function of the gallbladder is to store and release bile [3].

### STRUCTURE OF THE LIVER

The normal liver of an adult weighs about 1,500 g. The wedge-shaped organ lies in the upper right quadrant of the abdominal cavity, where it is protected by the rib cage. The superior surface underlies the diaphragm. The posterior and inferior surfaces together are generally referred to as the visceral surface. The right visceral surface is in contact with portions of the colon, the kidneys, the adrenal glands, and the duodenum; the left visceral surface is bordered by the stomach and spleen [3; 4].

The liver is divided into two major regions, the right and left lobes, separated by fissures on the inferior surface on the liver. On the posterior and inferior surfaces of the right lobe are two smaller lobes: the caudate and quadrate lobes. The gallbladder and the inferior vena cava lie in two shallow fossae that parallel the fissures. Veins, arteries, nerves, and lymphatic vessels enter and leave the liver through a space between the caudate and quadrate lobes [3; 4].

Except for the so-called bare area, which rests against the diaphragm, the liver is covered by visceral peritoneum. A thin layer of connective tissue extends into each lobe to divide the liver into 50,000–100,000 liver lobules. These tiny structures, a few millimeters in length and 1–2 mm in diameter, are the functional units of the liver [3; 4].

#### The Functional Liver Lobule

Each liver lobule is composed of plate like “spokes” of hepatic cells that radiate from a “hub” or central vein that passes through the connective tissue between lobules. The central veins are branches of the portal vein that, together with the portal artery, furnish the blood supply of the liver. Bile is manufactured in the hepatic plates, each of which is generally two cells thick. Tiny bile canaliculi, or bile channels, lying between the hepatic plates carry the bile to bile ducts. Like tributaries forming ever larger streams, the bile ducts merge to

form larger ducts. Eventually, they form two hepatic ducts, one from the right lobe and one from the left. These in turn join to form a single hepatic duct that merges with the cystic duct to form the common bile duct. Bile manufactured by the liver, together with bile stored and later secreted by the gallbladder, leaves the hepatic-biliary system via the common bile duct [5].

The septa between lobules contain venules and arterioles, both of which drain into the hepatic sinusoids, where venous and arterial blood mingle. This mingling is related to the detoxifying and metabolic functions of the hepatic system. Plasma, including proteins, can diffuse out of the blood. For example, nutritive or toxic substances carried from the intestine in the blood diffuse through the epithelial lining of the sinusoids into the hepatic cells, where they are metabolized, stored, or altered. The sinusoids are also lined by Kupffer cells, phagocytic cells that remove bacteria and other foreign substances from blood that passes through the liver [5].

#### Hepatic Circulation

The liver is richly supplied with both arterial and venous blood. Each minute, approximately 1,100 mL arrives from the hepatic portal vein and 400 mL from the hepatic artery to mix in the sinusoids before returning to the heart via the inferior vena cava. Portal venous blood coming from the intestines has a low concentration of oxygen but a high concentration of substances absorbed by the intestine during digestion. Blood coming from the hepatic artery is high in oxygen but low in nutrients. The pressure of blood in the portal and hepatic veins is low, allowing easy diffusion of nutrients and other substances along the concentration gradients. Oxygen-rich blood from the hepatic artery maintains the integrity of the liver; if perfusion is absent or diminished, necrosis of hepatic cells will occur [5].

Arterial and venous vessels, bile ducts, and lymphatic vessels travel together through the liver in so-called portal tracts. The direction of flow is from the portal tracts through the sinusoids and into the central veins of the liver lobules. Thus, oxygen and nutrient supply is richest in the hepatic cells nearest the portal tracts and poorest near the central veins. The cells adjacent to the central veins, due to their relatively poor nutritional state, are more susceptible to damage from circulatory disturbances (e.g., shock, heart failure) and more vulnerable to toxins than the outermost cells [5].

### FUNCTIONS OF THE LIVER

As discussed, the hepatic system has vascular, secretory, and metabolic functions. It stores some vitamins and iron, detoxifies chemicals, and forms substances necessary for the coagulation of blood [5; 6].

#### Vascular Functions

The liver is capable of storing a considerable quantity of blood, the amount depending on the pressure relationships in the arteries and veins. If pressure in the hepatic veins increases by a few millimeters of mercury (e.g., in the presence of congestive heart failure, cirrhosis, or hepatic congestion), as much

as 300–400 mL of blood may be stored. If hemorrhage occurs anywhere in the body, the liver releases this stored blood into the circulatory system to maintain circulatory volume [6].

The phagocytic Kupffer cells lining the sinusoids normally remove 99% to 100% of bacteria from blood entering the liver. Kupffer cells multiply in response to increased levels of foreign particles in the blood. Because blood entering the liver through the portal vein contains intestinal bacteria, the Kupffer cells play an important role in the body's defense against infection. Any condition that damages these cells or inhibits their replication increases the body's susceptibility to infection [6].

### Secretory Functions

The hepatic cells of each liver lobule continually secrete small amounts of bile, a thick, greenish-yellow, slightly alkaline fluid. When first secreted from the liver through the canaliculi, bile is composed of water, bile salts, bilirubin, cholesterol, fatty acids, and lecithin as well as sodium, potassium, calcium, chloride, and bicarbonate ions [5; 6].

Bile is concentrated in the gallbladder, which contracts during digestion to send it into the duodenum, where it functions as kind of "biological detergent" to emulsify fat particles. The bile salts decrease the surface tension of fat particles so the agitation of the intestinal tract can break them into small globules easily acted upon by digestive enzymes. Lecithin acts similarly. Fat is digested much more slowly if bile is not present [5; 6].

Bile salts also improve absorption of lipids. The salts combine with fatty acids and monoglycerides to form small complexes called micelles. The ion charges provided by the bile salts enhance diffusion of the micelles across the intestinal mucosa into the bloodstream [5; 6].

If absorption of fats is diminished because of absence of bile, vitamins A, D, E, and K, which are fat-soluble, cannot be absorbed. Bile salts are "recycled" from 15 to 20 times in a process known as enterohepatic circulation. An estimated 90% to 95% of bile salts secreted are reabsorbed in the distal ileum and carried in the portal vein back to the hepatic cells, which reabsorb and then resecret them [5; 6].

### Excretory Functions

Bilirubin (bile pigment), a major waste product of hemoglobin metabolism, is excreted by the liver. Normally, erythrocytes have a lifespan of about 120 days. They are then broken down by the reticuloendothelial cells, and the iron (heme) from the worn-out red cells is conserved for reuse in the synthesis of fresh hemoglobin. The remaining iron-free pigment is free (unconjugated) bilirubin, which is continually present in the bloodstream in small quantities. As blood passes through the liver, unconjugated bilirubin is removed. It is then combined (conjugated) with other substances and excreted via the bile ducts; a small amount of conjugated bilirubin returns to the blood [1; 7].

Conjugated bilirubin is more soluble and less toxic than unconjugated bilirubin. In the intestines, conjugated bilirubin is converted into a highly soluble substance called urobilinogen, which is excreted primarily in the feces in an oxidized form known as stercobilin. About 5% of urobilinogen is absorbed into the bloodstream and excreted via the kidneys in an oxidized form called urobilin. Because stercobilin gives feces their brownish color, clay-colored stools are a classic sign of biliary tract abnormalities [1; 7].

### Metabolic Functions

#### Carbohydrate Metabolism

The liver plays a major role in carbohydrate metabolism. One aspect of this role is a glucose buffer function that contributes to the maintenance of normal blood sugar levels. The liver can remove excess glucose from the blood, store it as glycogen, and reconvert and release it as glucose in response to hypoglycemia. If blood glucose concentrations fall and glycogen is not available, the liver can convert proteins or amino acids to glucose, a process known as gluconeogenesis. The liver is also capable of converting galactose to glucose [1; 2].

#### Fat (Lipid) Metabolism

Synthesis of fat from carbohydrates and proteins occurs primarily in the liver. The lipoprotein produced in this process is transported in the bloodstream to the body's adipose tissue or storage. The liver is also capable of rapid metabolism of ingested fat in response to energy requirements. The liver can also synthesize lipoproteins, cholesterol, and other phospholipids [1; 2].

#### Protein Metabolism

Before amino acids can be converted into carbohydrates or fat or used to supply caloric needs, a process known as deamination (liberation of ammonia) must occur. The liver is the principal site of deamination and the only site where ammonia is detoxified by conversion into urea. In addition, nearly all the plasma proteins are synthesized in the liver, as are several nonessential amino acids. Serum protein determination measures the liver's ability to maintain a normal level of serum albumin [1; 2].

### Storage Functions

#### Vitamin Storage

The liver is capable of storing up to a four-month supply of vitamins B<sub>12</sub> and D and up to a 10-year supply of vitamin A for release as needed. Because of this storage capacity, excessive ingestion of vitamin A can have toxic effects on liver function [3; 4].

#### Iron Storage

Except for the iron stored in hemoglobin, most of the body's iron is stored in the liver as ferritin. Stored iron is released when blood levels of iron fall, a process known as iron buffering [3; 4].

### Synthesis of Coagulation Factors

Prothrombin and factors VIII, IX, and X, necessary for effective blood coagulation, are synthesized in the liver. Vitamin K is necessary to promote synthesis for these clotting factors, but if bile secretion is inadequate, absorption of this fat-soluble vitamin cannot occur. The liver also synthesizes fibrinogen, another clotting factor [3; 4].

### Detoxification

Many chemicals are detoxified in the liver, including such medications as barbiturates, antidiuretic hormone (ADH), amphetamines, aldosterone, and estrogen. If these substances were not detoxified, they could be fatally toxic to body tissues or organs, or could have other adverse effects (e.g., feminization of men or masculinization of women) [4; 5].

### STRUCTURE OF THE GALLBLADDER

The gallbladder is a pear-shaped, hollow, saclike organ about 7–10 cm long that lies in a fossa on the inferior surface of the liver. The cystic duct, which drains the gallbladder, joins with the hepatic duct of the liver to form the common bile duct. Pancreatic secretions also enter this duct via the pancreatic duct. Bile in the common duct enters the duodenum through the sphincter of Oddi. When the sphincter is relaxed, bile can enter the duodenum; when the sphincter is contracted, bile manufactured by the liver is stored in the gallbladder [6].

### FUNCTIONS OF THE GALLBLADDER

The major regulatory processes of the biliary system involve the concentration and storage of bile and the regulation of bile secretion [4; 5].

#### Concentration and Storage of Bile

The hepatic cells can produce from 600–1,000 mL of bile in 24 hours, more than 10 times the 50–75 mL storage capacity of the gallbladder. The mucosa of the gallbladder concentrates bile by absorbing water and electrolytes. This leaves a solution of bile salts, cholesterol, lecithin, and bilirubin that is 5 to 10 times as concentrated as bile secreted by the liver [4; 5].

#### Regulation of Bile Secretion

When ingested fat enters the small intestine, a hormone called cholecystokinin is released from the intestinal mucosa. Cholecystokinin travels to the gallbladder via the bloodstream, initiating contraction of the smooth muscle in the wall of the gallbladder and relaxation of the sphincter of Oddi. Vagal stimulation also contributes to contraction of the gallbladder. While the hormone secretin, produced by the jejunal and duodenal mucosa, weakly stimulates bile secretion by the liver, peristalsis stimulated by food further relaxes the sphincter of Oddi. These factors combine to produce the sending of bile into the duodenum with each gallbladder contraction and peristaltic wave. The gallbladder empties poorly in the absence of ingested fat but empties completely within an hour if fat is present. Approximately 94% of the bile salts released into the duodenum are reabsorbed and returned to the liver via the bloodstream [5; 6].

## PATHOPHYSIOLOGIC INFLUENCES AND EFFECTS

### ENLARGEMENT OF THE LIVER

Under normal circumstances, the liver is capable of regeneration following alleviation of an acute condition (e.g., drug toxicity, abscess, inflammation). If the pathogenic influence persists, however, regeneration will be of fibrotic origin [7].

When dead or diseased cells are replaced by fibrous tissue, the liver becomes enlarged (hepatomegaly). Fibrotic scar tissue may impede emptying of blood from the hepatic veins, causing the liver lobules to become engorged. This engorgement leads to further enlargement. Pressure exerted on abdominal nerves by the enlarged liver or displacement of other abdominal organs may cause discomfort or pain. Hepatomegaly may also be related to invasion and multiplication of neoplastic cells [7].

### ATROPHY OF THE LIVER

Although the liver may be enlarged during the early stages of hepatic pathology, it eventually atrophies if the pathogenic influence is not removed. In patients with alcohol use disorder, for example, continued ingestion of alcohol combined with malnutrition causes scar tissue to replace the dead cells. In time, the scar tissue shrinks, and the liver becomes smaller than normal. Adjacent organs tend to encroach on the space formerly occupied by the liver. For this reason, a liver from a donor smaller than the recipient is best for transplant purposes [7; 8].

### PORTAL HYPERTENSION

As hepatic tissue becomes increasingly fibrotic, the portal veins become compressed. This compression increases back-pressure as portal venous blood volume rises. Portal hypertension results, with pressures in the portal vein as high as 20 mm Hg. This contributes to the development of ascites, the accumulation of protein-rich serum in the peritoneal cavity [7; 8].

Collateral pathways develop between the portal and systemic circulation in areas where tributaries of portal and systemic veins are in close approximation. As portal pressure increases, all collateral pathways between the portal and systemic circulation enlarge [8].

Collateral vessels in the lower esophagus dilate because they are not anatomically structured to carry the extra blood shunted via the azygous system. These dilated veins, called esophageal varices, may rupture, causing massive hemorrhage. Hemorrhoids (rectal varices) can result from the increased pressure in hemorrhoid veins. Splenomegaly can develop secondary to engorgement of the splenic veins [8].

When esophageal varices hemorrhage, treatment is complicated by abnormalities in blood coagulation related to impaired hepatic function. As bile production becomes impaired, absorption of vitamin K is also impaired. Insufficiency or lack of vitamin K leads to decreased production of prothrombin

and coagulation factors VIII, IX, and X. Insufficient clotting factors, in turn, is related to increased clotting times. This pathogenic sequence may be signaled by ecchymosis all over the body, bleeding of the gums, or blood in the stool [8].

### IMPAIRMENT OF GAS EXCHANGE

Although the vascular dehydration seen in hepatic failure may mask erythrocytopenia, red blood cell deficiency does occur in relation to several factors. For example, the impaired liver cannot store sufficient B<sub>12</sub> and iron for erythrocyte synthesis. In alcohol-related pathologic states, ingestion of large quantities of alcohol inhibits renal synthesis of erythropoietin; the blood contains a higher proportion of immature erythrocytes and fewer mature red cells. This deficit may manifest as dyspnea, increased cardiac output, cardiomegaly, and clubbing of the fingers [7; 8].

### INCREASED SUSCEPTIBILITY TO INFECTION

Injury to the liver is accompanied by damage to or destruction of the Kupffer cells. Phagocytosis is impaired. Micro-organisms enter the general circulation and may form abscesses in the liver tissue itself. Whereas the normal liver accounts of 25% of the body's production of lymphocytes, the diseased liver is incapable of lymphocyte production. Lymphocytopenia increases the body's susceptibility to infection [7; 8].

### IMPAIRMENT OF BILIRUBIN EXCRETION

In a compromised liver, absorption and conjugation of bilirubin are impaired. Increased levels of unconjugated bilirubin in the blood and body fluids leads to jaundice, or icterus. The skin becomes yellowish and pruritic, renal excretion of unconjugated bilirubin causes the urine to become mahogany colored, and the stools are clay colored (acholic) due to the absence of stercobilin [7; 8].

Not all cases of jaundice are related to impairment of bilirubin conjugation. For example, if the common bile duct is obstructed by gallstone (choledocholithiasis) or a neoplasm, bilirubin that has been conjugated by the liver cannot be excreted into the duodenum. Levels of bilirubin rise, and the symptoms of jaundice occur. Jaundice may also be related to cholecystitis (inflammation of the gallbladders) or to spasms of the sphincter of Oddi, often associated with cholelithiasis [8].

Inability of the liver to remove the overproduction of bilirubin related to hemolytic states is another cause of jaundice. For example, reaction to a blood transfusion can induce a hemolytic state. The production of unconjugated bilirubin exceeds the conjugation capacity of the liver and levels of circulating unconjugated bilirubin rise. In newborn infants, a deficiency of glucuronyl transferase, the enzyme necessary for bilirubin conjugation, may lead to development of jaundice. This type of jaundice may usually be corrected by exposing the infant to ultraviolet light therapy [8].

Some hereditary disorders are also associated with jaundice, including Gilbert syndrome and Dubin-Johnson syndrome. Gilbert syndrome is associated with deficiency of glucuronyl

transferase, while Dubin-Johnson syndrome is associated with impaired hepatic excretion of bilirubin [8].

### BILIARY INFECTIONS

In the presence of inflammation or obstruction, the gallbladder may become swollen by accumulated mucus secretions or purulent drainage. Staphylococcal, streptococcal, or enteric organisms may infect the gallbladder, or it may become gangrenous [9].

### AMMONIA TOXICITY

As the functional capacity of the liver diminishes, the ability to convert ammonia to urea for excretion by the kidney is impaired. Moreover, the collateral circulation caused by portal hypertension allows ammonia formed in the intestines to bypass the liver and enter the general circulation. The combined effect of these phenomena is ammonia toxicity. This toxicity manifests itself in hepatic encephalopathy, an altered mental state that begins with confusion and progresses to combative states and ultimately to hepatic coma. Another characteristic symptom of ammonia toxicity is asterixis, a flapping tremor of the hands [9].

### ALTERNATION IN NUTRITION-RELATED FUNCTIONS

Injury to hepatic cells compromises bile production and interferes with other nutrition-related hepatic functions, such as synthesis of glycogen. The decrease in appetite that often occurs in liver disease is followed by weight loss, subnormal body temperature, fatigue, and the metabolism of body fat and muscle to meet caloric requirements. Impairment of bile secretion leads to fat intolerance and decreased fat absorption. The use of muscle mass as an energy source combined with decreased capacity for urea formation leads to a negative nitrogen balance. The limbs become emaciated while the abdomen swells with ascites. Skin breakdown is common. Inability to metabolize the amino acid methionine adequately produces fetor hepaticus, a sweet breath odor resembling acetone or old wine [9; 10].

Deficiencies of folic acid and the B complex vitamins often occur in patients with alcoholic liver disease. Alcohol increases the demand for B vitamins, impairs absorption of folate and the B vitamins, and generally contributes to an inadequate consumption of all nutrients. Folic acid deficiency is manifested by a macrocytic anemia, glossitis, and diarrhea. Lesions of the oral mucosa and tongue, fissures at the corners of the mouth (cheilosis), and peripheral neuropathies result from lack of B complex vitamins. Patients with bleeding tendencies require additional vitamin K [9; 10].

Diminished fat absorption leads to deficiencies of the fat-soluble vitamins A, D, E, and K. Night blindness is associated with deficiency of vitamin A. Osteoporosis may occur in relation to vitamin D deficiency, putting the patient at risk for fractures. Vitamin E deficiency can cause impaired red blood cell survival in adults [9; 10].

## ALTERATIONS IN FLUID VOLUME

Among the substances synthesized by the normal liver is the plasma protein albumin, which is necessary for maintaining the colloidal osmotic pressure of the plasma. If plasma albumin is insufficient or absent the normal colloidal osmotic pressure of the blood is not maintained. Plasma seeps into the interstitial spaces, causing peripheral and dependent edema. Pulmonary edema may lead to right-sided congestive heart failure. Ascites may be related to hypoalbuminemia and failure of the liver to detoxify aldosterone, as well as to portal hypertension. Accumulations exceeding 2 L may lead to difficulty breathing from pressure on the diaphragm, decrease in appetite, increased feeling of fullness, constipation, flatulence, and umbilical hernia. The weight and bulk of the fluid may also restrict activity [9; 10].

## IMPAIRMENT OF DETOXIFICATION

The diminished detoxification capacity of the compromised liver may compound problems related to hypoalbuminemia. Increased levels of circulating aldosterone and ADH increase retention of sodium and water, respectively, further complicating the patient's edema. Intravascular dehydration (lack of plasma in the blood vessels) related to hypoalbuminuria, may mask erythrocytopenia, because the dilution state of the blood has been altered [10; 11].

Alteration in detoxification may also induce other problems related to excessive levels of hormones, chemicals, or drugs. Changes associated with an excess of estrogen may occur, including loss of axillary, pubic, and body hair; soft skin; and gynecomastia and testicular atrophy in men. Decreased libido, impotence, spider angiomas, and palmar erythema are also associated with increased estrogen levels. Alcohol, antibiotics, psychotropic drugs, and some antihypertensive medications may also accumulate in toxic levels when liver function is impaired [10; 11].

---

## RELATED SYSTEMS INFLUENCES AND EFFECTS

---

Because the hepatobiliary system performs multiple functions related to several other body systems, impairment of hepatobiliary function can affect these systems to varying degrees.

### INTEGUMENTARY SYSTEM

Yellowing of the skin is characteristic of jaundice. Pruritus (itching) associated with jaundice may become so severe that patients scratch until they bleed. The break in skin integrity increases the patient's susceptibility to infection [11].

Xanthomas and xanthelasmas may occur in patients with biliary problems in whom serum cholesterol levels are high. These foamy, cholesterol-filled cells may appear anywhere on the body but are commonly seen on the hands and around the eyes [11].

Edema and poor nutritional status also may make the skin susceptible to breakdown. Pressure injuries may form within hours in patients who are not frequently repositioned. White nails, in which 80% of the proximal nail bed is white leaving a distal band of normal pink, are often associated with cirrhosis. In hepatolenticular degeneration (Wilson disease), the lunulae (half-moons in nail beds) are colored light blue instead of the normal white [11].

### CARDIOVASCULAR SYSTEM

Fluid overload or congestive heart failure may occur in response to excessive levels of aldosterone and ADH. Reduced oxygen-carrying capacity from erythrocytopenia may lead to increased cardiac output, as the heart labors to deliver oxygen to starved tissues. Increased portal vein pressure related to hepatic fibrosis increases pressure within adjacent vessels and thereby leads to esophageal varices, splenomegaly, and periumbilical dilatation. Hemorrhage of esophageal varices may further reduce the erythrocyte count. Increased clotting time because of efficiency in coagulation factors may produce hemorrhage and hypovolemic shock [11].

### NEUROLOGIC SYSTEM

Ammonia toxicity is related to alteration in mental states ranging from confusion to hepatic coma. A patient who is confused or combative has a high potential for injury [11].

---

## PSYCHOSOCIAL/LIFESTYLE INFLUENCES AND EFFECTS

---

Like all body systems, the hepatobiliary system both influences and is influenced by psychosocial factors.

### SEX AND AGE

Cholelithiasis (gallstones) occurs in women four to five times as often as it does in men. This increased incidence is thought to be related to the action of estrogen and progesterone, which increase the cholesterol saturation of bile. The higher the cholesterol saturation, the greater the risk that gallstones will form. Pregnant women and those taking oral contraceptives are at even higher risk of developing cholelithiasis, especially those who have had several pregnancies or who have been on oral contraceptives for several years [12].

Cholelithiasis is more common in individuals older than 40 years of age; however, it can occur at any age, especially in association with risk factors such as high fat intake, obesity, diabetes, multiple pregnancies, or oral contraceptive use [12].

Young adults and older individuals are at greater risk of contracting viral hepatitis. This increased risk may be associated with poor nutrition or with crowded or unsanitary living conditions [13].

Older adult persons are susceptible to problems of drug toxicity, in part because renal and hepatic function declines with age. At 70 years of age, renal and hepatic efficiency may be half what it was at 20 years of age, yet the prescription of medications for elderly patients often do not reflect this fact. If dosage adjustments are not made, a drug may be prescribed at twice the dosage actually needed. If the patient misunderstands dosage instructions or increases the dosage in the supposition that “more is better,” toxic reactions can occur. Older adults often have multiple health problems, and several different healthcare providers may inadvertently prescribe medications that interact unfavorably. Self-medication with over-the-counter remedies (especially laxatives) may compound the overdosage [14].

### ALCOHOL AND DRUG ABUSE

Abuse of alcohol is a factor in many, though by no means all, conditions that damage the liver. In addition, drug abuse, especially of injected substances, is associated with an increased risk of contracting hepatitis [15].

### LACK OF SANITATION

Drinking water or water used in preparation of foods (e.g., washing fresh fruit or salad greens) may become contaminated by secretions or fecal material from persons with viral hepatitis (A or B). Shellfish caught in waters contaminated by untreated or inadequately treated sewage may also transmit hepatitis A virus. As such, sanitation is an important factor in the control of hepatitis. Nurses, especially those working in community settings, can help inform their patients of the importance of washing hands before handling food and after using toilet facilities [15; 16].

### DIETARY HABITS

High-fat diets can contribute to the development of cirrhosis of the liver as well as to gallbladder disease, and biliary diseases are more common in cultures in which food is prepared mostly by frying or large amounts of fat are used in cooking. Conversely, the incidence of gallbladder disease is low in African and South American countries in which fat consumption is low. Due in part to the popularity of fast-food chains and fried snack products, the typical American diet is high in fat. A high intake of alcohol and associated malnutrition also contribute to the development of hepatic and biliary disease [17].

### ECONOMIC FACTORS

Although malnutrition is usually associated with poverty, a high income does not ensure a balanced diet. Reliance on fast foods and snack foods and consumption of a fat-laden diet occur in all socioeconomic classes. Poor sanitation and high alcohol consumption may also occur at any income level [17].

### OCCUPATION AND AVOCATION

Exposure to all types of hepatitis is a special risk for healthcare professionals, who may be exposed to virus-contaminated blood or secretions. Laboratory and operating room personnel and those who work in hemodialysis units are at particular risk

of contact through exposure to body fluids. Nurses administering intravenous therapy or disposing of secretions may be exposed to hepatitis if strict asepsis and isolation principles are not followed. In addition, dentists may be exposed to the hepatitis virus in the saliva of a hepatitis carrier or a person with active disease [18].

Exposure to toxic chemicals may be related to occupation, leisure-time hobbies, or a pharmaceutical regimen. Halothane and chloroform, to which operating room personnel are exposed, are hepatotoxic. Carbon tetrachloride, used in dry cleaning and in various industrial processes, is hepatotoxic, as are toluene and other chemicals used in paint thinners and other compounds used by both professionals and hobbyists. Gold, used in the jewelry trade and in the fabrication of some electronic components, is also hepatotoxic. Among the medications that may have a toxic effect on the liver are a number of antibiotics (including erythromycin, oxacillin, and clindamycin), some psychotropic medications, and oral contraceptives. Highly stressful occupations or those that require a great deal of socialization may contribute to alcohol use disorder.

In taking the health history, nurses should be alert to these psychosocial factors that can help identify patients who appear to be at risk and refer them for detection of early pathological conditions affecting the hepatobiliary system [18].

---

## NURSING ASSESSMENT: ESTABLISHING THE DATA BASE

---

### SUBJECTIVE DATA

In assessing a patient's health status, the health history furnishes valuable clues to past and present problems, as well as to risk factors that can help predict the risk for future problems. Usually, the patient is the chief source of information, but family members also may be able to contribute useful data [19; 20; 21].

The patient should be questioned about any recent loss of weight, change in appetite, or changes in bowel patterns. What color are the patient's stools? What color is the urine? Clay-colored stools or mahogany-colored urine suggests obstruction of the common, hepatic, or cystic ducts or an abnormality of bilirubin excretion. Is a change in color of stool or urine accompanied by yellowing of the sclera or the skin? Did pruritus occur when these changes were noticed? Associating these symptoms may help the patient recall when they began [19; 20; 21].

Has the patient lost weight or lost interest in food? A positive reply might suggest the development of hepatitis or hepatic cancer, depending on other symptoms and signs elicited during the assessment. What does the patient usually eat? High fat intake might suggest cholelithiasis. Does the patient bruise easily or bleed for a long time after a minor cut? Decreased absorption of vitamin K may be associated with hyperbilirubinemia, which can affect blood coagulation and the clotting cascade [20; 21; 22].

Edema of the ankles, difficulty breathing, and collection of fluid in the abdomen could indicate right-sided heart failure, hypoalbuminemia, portal hypertension, or inadequate detoxification of ADH and aldosterone. The patient may not remember when such changes began, but asking when clothing became tight around the waist or shoes no longer fit can help to pinpoint onset [20].

Has the patient had frequent infections? Increased incidence of infection may be related to destruction of Kupffer cells. Has the patient been exposed to hepatitis or mononucleosis? Has the patient had any recent blood transfusion? A positive answer may be correlated with the evidence suggesting hepatitis. Impotence or loss of libido may be related to impaired estrogen detoxification. Determining whether alcohol use might be related to liver dysfunction also requires discretion and tact. One should not presuppose that the patient has alcohol use disorder, even if the suspected disorder is commonly associated with consumption of alcohol. The patient who does have an alcohol problem may be reluctant to answer, may evade questions, or may deny any drinking problems. In some cases, family members will verify unexplained changes in behavior that may suggest alcohol use disorder [20].

Specific, nonjudgmental questions are most likely to yield useful data about drinking habits. Possible questions include:

- What do you like to drink?
- How often do you drink? Every day? Several times each day? Week? Month? Such specifics are more useful than generalities such as “rarely” or “often.”
- How much do you drink? One drink? Three or four?
- Does wine with dinner mean a glass or a carafe? By “a few beers” do you mean couple of cans? A six pack?
- When you drink, how much do you consume in 24 hours?
- What is the most you’ve drunk in 24 hours?
- Do you drink in the morning? At or after work? With friends? Alone?
- Have you ever blacked out?
- Does drinking make you sick or does it make you feel better?

Remember that alcohol in any form (wine, beer, or hard liquor) has the same effect. A 12-oz. bottle of beer, a 4-oz. glass of wine, and a 1-oz. shot of Scotch contain the same amount of alcohol. It is also important not to concentrate on alcohol while ignoring other clues. What is the patient’s occupation? Does it involve exposure to solvents, dry-cleaning solutions, anesthetic agents, or other hepatotoxic substances? Does the patient have hobbies that might have hepatotoxic side effects (e.g., furniture refinishing) [20]?

## OBJECTIVE DATA

### Physical Assessment

Physical assessment of the patient with hepatobiliary dysfunction involves careful inspection of the skin, nails, and hair. Physical findings that suggest cirrhosis include:

- Ascites
- Ankle edema
- Muscle wasting
- Dilated periumbilical veins (caput medusa)
- Ecchymosis
- Spider angiomas
- Loss of body hair
- Gynecomastia (breast enlargement in males)
- Jaundice (yellow coloration to skin and sclera)
- Clubbing of the fingers

If the patient is in a late stage of liver dysfunction, asterixis related to ammonia toxicity and impending coma will be observed; in these patients, the hands rapidly clench and unclench. Inflating a blood pressure cuff on the arm will worsen the tremor. Asterixis may also be seen in patients with cancer of the liver. In patients with hepatitis, however, only ecchymosis and jaundice will be apparent, unless the condition is long standing. Bruising and jaundice may sometimes accompany hepatic abscess; however, diminished appetite is often the only sign of this disorder. As mentioned previously, jaundice may also be secondary to an obstructive condition or an abnormality affecting bilirubin conjugation [20].

The abdomen should be auscultated before it is palpated. Diminished bowel sounds are common in patients with ascites. At the same time, auscultation of the lungs may elicit evidence of rales or rhonchi related to pulmonary edema. Listen for hepatic bruits, which may be heard with hepatic carcinoma [20].

Hepatomegaly and splenomegaly can be present in patients with hepatitis, cholecystitis, hepatic abscess, mononucleosis, cirrhosis, or liver cancer. Because of the danger of damaging or rupturing these organs, the one should generally avoid palpating the liver or spleen unless they are experienced in this type of examination. If enlargement is severe, these organs may be felt by very light palpation of the abdomen. Swollen lymph nodes may be palpable in the neck or in the groin with an infectious disorder such as mononucleosis [20].

If possible, percussion for measurement of liver size and the usual area of splenic dullness helps determine whether either organ is enlarged. The normal liver span at the midclavicular line (MCL) is 6–12 cm. When percussing liver size, begin low in the abdomen, below the umbilicus, and percuss up the right MCL. The percussion note heard initially is tympany, reflecting air in the bowel. The lower border of the liver is identified when the percussion note changes to dullness. To identify the upper liver border, begin above the nipple, percussing

downward along the right MCL. When the percussion note changes from resonance to dullness, the upper liver border has been located. Measure the distance between these two points to determine liver size. Abnormal findings include feeling the liver more than 1 cm below the costal margin [20].

The normal adult spleen lies behind the ninth and eleventh ribs, at or slightly posterior to the left midaxillary line (MAL). The spleen can be located by percussing downward in the intercostal space (ICS) at the left MAL, beginning in the eighth left ICS. The percussion note should change from resonance to splenic dullness at about the tenth left ICS. A large area of dullness may indicate feces in the splenic flexure of the colon, a full stomach, or splenomegaly. Note that patients who have had organ transplants may have undergone splenectomy [20].

Three assessment techniques can be used to determine whether fluid is present in the abdomen:

- With the patient supine, both flanks may be percussed for dullness, which indicates the presence of fluid.
- When the patient assumes a side-lying position, fluid will fall toward the sides on which the patient is lying, where it may be percussed for dullness.
- The presence of a fluid wave may be determined by having the patient lie flat and place his or her hand, ulnar side down, along the abdominal midline and apply pressure to anchor the fat in the mesentery. (If the patient is too ill to participate, an assistant can do this.) Place one hand on one flank to detect signs of a fluid wave while tapping the opposite flank with the other hand. There will be a short time lag between the tap and receipt of the impulse.

Abdominal girth should be measured daily. Measurements taken at the same location (at the level of the umbilicus) assist in evaluating progression and/or treatment of ascites [20].

### DIAGNOSTIC STUDIES

#### Hematologic Studies

Blood samples for determination of white blood cell count (WBC), prothrombin time (PT), hemoglobin level (Hb), and hematocrit (Hct) may be drawn at any time. Hemoglobin and hematocrit values are unaffected by early stages of hepatic disease but may drop if there is hemorrhage from esophageal varices and in response to malnourishment. Prothrombin time will increase with vitamin K deficiency, as may occur with cirrhosis, hepatitis, cholecystitis, cholelithiasis, mononucleosis, or liver cancer. Leukocyte levels increase in patients with mononucleosis, hepatitis, and abscesses [23; 24; 25].

#### Serum Enzyme Studies

Elevated serum enzyme levels occur when hepatic cells are damaged and enzymes are released into the blood. Specific values that are likely to be elevated with liver or gallbladder disease include:

- Lactic dehydrogenase (LDH)
- Aspartate aminotransferase (AST)
- Alanine aminotransferase (ALT)
- Alkaline phosphatase
- Gamma-glutamyl transpeptidase (GGT)

LDH, AST, and ALT values are significantly increased in obstructive jaundice and mononucleosis; they are also markedly elevated in acute and toxic hepatitis, cirrhosis, and hepatic neoplasia. Alkaline phosphatase levels, important in measuring biliary obstruction, are extremely elevated in obstructive jaundice, significantly elevated in liver cancer and mononucleosis, and slightly elevated in hepatitis (viral or toxic) and cirrhosis. Elevation of GGT is the most accurate enzymatic indicator of hepatic disease. Enzyme levels will rise as the disease progresses, peaking at the time of maximum cell death, and then begin to fall [23; 24].

#### Serum Lipid Values

Changes in serum lipid values are related to the type of disorder. Serum lipids are elevated in obstructive disorders of the biliary system, such as cholelithiasis or neoplasia. They are decreased in disorders causing the destruction of hepatic cells (e.g., cirrhosis, hepatitis) [23; 24].

#### Bilirubin Values

Studies of bilirubin values are important in determining the cause of jaundice and hyperbilirubinemia. Direct or conjugated bilirubin levels will be elevated if biliary ducts are obstructed and conjugated bilirubin cannot be excreted. Indirect or unconjugated bilirubin levels will be high if parenchymal (liver lobule) cells have been damaged [23; 24].

Elevated levels of urobilinogen in the urine indicate parenchymal liver disease, such as cirrhosis, toxic or infectious hepatitis, or infectious mononucleosis, or they may indicate cholelithiasis. By impairing the excretion of bilirubin in the stool, these conditions lead to increased excretion by the kidneys. Urine that contains bilirubin develops a yellow foam when shaken. Fecal levels of urobilinogen are decreased if the bile ducts are obstructed, but this test is rarely performed because of the difficulty in obtaining accurate values. A 24-hour urine collection would be done to determine the presence and level of urobilinogen [23; 24].

#### Blood Ammonia Values

Blood ammonia values rise when cirrhosis is present, because the disease impairs the conversion of ammonia to urea for renal excretion. Bleeding esophageal varices exacerbate ammonia toxicity, because the ammonia produced by the action of intestinal bacteria on the protein in blood adds rapidly to already elevated serum ammonia levels. Hepatic coma can result [23; 24].



### Other Laboratory Test Values

Changes in serum protein levels are common in hepatic and biliary disorders. Serum albumin levels drop (hypoalbuminemia) and gamma globulin levels rise when parenchymal cell damage occurs. Serum antigen-antibody levels help identify and type hepatitis. For example, hepatitis B surface antigen (HBsAg) is present in the blood of persons who have hepatitis B and also in those who are carriers of the disease. Patients with hepatitis B surface antibodies (anti-HBs) in their blood have immunity to hepatitis B [23; 24].

### Ultrasound

For some patients, especially those for whom oral cholecystography or cholangiography are contraindicated, ultrasound offers a noninvasive alternative. This technique is being used with increasing frequency to investigate ambiguous findings obtained by other techniques. It is useful in differentiating benign cysts and tumors from malignancies. Liver abscesses and dilation of intrahepatic ducts can be identified by ultrasound, as can gallstones, biliary tumors, and tumors of the extrahepatic ducts. In a patient with jaundice, dilation of the extrahepatic ducts suggests extrahepatic obstruction. If the ducts appear normal, jaundice is likely to be related to extrahepatic or prehepatic conditions. Hepatic icterus is related to abnormalities of bilirubin conjugation or excretion. Extrahepatic icterus is related to obstruction of the hepatic, common, or cystic bile ducts. Prehepatic icterus is associated with an abnormality that takes effect before circulating bilirubin reaches the liver (e.g., hemolysis of neonatal icterus) [23].

### Nursing Implications

To ensure that the gallbladder is a maximum size for the test, the patient must be kept NPO after midnight on the day of testing. Were the patient to eat, contraction and emptying of the gallbladder would reduce its size, making it more difficult to visualize. NPO orders are not necessary for visualization of the liver. If barium contrast studies have been performed prior to the ultrasonography, a laxative will be ordered to cleanse the bowel of residual contrast medium [23].

In explaining the procedure to the patient, the nurse can offer reassurance that the study is not painful. The patient should be prepared for the copious amount of lubricant that will be applied to the skin to enhance the transmission of the sound waves. The rationale for any NPO order should be explained. The procedure will take about 20 minutes [26; 27].

### Liver Scan

For the liver scan, a radionuclide is administered intravenously. Thirty minutes later, a detecting device is passed over the patient's abdomen to record the distribution of radioactive particles in the liver. Although this technique exposes the patient to far less radiation than x-rays, it can only demonstrate filling defects greater than 2 cm in diameter. It is contraindicated for pregnant patients and those who might have difficulty lying still during the scan, which takes about one hour [23; 28; 29].

No special preparation is required for this study. The procedure should be fully explained to the patient, including that small amounts of radioactive substances are used. Some patients may be apprehensive about the amount of time required for the scan, and it is helpful to explain that the scanning device does not emit radiation but rather records radiation emanating from the injected radioisotope. Pregnant healthcare providers should not be assigned to the patient for at least 24 hours after the radionuclide injection [26; 27; 28].

### Dye Clearance Studies

For dye clearance studies, the patient fasts for 12 hours prior to the test. Dye is injected intravenously (about 5 mg/kg of body weight). Blood is drawn 45 minutes after the injection and inspected for the presence of dye. Normally, less than 5% of the dye will be found in the serum; the presence of a greater proportion of the dye indicates liver cell damage, as the impaired cells cannot absorb the dye from the blood. If hepatic damage is known to exist, lower dosages of dye are administered. The indocyanine green (ICG) clearance test is the most widely used quantitative liver function test [23; 28; 30].

### Oral Cholecystography

An oral cholecystography, or gallbladder series, provides visualization of the gallbladder following oral ingestion of a radiopaque iodinated dye. In the first test of the series, gallstones (when present) may be visualized as dark shadows in a dye-filled gallbladder. Satisfactory visualization of the gallbladder can be obtained only if the gallbladder has concentrated the dye. Adequate concentrating depends on correct dosage of the dye, adequate absorption of the dye from the gastrointestinal tract (no nausea or vomiting), and absence of food in the digestive tract (NPO after midnight). If nonvisualization occurs, the test is repeated the next day with a doubled dosage of dye. Hepatocellular dysfunction, cystic duct obstruction, or inflammation of the biliary mucosa will prevent visualization. The patient's allergy history should be determined prior to testing [23; 28].

In the second phase of the series, the patient is given a fatty meal immediately following the first phase, and x-rays are taken to determine how well the gallbladder empties. The x-rays are repeated every 30 minutes until the dye is gone and the gallbladder can no longer be visualized. This may take one to five hours, but usually takes no more than three [23].

This is an older study that is rarely used today, as ultrasound or computed tomography (CT) are more accurate, faster techniques for identifying gallstones without exposure to iodine. Ultrasonography is typically the preferred modality, because it is less invasive, more accurate cholelithiasis, and can be safely used with most patients. In general, use of oral cholecystography is limited to cases in which gallstones are strongly suspected but ultrasonography does not show them. If it is indicated, oral cholecystography is contraindicated for pregnant women, patients too ill to swallow the tablets or to eat a meal, and persons allergic to iodine [23].

Patients undergoing oral cholecystography are required to swallow seven or eight tablets of absorbable iodine dye the evening prior to the test. After the tablets are swallowed, only water may be given until midnight; after midnight, patients are kept NPO. Nursing implications include [26; 27]:

- Verifying that no iodine allergy exists. The patient should be questioned about seafood allergies, as not all patients are aware that these foods contain iodine.
- Ascertaining that the patient is given a low-fat meal on the evening before the test.
- Verifying that serum bilirubin is less than 1.8 mg/dL (so visualization will be possible).
- Explaining the procedure to the patient.
- Administering the tablets at five-minute intervals.
- Observing for adverse effects of the dye (because anaphylactic reactions have occurred).
- Maintaining NPO status.

### Oral and Intravenous Cholangiography

Oral and intravenous cholangiography allowed for visualization of the hepatic and common bile ducts in addition to the gallbladder and cystic duct. It was historically used for patients with acute inflammatory disorders, those with proven gallstones, and those who are NPO or unable to tolerate the orally ingested dye used in cholecystography [23; 26; 27; 28]. However, these studies have become obsolete, having been replaced by more advanced technologies, such as the endoscopic retrograde cholangiopancreatography (ERCP), percutaneous transhepatic cholangiography (PTHC) and magnetic resonance cholangiopancreatography (MRCP) [31].

### Intraoperative Cholangiography

Cholangiography may be performed during a surgical procedure to ascertain that all calculi have been removed from the common bile duct, reducing the probability of complications or follow-up surgery. Dye is injected to enhance visualization [23; 28].

### T-Tube Cholangiography

A T-tube cholangiography may be taken 7 to 10 days following a cholangiography. The T-tube is placed during surgery. Later, dye is injected via the T-tube so the common bile duct may be visualized and its patency ascertained [23; 28]. As with other older modalities, this technique has been largely superseded by MRCP and ERCP.

### Endoscopic Retrograde Cholangiopancreatography (ERCP)

As noted, ERCP, PTHC, and ultrasound have become the most valuable studies for assessment of the biliary tract [31]. ERCP studies allow visualization of the bile ducts as well as benign masses, cysts, and malignant neoplasms [23; 32; 33].

With ERCP, a type of fibrotic endoscope termed a duodenoscope is inserted into the duodenum via the esophagus. Intravenously administered secretin immobilizes the duodenum, facilitating visualization of the ampulla of Vater. Contrast material combined with a broad-spectrum antibiotic are administered through a small cannula inserted into the ampulla, and films are taken periodically for approximately an hour. The antibiotic is given to prevent gram-negative sepsis that may occur if bacteria are forced in the bloodstream by the pressure of the dye injections. Perforation of the esophagus, stomach, or duodenum is another possible complication of ERCP, so this technique is not used for combative patients [23; 32; 33].

A consent form is necessary for this procedure. On teaching the patient about the procedure, explain that an impulse to gag will be felt when the tube is passed. The patient is kept NPO after midnight. Meperidine and atropine are administered intramuscularly before the patient is taken to the radiology department. Emotional support should be given as needed. After the procedure, the patient's pulse, temperature, and blood pressure are monitored for signs of shock that may arise from perforation or hemorrhage and for signs of sepsis. Pancreatitis may occur in response to the pressure exertion on the pancreatic duct during the procedure; therefore, a serum amylase test should be performed on the day following an ERCP [26; 27].

### Percutaneous Transhepatic Cholangiography (PTHC)

Like ERCP, PTHC is used for icteric patients with serum bilirubin levels greater than 3.5 mg/dL. During this procedure, a combination of contrast medium and antibiotic is injected into the intrahepatic bile duct to visualize the biliary system. The area below the right costal margin is locally anesthetized, and a spinal needle is inserted directly into the liver, guided by fluoroscopy. When bile appears through the needle, it is withdrawn by syringe. Radiopaque dye is then injected directly into the biliary tree. Fluoroscopy is used to determine filling of the biliary tract [23; 28; 34].

The patient is intravenously sedated during the procedure, which takes about one hour. If obstruction is found, a catheter may be left in place for drainage of bile. A PTHC is contraindicated for patients who have prolonged clotting times or iodine allergy, for patients who have had recent gastrointestinal contrast studies or are unlikely to tolerate surgery, and for combative patients. Bile peritonitis, hemorrhage, and sepsis are possible complications [23].

A consent form is required for this procedure, and coagulation studies as well as information regarding possible iodine allergy must be verified. The patient is kept NPO after midnight. A laxative may be prescribed if gastrointestinal studies using barium have been recently administered. An intravenous infusion is started for venous access, and the patient is premedicated with meperidine and atropine before leaving the unit. After the procedure, the patient is kept NPO. Vital signs

should be monitored as for any postsurgical patient. A sterile closed system should be maintained if a catheter has been left in place [26; 27].

### **Liver Biopsy**

The purpose of a liver biopsy is to obtain a sample of tissue for histologic examination. Prior to the procedure, ultrasound may be done to determine the precise location of the liver. A coagulation profile should be obtained so the risk of hemorrhage can be calculated. The patient's blood is typed and crossmatched in case a transfusion is needed. Biopsy is contraindicated if the platelet count is below 100,000/mcL [23; 28; 35].

For percutaneous liver biopsy, the patient is assisted into a supine or left lateral position. The skin is aseptically cleansed and anesthetized, and a small incision is made to allow insertion of a specialized needle into the liver. In the case of transjugular biopsy, the right jugular vein is punctured under ultrasound guidance, and a guide wire is passed through, followed by placement of a 9-French sheath. The wire is then negotiated through the heart at to the right hepatic vein. Placement is verified with hepatic venogram with contrast. A stiffening cannula is placed, then the biopsy needle is introduced. With both techniques, a small core of hepatic tissue is then withdrawn and sent for microscopic evaluation. Following the procedure, the patient should assume the right lateral position to keep pressure on the liver to prevent hemorrhage [23; 28; 35].

These procedures require a consent form. The patient is kept NPO after midnight. Nursing responsibilities include:

- Checking coagulation studies and consent form.
- Maintaining NPO status.
- Recording preprocedure vital signs.
- Providing emotional support for the patient; this procedure can be frightening and uncomfortable.
- Explaining the procedure to the patient, emphasizing the importance of holding still.
- Immediately prior to needle insertion asking the patient to inhale deeply, exhale completely, and hold the breath at the end of expiration. This immobilizes the chest wall and keeps the diaphragm at its upper level during the procedure (which takes 5 to 10 seconds).
- Applying pressure to the biopsy site after needle removal.
- Turning patient onto right side with a pillow under the costal margin to maintain pressure to the site.
- Observing for bile-colored drainage on the patient's dressing. This could indicate that a biliary vessel has been penetrated.
- Monitoring post-procedure vital signs (every 15 minutes for an hour, then every 30 minutes for two hours, then every four hours), and administering comfort measures after the procedure.

The patient should remain immobile on the right side on bedrest for 24 hours and be closely observed for signs of hemorrhage, extravasation of fluid from the biopsy site, peritonitis, and pain. Pain in the right upper quadrant and right shoulder area is common. The patient should be reassured about this while being encouraged to report any change in pain level. Analgesics, if given, must be non-hepatotoxic and must not affect clotting [26; 27].

---

## **NURSING DIAGNOSES**

---

Assessment of the patient with hepatic or biliary dysfunction, including evaluation of the patient's health history and results of laboratory tests and diagnostic studies, can lead to many possible nursing diagnoses.

### **ALTERATIONS IN COMFORT**

#### **Pain**

Mild or moderate pain may occur in relation to hepatomegaly or splenomegaly associated with hepatitis, hepatic abscess, or infectious mononucleosis. Moderate pain may accompany late cirrhosis and chronic hepatitis. With cancer of the liver, whether the liver is a primary or a metastatic site, pain becomes severe and intractable. Severe, colicky pain in the right upper quadrant is common with cholelithiasis or cholecystitis [36; 37].

#### **Pruritus**

Regardless of whether icterus is prehepatic or hepatic, pruritus will be associated with the jaundice. The patient may scratch the skin until it bleeds. The condition may be intensified by damp clothing or bedding caused by perspiration or by poor ventilation [36; 37].

#### **Potential for Impairment of Skin Integrity**

If pruritus is severe and the patient scratches frequently, skin integrity may be broken. In cirrhosis and cancer of the liver, edema and negative nitrogen balance cause the skin to be susceptible to breakdown. If the patient does not frequently move, pressure injuries can form within 12 to 24 hours [36; 37].

#### **Sexual Dysfunction and Disturbance in Self-Concept**

Disturbance in self-concept may be related to body image alteration and role performance. Softening of the skin, loss of body hair, or gynecomastia may be related to impaired estrogen detoxification. In some, these feminizing changes disturb the patient's sense of masculinity. Ascites and icterus further affect self-image. Complications associated with severe disease such as cancer or cirrhosis (e.g., ascites, pleural effusion) may necessitate the patient changing occupation or retiring. Loss of occupational role can severely damage self-esteem.

Sexual dysfunction may also accompany impairment of estrogen detoxification. Loss of libido may occur in both sexes, and male patients may become impotent. The patient may be hesitant to discuss these matters with healthcare professionals [36; 37].

### ALTERATION IN THOUGHT PROCESSES

Ammonia toxicity is related to the inability of the compromised hepatic cells to convert ammonia to urea for excretion in the urine. Ammonia interferes with brain metabolism, leading to alterations of mentation ranging from slight confusion to coma. Initially, patients may be somewhat confused or disoriented—unable, for example, to remember their names or where they are. Asterixis may also be apparent. Patients may then progress through lethargy to combativeness and abusiveness before collapsing into coma. Gastrointestinal hemorrhage further increases serum ammonia levels owing to bacterial action on blood in the gut. Wernicke-Korsakoff syndrome, characterized by confusion, disorientation, and amnesia with confabulation, may develop in patients with alcohol use disorder. The syndrome is related to thiamine deficiency [36; 37].

### ALTERATION IN NUTRITION

Hepatic dysfunction is associated with impaired metabolism of proteins, fats, carbohydrates, and vitamins. Weight loss, fatigue, negative nitrogen balance, vitamin B deficiency, and deficiencies of fat-soluble vitamins A, D, E, and K are common. The patient should be encouraged to consume a balanced diet high in carbohydrates, vitamins, and (unless ammonia toxicity is present) protein. Abdominal pressure from ascites may cause a constant feeling of fullness as well as flatulence and constipation. These conditions may also diminish appetite, further depleting nutritional status. Patients with cirrhosis experience muscle wasting and significant weight loss [36; 37].

In cholelithiasis or cholestasis, a low-fat, low-protein diet should be consumed because fat metabolism is reduced by disturbances in biliary function. Deficiency of vitamin K may also accompany these disorders [17; 21].

### IMPAIRMENT OF GAS EXCHANGE

Several conditions related to hepatic and biliary disease impair exchange of oxygen and carbon dioxide. Retention of sodium and water is associated with plural effusion and ascites. Ascites exerts pressure on the diaphragm, interfering with inspiration. Inadequate oxygenation of body tissue related to erythrocytopenia also impairs gas exchange [36; 37].

### ALTERATION IN FLUID VOLUME

Alterations in fluid volume may be either deficits or overloads. For example, when the compromised liver can no longer detoxify ADH and aldosterone, retention of sodium and water contributes to circulatory congestion and hypertension. Conversely, fluid volume deficit can be related to hemorrhage of esophageal varices (leading to shock) or to overuse of diuretics. If plasma colloidal osmotic pressure is reduced because of hypoalbuminemia, fluid extravasation into the interstitial

space will cause edema despite intravascular dehydration. In this instance, diuretics alone will be ineffective in reducing edema and will, moreover, worsen dehydration [36; 37].

### ALTERATION IN TISSUE PERFUSION

Increased cardiac output associated with hypertension is related to fluid volume alteration. Erythrocytopenia can lead to increased cardiac output as the heart attempts to compensate for tissue oxygen needs.

---

## NURSE PLANNING AND IMPLEMENTATION

---

For the patient with hepatobiliary dysfunction, alterations in comfort are likely to be associated with pain or pruritus.

### PAIN RELIEF

Mild-to-moderate pain associated with various disorders may be controlled with non-narcotic, non-aspirin analgesics. Patients with hepatic dysfunction are likely to have coagulation abnormalities related to poor absorption of vitamin K. As such, drugs causing hepatic damage should also be avoided; the drugs of choice are those excreted by the kidneys [26].

For pain associated with cholelithiasis, nonsteroidal anti-inflammatory drugs (NSAIDs) provide greater relief of biliary pain and are considered first-line management [38]. NSAIDs have been reported as superior to antispasmodics for pain control. For narcotic management, meperidine is usually the drug of choice; butorphanol or hydromorphone can also be utilized, especially if NSAIDs are contraindicated [39]. Morphine is rarely administered. Nitroglycerin or phenobarbital may promote comfort by relaxing smooth muscle. Nursing measures, such as giving a backrub, assisting the patient in changing position, providing distraction, and offering emotional support, may supplement analgesic medication [27].

### PRURITUS RELIEF

Pruritus associated with icterus can be extremely upsetting to the patient. It is important to rule out any possibility that the condition is related to an allergy or irritation. Measures to alleviate itching include dry clothing and bedding, emollients, a well-balanced diet, and distraction. Alkaline soaps should be avoided, and baths should be taken only every two or three days, if possible. Whirlpool baths are preferred [27]. Biliary drainage can help to alleviate related pruritus. If indicated, the preferred pharmacotherapy is with ursodeoxycholic acid; cholestyramine, rifampicin, naltrexone, and sertraline are second-line options.

### MAINTAINING AND IMPROVING SKIN INTEGRITY

Several nursing interventions are crucial to the maintenance of skin integrity. Relieving pruritus should be a high priority, and frequent turning and repositioning is necessary to relieve pressure of edematous areas and prevent formation of pressure injuries. A low-sodium diet, fluid restriction, and

diuretic therapy may be prescribed to reduce diuresis and lessen peripheral and abdominal edema. It is important to remember that pressure injuries can form in as little as 12 to 24 hours if turning and repositioning are not done conscientiously every 1 or 2 hours [26; 27].

Preventing infection presents a challenge, because the patient's reticuloendothelial system is severely compromised. Careful handwashing is essential. Sterile technique should be maintained during dressing changes for surgical wounds and at catheter sites. Nutritional measures may be used to promote healing and improvement of skin integrity [26].

### **MAINTAINING AND IMPROVING THOUGHT PROCESSES**

Evaluating the patient's mental status, promoting safety, and monitoring for ammonia toxicity are nursing responsibilities. Mentation may be monitored by assessing the patient's orientation to person, place, and time. One convenient technique for detecting changes in ammonia toxicity levels is having the patient write his or her name daily and compare the signatures. Severity of asterixis may be evaluated by pumping up a blood pressure cuff on the patient's arm; the more rapidly the hand clenches and unclenches, the higher the serum level of ammonia. The patient's breath should be assessed for fetor hepaticus, which is similar to the odor of acetone or old wine [26; 27].

Nurses should also be alert to the possibility that a hepatotoxic drug or dosage has been inadvertently prescribed. Detoxification capacity declines in older individuals, even under normal conditions; this impairment will be worsened in the presence of hepatic disease [40; 41].

Safety measures (e.g., padded side rails) may be necessary to protect patients who are confused or combative as a result of hepatic encephalopathy. The patient should be reminded not to get out of bed unassisted. Activities of daily living should be supervised [27].

### **REDUCING AMMONIA LEVELS**

Various therapeutic measures may be prescribed to decrease serum ammonia levels. Intravenous administration of glucose may provide protein-conserving carbohydrates. Rest can decrease release of ammonia associated with muscle contraction [27].

Pharmacologic measures may also be employed. Potassium may be given to improve cerebral metabolism of ammonia. Hypokalemia has been identified as being a contributing factor for the increased risk of hepatic encephalopathy. Studies have shown that supplementing and correcting hypokalemia in patients with cirrhosis can decrease ammonia levels [42; 43]. Antibiotics such as neomycin may be administered orally or by enema to reduce the number of ammonia-synthesizing bacteria in the gut. Because neomycin is poorly absorbed from the intestine, its bactericidal action in the intestine is prolonged; however, this antibiotic may cause ototoxicity of nephrotoxicity if administered for more than six days [41; 44]. Metronidazole and rifampin are alternative choices.

Lactulose may be given orally or by nasogastric tube. This acts by acidifying the colon, so ammonia couples with hydrogen ions and is excreted in the feces. Improvement may be seen within 24 hours, with serum ammonia levels being reduced by 25% to 50% in most patients. Diarrhea is common with lactulose therapy, so electrolyte levels should be monitored. In some cases, hemodialysis may be necessary to reduce serum ammonia levels [41; 44].

Nurses should routinely check stools for occult blood and monitor vital signs for changes that might indicate gastrointestinal hemorrhage. If esophageal varices are bleeding, treatments include beta blockers and medical procedures to stop bleeding [27].

### **IMPROVING NUTRITIONAL INTAKE**

Unless ammonia toxicity is present, the patient with hepatic dysfunction should receive a diet high in protein to promote hepatic healing and prevent loss of muscle mass. The diet should be low in salt and high in vitamins, carbohydrates, and calories. If ammonia toxicity is present, potassium-rich foods should be provided. Although limiting protein can help address hyperammonemia, patients with hepatic dysfunction are often malnourished, and limiting protein intake is not generally recommended. Plant protein or milk-based protein can be used in patients with elevated ammonia levels [45]. The patient with biliary dysfunction should reduce the quantity of fats consumed [17].

Promoting a well-balanced diet with a patient who often has no appetite is a challenge. Appetite may be improved by providing oral hygiene and fresh air, minimizing movement, and administering prescribed antiemetics. Consultation with a dietitian is recommended to identify the best approach to feeding, perhaps in small, frequent feedings supplemented by nourishing snacks. As stated, plant protein supplements may be used if not contraindicated. It is helpful if the mealtime environment is pleasant and free of unpleasant odors. Food preferences elicited in the patient history should be considered. Explaining the rationale for the diet may encourage the patient to eat more. If the patient is unable to eat enough to meet caloric needs, feeding via nasogastric tube or total parenteral nutrition may be prescribed [17].

### **IMPROVING GAS EXCHANGE**

Several measures may be prescribed to improve oxygenation. If dyspnea occurs at rest or upon exertion, oxygen therapy may be initiated. Oral iron supplements or a transfusion of packaged red cells may be given to improve hemoglobin and hematocrit levels. Intramuscular injections of vitamin K1 improve clotting. Diuretic therapy or administration of albumin may be prescribed to reduce pleural effusion, which hinders gas exchange, or to decrease ascites, which exerts pressure on the diaphragm [27].

Nurses may be called upon to assist with paracentesis to remove ascitic fluid from the abdomen. The patient is assisted to a sitting position. The abdomen is cleansed with an antiseptic solution and draped. Local anesthesia is administered, and a trocar is inserted and tubing attached. Fluid drains via gravity into a sterile container. Up to 2 L of fluid may be removed; removal of a larger quantity may lead to shock. The amount and color of ascitic fluid removed should be documented before sending a sample for laboratory evaluation. Paracentesis may be repeated periodically as fluid accumulates [27]. Ascites may also be controlled by a LeVeen or Denver shunt procedure, which will be discussed later in this course.

### RESTORING NORMAL FLUID VOLUME

Edema related to hepatic dysfunction can be misleading, because vascular dehydration frequently accompanies it and diuretic therapy alone can worsen dehydration. Diuretics should not be overused and should be given in conjunction with albumin. Aldosterone antagonists are the diuretics of choice, as edema is related to inadequate detoxification of aldosterone. Intake-output records should be maintained and electrolyte values and skin turgor assessed. The patient should be weighed and girth measured daily to assess fluid volume status; weight loss should not exceed one-half pound (0.23 kg) per day. Greater losses may result in a shift of fluids into the abdominal cavity, promote electrolyte imbalance, and precipitate hepatic encephalopathy [27].

In the patient with ascites, accumulated fluid may stretch the skin so tightly that it tears. Patients should be urged to avoid restrictive clothing, take good care of the skin, and change positions frequently. A pillow may be placed under the costal margin for support if the patient is lying on his or her side. Compression stockings may be worn and the limbs elevated frequently to minimize peripheral edema. When seated, patients should be warned to support their legs, not to cross them or let them dangle. A fluid deficit may occur during episodes of variceal hemorrhage. Lost blood should be replaced, and vital signs closely monitored. Fluid restrictions of 1,000 mL in 24 hours may be required when peripheral edema and ascites are present [27].

### IMPROVING TISSUE PERFUSION

Tissue perfusion may be improved by correcting anemia; iron supplements, vitamins B12 and K, and blood transfusions may be administered. When hemoglobin and hematocrit values are restored to normal levels, the heart pumps blood throughout the body more efficiently. Ecchymosis and gingival hemorrhage may indicate vitamin K deficiency. If the patient has coagulation disorders, intramuscular injections should be avoided whenever possible and pressure should be applied after any injection is given. Decreasing fluid overload, if present, will improve cardiac output [27].

---

## NURSING EVALUATION

---

### COMFORT

Nursing interventions related to alleviation of pain are considered successful when the patient is resting comfortably without severe pain and can perform activities of daily living (ADLs) without undue discomfort. Observations verifying these outcomes would include sleeping soundly for at least four hours at a time, absence of facial grimaces, and absence of listlessness [36].

Nursing interventions related to pruritus are successful if the patient has relief from itching, rests comfortably without scratching, performs ADLs without scratching, and does not interrupt skin integrity by scratching [36].

### SKIN INTEGRITY

Absence of pressure injuries or erythema at surgical and intravenous sites, normal temperature, and evidence that the patient is eating the prescribed diet support an outcome of maintaining or improving skin integrity [37].

### THOUGHT PROCESSES

Orientation to person, place, and time, absence of asterixis, and the ability to write one's name the same way on sequential days are evidence that a patient's thought processes are intact. If asterixis develops or changes in handwriting are noted, the nurse may need to modify plans and interventions [37].

### NUTRITION

Expected outcomes for improving nutritional status and knowledge of nutrition include the ability to list foods high in protein and potassium and low in salt and fats, evidence of increasing intake of well-balanced foods, and signs that nutritional deficiencies are being corrected. This can be a slow process. Consulting with the patient to make a list of favorite foods and seeing that those foods are served may improve consumption. Cultural and ethnic preferences should be considered in planning the diet [37].

### GAS EXCHANGE

One expected outcome might be the patient's ability to ambulate without oxygen supplementation. Another is return of the hemoglobin level to normal. There might be an absence of dyspnea on exertion; an absence of cyanosis; or increased energy (e.g., ability to engage in usual activities). If these data can be observed, the nursing plan may be considered successful [37].

### FLUID VOLUME

Expected outcomes related to fluid volume include good skin turgor, decreased circumference of edematous extremities or abdominal girth, and intake and output measurements are indications of correction of a fluid alteration. Correcting fluid volume alterations may take a long time, and several plans and revisions may be required [37].

## TISSUE PERFUSION

A blood pressure no greater than 140/80 mm Hg and normal hemoglobin and prothrombin time are indications of adequate tissue perfusion. However, it is important to remember that hemoglobin and hematocrit values and blood pressure readings may be deceiving if vascular dehydration is present [37].

---

## CONGENITAL DISORDERS

---

Congenital disorders of the hepatic and biliary system are present from birth, although they may not be visibly apparent or symptomatic until adulthood. These patients may seek medical care when symptoms of their disorder first appear or when exacerbations occur [46].

### GILBERT SYNDROME

Gilbert syndrome is a familial disorder characterized by a deficiency of glucuronide transferase, an enzyme necessary for conjugation of bilirubin. Due to the enzyme insufficiency, serum levels of unconjugated bilirubin rise, with consequent hyperbilirubinemia and icterus. No pathologic changes occur in the liver with this disorder, so liver function studies will yield normal results except for the elevated bilirubin levels. There is no hemolysis or obstruction [46; 47]. Differential diagnosis includes non-alcoholic fatty liver disease, autoimmune hepatitis, drug-induced hepatitis, and primary biliary or sclerosing cholangitis.

In general, there is no required treatment for Gilbert syndrome aside from symptom management. Steps should be taken to avoid potential triggers in order to minimize fluctuations in unconjugated bilirubin. If there is evidence of hepatic decompensation, the patient should be referred to a specialist for further evaluation.

### ALAGILLE SYNDROME

Alagille syndrome is a genetic disorder with manifestations in multiple systems throughout the body. Variability in presentation is seen even among individuals from the same family [48]. The major clinical manifestations of this disorder are bile duct paucity on liver biopsy, cholestasis, congenital cardiac defects (primarily involving the pulmonary arteries), butterfly vertebrae, ophthalmologic abnormalities, and characteristic facial features. The diagnosis is made through positive genetic testing and/or clinical diagnostic criteria.

Clinical management of Alagille syndrome is primarily supportive. For some patients, targeted therapy with ileal bile acid transporter inhibitors (e.g., maralixibat and odeixibat) may be indicated to increase the excretion of bile acids. In severe cases, liver transplantation may be indicated. Measures to address pruritus, xanthomas, and pain are recommended. Considering the multisystem manifestations of this syndrome, these patients benefit from care delivered by an interprofessional team, including physicians, nurses, dieticians, genetic counselors, and specialists.

Patients with Alagille syndrome should be monitored to allow for early identification of progression and potentially harmful complications. Liver function should be regularly assessed, and serum alpha-fetoprotein and liver ultrasound may be measured every six months [48].

---

## DISORDERS OF MULTIFACTORIAL ORIGIN

---

Disorders of multifactorial origin are those for which no single, specific etiologic agent has been identified. For the hepatobiliary system, cirrhosis is the major disease process of multifactorial origin [49].

### CIRRHOSIS

Cirrhosis is a chronic process in which the normal configuration of liver lobules is disrupted. Cell death occurs, and regeneration is associated with scarring. Nodular cells formed during regeneration distort the morphology of the liver and obstruct hepatic flow of blood and lymph. Eventually, cirrhosis leads to hepatic failure and portal hypertension [50].

Cirrhosis is the end stage of any chronic liver disease. In developed countries, the most common causes include nonalcoholic fatty liver disease, hepatitis infection, and excessive alcohol intake; in developing countries, hepatitis A and B infections are the most likely causes. There are two clinical categories of cirrhosis: compensated and decompensated. Patients who have compensated cirrhosis can be further categorized as:

- Stage 1: No varices, no ascites
- Stage 2: Varices, no ascites

Likewise, patients with decompensated cirrhosis may be staged as:

- Stage 3: Ascites with or without varices
- Stage 4: Bleeding with or without ascites

The diagnosis of cirrhosis can be made by clinical, laboratory, imaging, or liver stiffness findings. For patients with compensated cirrhosis, noninvasive parameters all may be normal and liver biopsy would be required for diagnosis. Decompensated cirrhosis is more easily diagnosed by laboratory analysis.

These patients are asymptomatic and overall have median survival times of more than 12 years. Presence of varices is the key prognostic factor for compensated patients and indicates higher likelihood of decompensation. The Child-Turcotte-Pugh (CTP) score is used as a prognostic scoring system in cirrhosis based on two clinical and three laboratory parameters:

- Ascites:
  - None: 1 point
  - Diuretic-sensitive or mild/moderate: 2 points
  - Diuretic-refractory or tense: 3 points

- Encephalopathy:
  - None: 1 point
  - Episodic or overt grade 2: 2 points
  - Recurrent/chronic or grade 3–4: 3 points
- Albumin:
  - >3.5 g/dL: 1 point
  - 3.4–2.8 g/dL: 2 points
  - <2.8 g/dL: 3 points
- Bilirubin:
  - <2 mg/dL: 1 point
  - 2–3 mg/dL: 2 points
  - >3 mg/dL: 3 points
- International normalized ratio (INR):
  - <1.7: 1 point
  - 1.7–2.3: 2 points
  - >2.3: 3 points

In the original scoring system, nutritional status (normal, moderately altered, malnourished) was used instead of INR, which reflects the importance of sarcopenia in cirrhosis. Patients who score 5–6 points are mostly those with compensated cirrhosis. A score of 7–9 points indicates decompensated cirrhosis, but decompensation is “early.” Those who score 10–15 points have later or “further” decompensated cirrhosis. One-year mortality ranges from 1% for mildest disease to 57% for patients with severe disease.

### Clinical Manifestations

Cirrhosis is often (but not invariably) part of a progressive disease that begins with fatty infiltration of the liver (steatosis) that progresses to fibrosis of the liver due to inflammation. If not adequately treated, cirrhosis can progress to hepatic failure. Cirrhosis may be related to nutritional disorders, biliary obstruction, hepatotoxicity, iron storage disorders, and alcohol ingestion. Histologic examination of the liver reveals fatty infiltration, cellular necrosis, and disruption of the lobes. Gross inspection reveals a “hobnail” appearance; the hepatic surface is often stippled and nodular [51].

Portal hypertension results in compensatory development of collateral blood vessels in the esophagus. These vessels, called esophageal varices, dilate as portal hypertension increases. Because such vessels are inadequate to accommodate the increased blood flow, hemorrhage may occur [51].

Patients with cirrhosis often have a characteristic appearance. Anorexia develops early in the course of the disease, resulting in significant weight loss. The skin is typically orange-yellow, the eyes are sunken, and the facial bones are prominent. The limbs are emaciated, but the abdomen is enlarged due to peripheral edema or ascites. Other symptoms include spider angiomas, palmar erythema, and changes in mental status [51].

### Therapeutic Measures

Hemorrhage of esophageal varices may be controlled temporarily by administering infusions of vasopressin, somatostatin, octreotide, or terlipressin to promote diffuse arterial vasoconstriction and to lower portal pressure by constricting the splanchnic arterial bed. The infusion may be given systemically or via the superior mesenteric artery and administered for five days, according to current guidelines [52]. This provides only temporary control and is associated with complications, including systemic arterial hypertension and coronary vasoconstriction, possibly leading to myocardial infarction. Whole blood should be available for immediate infusion [52; 53; 54]. If medication administration is unsuccessful, gastric lavage with ice-cold saline, use of the Minnesota tube or Sengstaken-Blakemore tube, or portal-systemic shunting may be implemented to control bleeding temporarily.

As noted, hepatic encephalopathy is a complication of advanced cirrhosis [52; 54; 55]. Lactulose and antibiotics may be used to manage these patients.

Injection sclerotherapy, an alternative long-term control measure, may be performed as a bedside procedure. The patient can be sedated using diazepam (Valium), meperidine hydrochloride (Demerol), propofol, fentanyl (Sublimaze), midazolam (Versed), or ketamine (Ketalar). The medications used are at the discretion of the anesthesia provider and surgeon based on the patient’s medical history. It is important to be familiar with each, along with their respective reversal agents [57; 58]. Sclerosing solutions are then injected directly into the bleeding varices by means of fiberoptic endoscopy. Potential complications include chest pain, transient fever, ulceration of the injection sites, and formation of strictures. Most are self-resolving; strictures may be treated by dilatation. Perforation, a major complication, is rare. If perforation does occur, it is treated by keeping the patient NPO, suctioning gastric contents, and administering antibiotic therapy; surgery is seldom required [52; 55; 56].

Prophylactic antibiotics are also administered to lower rates of infection, death, and early rebleeding. IV ceftriaxone has demonstrated the most positive results in randomized controlled trials [52].

### Specific Nursing Measures

It is important to emphasize that patients with cirrhosis must abstain from alcohol. Because cirrhosis is a chronic condition, most nursing interventions will be related to the patient’s comfort. Teaching patients and the public about the effects of alcohol may have preventive benefits [59; 60; 61; 62].

Nursing measures for patients with esophageal hemorrhage include explaining treatments to the patient and assessing frequently to determine whether hemorrhage has ceased. As with any hemorrhage, the nurse is responsible for monitoring blood replacement therapy and administering vitamin K, as ordered. Bleeding esophageal varices create a crisis for patient and family. Timely explanations of ongoing interventions and



anticipated results will help the patient cope with panic and fear of death. Providing nursing care in a decisive, supportive manner helps the patient regain control and to participate in the therapy. To provide optimum crisis care, the nurse should assess the family support structure and provide information and support to significant others as well as the patient. Fluid restrictions are generally maintained at 1,000 mL per 24-hour period [59; 60; 61].

### ALCOHOL-INDUCED LIVER DISEASE

The spectrum of alcoholic liver disease includes fatty liver disease, alcoholic hepatitis, and cirrhosis. Most deaths from alcoholic cirrhosis are attributable to liver failure, bleeding esophageal varices, or kidney failure. It has been estimated that there are 14 million persons in the United States with alcohol use disorder, and approximately 10% of those with alcohol use disorder develop cirrhosis with continued heavy drinking [64; 65; 68].

#### Portal Cirrhosis

The metabolism of alcohol leads to chemical attack on certain membranes of the liver. But whether the damage is caused by acetaldehyde or other metabolites is unknown. Acetaldehyde is known to impede the mitochondrial electron transport system, which is responsible for oxidative metabolism and generation of ATP; as a result, the hydrogen ions that are generated in the mitochondria are shunted into lipid synthesis and cytogenesis. Abnormal accumulations of these substances are found in hepatocytes (fatty liver) and blood. Binding of acetaldehyde to other molecules impairs the detoxification of free radicals and synthesis of proteins. Acetaldehyde also promotes collagen synthesis and fibrogenesis. The lesions of hepatocellular injury tend to be most prevalent in the centrilobular area that surrounds the central vein, where the pathways for alcohol metabolism are concentrated. This is the part of the lobule that has the lowest oxygen tension; it is thought that the low oxygen concentration in this area of the liver may contribute to the damage [64; 65].

The amount of alcohol required to produce chronic liver disease varies widely, depending on body size, age, sex, and ethnicity, but the high end of the range is about 80 g/day for 10 to 12 years. This amount of alcohol can be in the form of 8 ounces of 86 proof (41% alcohol) whiskey, two bottles of wine, or six 12-ounce bottles of beer. Even after alcohol intake has stopped and all alcohol has been metabolized, the processes that damage liver cells may continue for many weeks and months. Clinical and chemical effects often become worse before the disease resolves. The accumulation of fat usually disappears within a few weeks, and cholestasis and inflammation also subside with time. However, fibrosis and scarring remain. The liver lobules become distorted as new liver cells regenerate and form nodules [64; 65].

Although the mechanism by which alcohol exerts its toxic effects on liver structure is somewhat uncertain, the changes that develop can be divided into three states: fatty changes, alcoholic hepatitis, and cirrhosis [65].

Fatty liver is characterized by the accumulation of fat in hepatocytes, a condition called steatosis. The liver becomes yellow and enlarges as a result of excessive fat accumulation. The pathogenesis of fatty liver is not completely understood and can depend on the amount of alcohol consumed, dietary fat content, body stores of fat, hormonal status, and other factors. There is evidence that ingestion of large amounts of alcohol can cause fatty liver changes even with an adequate diet. The fatty changes that occur with the ingestion of alcohol usually do not produce symptoms and are reversible after the alcohol intake has been discontinued [65; 68].

Alcoholic hepatitis is the intermediate state between fatty changes and cirrhosis. It often is seen after an abrupt increase in alcohol intake and is common in binge drinkers. Alcoholic hepatitis is characterized by inflammation and necrosis of liver cells. This stage usually is characterized by hepatic tenderness, pain, anorexia, nausea, fever, jaundice, ascites, and liver failure, but some people may be asymptomatic. The condition is always serious and sometimes fatal, with an associated mortality rate of 34%. The immediate prognosis correlates with severity of liver cell injury. In those who continue to drink, the acute phase often is followed by persistent alcoholic hepatitis with progression to cirrhosis in a matter of one to two years [65; 68].

#### Alcoholic Cirrhosis

Alcoholic cirrhosis and malnutrition is the end result of repeated bouts of drinking-related liver injury and designates the onset of end-stage alcoholic liver disease. The gross appearance of the early cirrhotic liver is one of fine, uniform nodules on its surface. The condition has traditionally been called monocular or Laënnec cirrhosis. With more advanced cirrhosis, regenerative processes cause the nodules to become larger and more irregular in size and shape. As this occurs, the nodules cause the liver to become relobulized through the formation of new portal tracts and venous outflow channels. The nodules may compress the hepatic veins, curtailing blood flow out of the liver and producing portal hypertension, extrahepatic portosystemic shunts, and cholestasis [64; 65; 69].

### METABOLIC DYSFUNCTION-ASSOCIATED STEATOTIC LIVER DISEASE (MASLD)

Metabolic dysfunction-associated steatotic liver disease (MASLD) was previously referred to as nonalcoholic fatty liver disease (NAFLD) but was renamed in 2023 to better reflect the underlying pathophysiology and embrace affirmative, non-stigmatizing terminology [70]. It is caused by metabolic dysfunction that affects the liver. As noted, in the United States, it is the most frequently occurring form of chronic liver disease. The condition can range from simple steatosis (fatty infiltration of the liver) to nonalcoholic steatohepatitis (steatosis with inflammation and hepatocyte necrosis). Although steatosis alone does not appear to be progressive, approximately 10% to 15% of people with nonalcoholic steatohepatitis progress to cirrhosis. Obesity, type 2 diabetes, metabolic syndrome, and hyperlipidemia are coexisting conditions frequently associated with fatty liver disease. The condition is also associated with

other nutritional abnormalities, surgical conditions, drugs, and occupational exposure to toxins. Both rapid weight loss and parenteral nutrition may lead to MASLD. Jejunioleal bypass, a surgical procedure historically used for weight loss, has largely been abandoned for this reason [65; 71].

### Pathogenesis

The pathogenesis of MASLD is thought to involve both lipid accumulations with hepatocytes and formation of free radicals, in a manner similar to that which occurs with alcohol metabolism. The primary metabolic abnormalities leading to lipid accumulation are poorly understood but are thought to include alteration in pathways for uptake, synthesis, degradation, or secretion of hepatic lipids and resulting from insulin resistance. Obesity increases the synthesis and reduces the oxidation of free fatty acids. Type 2 diabetes or insulin resistance also increases adipose tissue lipolysis and the subsequent production of free fatty acids. When the capacity of the liver to export triglyceride is exceeded, excess fatty acids contribute to the formation of fatty liver. Abnormal lipid peroxidation ensues, followed by direct hepatocyte injury, release of toxic byproducts, inflammation, and fibrosis [65; 71].

### Clinical Manifestations

MASLD is usually asymptomatic, although fatigue and discomfort in the right upper quadrant of the abdomen may be present. Mildly to moderately elevated serum levels of AST, ALT, or both are the most common and often the only abnormal laboratory findings. Other abnormalities, including hypoalbuminemia, a prolonged prothrombin time, and hyperbilirubinemia, may be present in persons with cirrhotic-stage liver disease. The diagnosis of MASLD requires the presence of >5% macrovesicular steatosis, inflammation, and liver cell ballooning, typically with a predominantly centrilobular distribution; this is usually demonstrated by imaging. Exclusion of alcohol as a cause of the disorder is also required [65; 72].

### Treatment

The aim of treatment is to slow progression of MASLD and to prevent liver-related illness. Weight loss and exercise improve insulin resistance and are recommended in conjunction with treatment of associated metabolic disturbances. Alcohol use should be avoided. Disease progression is slow and the magnitude of disease-related morbidity and mortality is uncertain. One study has shown the use of statins and antioxidants such as vitamins A and E have been effective in reducing the odds of hepatic steatosis in patients with MASLD. Liver transplantation is an alternative for some with end-stage liver disease, but MASLD may reoccur in up to 39% of people post-liver transplantation [65; 72; 73; 74].

## INTRAHEPATIC BILIARY DISORDERS

Intrahepatic biliary diseases disrupt the flow of bile through the liver, causing cholestasis and biliary cirrhosis. Among the causes of intrahepatic biliary diseases are primary and secondary biliary cholangitis [55].

### Primary Biliary Cholangitis

Primary biliary cholangitis (PBC), formerly primary biliary cirrhosis, is a chronic disease of the liver characterized by the autoimmune destruction of intrapolar bile ducts causing cholestasis. The disease is seen most commonly in women 40 to 60 years of age. Familial occurrences of the disease are found between parents and children and among siblings. With the possible exception of a reportedly higher risk of a polymorphism of the gene for the vitamin D receptor, there are no clear genetic influences for the disorder. As with other autoimmune disorders, possible environmental triggers include infections and chemical agents [63].

### Clinical Manifestations

Primary biliary cholangitis is characterized by an insidious onset and progressive scarring and destruction of liver tissue. The liver becomes enlarged and takes on a green hue because of the accumulated bile. The earliest symptoms are unexplained pruritus, weight loss, and fatigue, followed by dark urine and pale stools. Osteoporosis occurs in 51% of women with the disorder. Jaundice is a late manifestation of the disorder, as are other signs of liver failure. Serum alkaline phosphatase levels are typically elevated [63].

### Diagnosis and Treatment

Diagnosis of primary biliary cholangitis is made when two of the following signs and symptoms are present [63]:

- Destruction of bile ducts and presence of nonsuppurative cholangitis on liver biopsy
- Cholestasis with alkaline phosphatase elevation for at least six months
- Presence of serum antimitochondrial antibodies

Treatment is largely symptomatic. Ursodeoxycholic acid (ursodiol), the only drug approved for treating primary biliary cholangitis, increases bile flow, decreases the toxicity of bile contents, and has been shown to decrease the rate of clinical deterioration. Cholestyramine, a bile acid-binding drug, may prove beneficial for treatment of pruritus. Colchicine, which acts to prevent leukocyte migration and phagocytosis, and methotrexate, a drug with immunosuppressive properties, have also resulted in reported benefits in terms of symptom relief. Corticosteroids have been shown to improve liver histology and serum liver function tests, but are associated with serious long-term side effects. Liver transplantation remains the only effective treatment for advanced disease. Primary biliary cirrhosis does not recur after liver transplantation if appropriate immunosuppression is used [63].

### Secondary Biliary Cholangitis

Secondary biliary cholangitis results from prolonged obstruction of the extrabiliary tree. The most common cause is cholelithiasis. Other causes of secondary biliary cirrhosis are malignant neoplasms of the biliary tree or head of the pancreas and strictures of the common duct caused by previous surgical

procedures. Extrahepatic biliary cholangitis may benefit from surgical procedures designed to relieve the obstruction. The presence of dark urine is a sign that indicates emergent medical attention is necessary [64; 66; 67].

---

## **INFECTIOUS AND INFLAMMATORY DISORDERS**

---

Infectious and inflammatory disorders of the hepatobiliary system can involve the liver or the gallbladder. Hepatic infections may be associated with inflammation of hepatic cells, hyperplasia of Kupffer cells, bile stasis, or tissue necrosis. Biliary infections may be associated with dilation of the gallbladder, which will be filled with bile, pus, and blood. Although the signs and symptoms of different types of hepatitis are much the same, the major symptom present for all is anorexia [75; 76; 77].

### **TOXIC AND DRUG-INDUCED HEPATITIS**

Certain agents, including carbon tetrachloride, yellow phosphorus, and acetaminophen (in large doses), are hepatotoxins. When ingested or inhaled, they cause necrosis of hepatic cells. Hepatitis related to these substances is called toxic hepatitis [76; 78].

Varying patterns of hepatic dysfunction are seen in response to use of other drugs and anesthetic agents. For example, halothane, methyldopa, and isoniazid can produce hepatitis. Chlorpromazine, erythromycin estolate, and methimazole can cause intrahepatic cholestasis with jaundice. Phenylbutazone and the sulfonamides can produce granulomas within the liver [76; 78].

#### **Clinical Manifestations**

Both drug-induced and toxic hepatitis are manifested by inflammation of hepatic cells, hyperplasia of Kupffer cells, and bile stasis; however, toxic hepatitis is also associated with acute cellular necrosis. The onset of both forms is similar to that of viral hepatitis from which they must be quickly distinguished if detoxification is to be initiated. Anorexia, jaundice, and hepatomegaly are common. In toxic hepatitis, the illness may progress rapidly, with rising fever, subdermal hemorrhage, and severe vomiting. Delirium, coma, and convulsions develop, and the patient dies within a few days. If the toxin is promptly identified and exposure is discontinued, however, the patient may recover quite rapidly. Cirrhosis sometimes develops after recovery [76; 78].

Drug-induced hepatitis may develop after repeated exposures have sensitized the patient to a drug. For this reason, any medication that causes pruritus or other symptoms of sensitivity should be immediately withdrawn and the sensitivity noted on the patient's record. Chills, fever, rash, pruritus, arthralgia, and nausea are early signs of drug-induced hepatitis. Icterus, hepatomegaly, and hepatic tenderness follow. The urine is dark. Symptoms may subside once the drug is withdrawn,

but drug-induced hepatitis may be fatal, and postnecrotic cirrhosis also may develop [78; 79; 80; 81]. The anesthetic agent halothane has been linked to episodes of drug-induced hepatitis; therefore, anesthetics should be rotated for patients undergoing repeated surgical procedures [81].

#### **Therapeutic and Specific Nursing Measures**

Treatment is directed at the removal of the toxin or sensitizing agent, if known. Early diagnosis is important. The history can yield useful findings regarding exposure to toxins or medications. Attention should focus on occupational history, possible exposure to hepatotoxins during hobby activities (e.g., furniture finishing), and medication history, including over-the-counter medications and self-prescribed vitamin therapy. Once the disease has been diagnosed, nursing care focuses on comfort measures and the replacement of blood, fluids, and electrolytes [75; 78].

### **HEPATIC ABSCESS**

Hepatic abscess is an invasion of the liver by micro-organisms producing a localized collection of pus in a cavity formed by destruction of tissue. Hepatic abscess may be caused by fungal, bacterial, or even protozoan infection. An infection anywhere in the body can lead to formation of a hepatic abscess, but gastrointestinal infections are especially likely to do so [75; 76; 82; 83].

Usually, micro-organisms that invade the liver are destroyed by the phagocytic Kupffer cells, but occasionally a few survive. The lobular structure of the liver tends to keep the infection small and circumscribed, but several lobules may be affected. As the micro-organisms multiply, the toxins they produce destroy hepatic cells. Concurrently, the body's defense system acts to destroy the invading organisms, and the cavity becomes filled with a mixture of leukocytes, micro-organisms, and dead and necrotic hepatic cells [75; 76].

#### **Clinical Manifestations**

Patients with hepatic abscess will have a high fever and a painfully enlarged liver, anemia, elevated WBC levels, and icterus. As the temperature rises, the patient has alternating episodes of chills and diaphoresis; toxic shock can occur within hours. If identified soon enough, the infective agent can be controlled with antimicrobial therapy. Sometimes, septicemia cannot be reversed, and the patient dies [76].

#### **Therapeutic Measures**

Non-aspirin analgesics, intravenous fluid therapy, and parenteral antimicrobial agents may be prescribed. Occasionally, surgical intervention may be indicated to drain large abscessed areas or to resect an abscessed portion of the liver. This is done rarely, however, because coagulation abnormalities associated with liver dysfunction increase the risk of severe hemorrhage. The most common surgical intervention is percutaneous drainage. This may be done intermittently, or continuous catheter drainage may be employed [76].

### Specific Nursing Measures

Continual assessment is a crucial part of nursing care. A patient history should include inquiry regarding recent (within past six months) infection and presence of diabetes or insulin resistance [20].

Hourly monitoring of temperature and vital signs may be required to estimate whether the patient is becoming septic or whether antimicrobial therapy is taking effect. Hepatic abscess is accompanied by pain and fever, so supportive care with comfort measures is necessary. If surgical intervention is indicated or drainage initiated, the nurse will teach the patient about the procedure, provide reassurance, and assess for hemorrhage [20].

### VIRAL HEPATITIS

Hepatitis is an inflammatory state of the liver and may be caused by exposure to toxic chemicals, autoimmune disease, fatty liver disease, or infection. Many common viral infections in humans are associated with mild, usually transient, secondary inflammation of the liver. The term “viral hepatitis” is applied to infection caused by a set of viruses unique in their primary trophism for the liver and their propensity to cause serious, often prolonged “primary” hepatitis. For clinical purposes, the viruses causing primary hepatitis are grouped and classified alphabetically in accordance with when each was identified: hepatitis A, B, C, D, and E. In 1994, hepatitis F was identified as a cause of fulminant liver failure [84]. This was later found to be a variant subspecies of another virus. Therefore, “F” is now omitted in the hepatitis alphabet. A virus similar in structure to hepatitis C was initially designated hepatitis G; however, this virus has been reclassified as a Pegivirus GB virus-C (GBV-C) [85]. This virus can cause subclinical infection in humans but is not linked to active disease.

### Hepatitis A

The World Health Organization (WHO) estimates the annual worldwide incidence of hepatitis A to be 1.5 million per year [86]. Within the United States, diagnosed cases of hepatitis A virus must be reported to the local health authorities, who in turn report the incidence to the Centers for Disease Control and Prevention (CDC). Many persons who contract hepatitis A virus, however, do not have clinical symptoms. Therefore, the CDC must estimate the actual incidence of hepatitis A virus infection based upon CDC reports and projections. For the 10-year period 1999 to 2009, the CDC estimates that 749,000 cases occurred within the United States [87].

Since the introduction of hepatitis A vaccine in 1995, the incidence of hepatitis A in the United States has declined by 95% [87]. However, after falling to a low of 1,239 cases reported in 2014, a series of outbreaks from 2013 to 2023 resulted in a dramatic increase in cases, reaching 12,474 reported cases in 2018 and 18,846 in 2019 [88]. According to the CDC, the increase in incidence was primarily the result of contaminated organic fruit, including strawberries, pomegranate seeds, blackberries, and a mixed antioxidant blend [88].

Hepatitis A is transmitted via the fecal-oral route, most commonly from contaminated water or food. After the virus is ingested, it is transported from the intestines to the liver, where it invades the hepatocytes. The virus uses the hepatocytes for viral replication and is then released into the bloodstream and excreted in the stool. HAV that is acquired percutaneously travels directly from the bloodstream to the liver to invade the hepatocytes; viral replication and excretion follow the same pattern as in fecal-oral transmission.

### Clinical Manifestations

Signs and symptoms of hepatitis A infection can vary from subclinical disease to fulminant (sudden and intense) illness. In symptomatic patients, the incubation period (i.e., time from exposure to onset of illness) is in the range of 15 to 50 days (average: 28 days). Clinical symptoms and signs include nausea, vomiting, headache, fever, chills, abdominal discomfort, hepatomegaly, and right upper quadrant tenderness. For most patients, symptoms are mild and subside in three to seven days. Others will have more significant disease and will progress to an icteric phase (jaundice). For these patients, recovery typically occurs after about three weeks.

Fulminant infection occurs in less than 1% of the cases. Some of these patients may have such severe damage that they require a liver transplant. Fatalities from hepatitis A are extremely rare. There is no known chronic carrier state.

Laboratory studies reflect leukopenia, atypical lymphocytes, and elevated ALT and AST levels. As discussed, anti-HAV IgM can be detected early in the disease, usually appearing in detectable levels 2 to 3 weeks after exposure, then declining to undetectable levels in 12 to 24 weeks. IgG levels begin to rise three to four weeks after exposure and remain elevated throughout life.

### Therapeutic Measures and Prevention

Treatment of HAV is supportive and directed at maintaining adequate nutrition and controlling symptoms. Ingestion of alcohol and/or hepatotoxic medications is avoided. For patients with fulminant hepatic failure resulting from HAV, corticosteroids may be used. However, clinical research has not demonstrated improved outcomes in patients receiving corticosteroids when compared with those who did not receive steroid treatment [89].

As with any other disease, prevention is the most effective strategy. Hepatitis A vaccine is licensed in the United States for use in individuals 1 year of age and older. Immunoglobulin (Ig) can provide short-term protection, both pre- and post-exposure (administered within two weeks after exposure for maximum protection).

The U.S. Food and Drug Administration (FDA) has approved two single-antigen HAV vaccines and one combination vaccine for use in the United States, all of which are inactivated vaccines. The single-antigen vaccines are Havrix and VAQTA.

Both are administered to adults in a dose of 1 mL intramuscularly. The dose for children is 0.5 mL [90]. Single-antigen vaccines are considered interchangeable. A second dose of either vaccine can be administered, regardless of which vaccine was administered as the first dose.

An alternative to single-antigen HAV vaccines is Twinrix, which contains inactivated HAV and HBV recombinant vaccines. It is immunogenic against HAV and HBV but requires three injections of 1 mL intramuscularly. The suggested schedule is an initial injection followed by boosters at one and six months. This vaccine is not approved for use in children. Immunity is expected to persist for at least 20 years (and possibly longer) in those who receive all three doses [90; 91].

Passive immunization with human Ig, preferably administered within two weeks of known or anticipated exposure, provides short-term protection against HAV infection for persons who have not been vaccinated. The single human Ig product licensed for hepatitis A prophylaxis in the United States is GamaSTAN S/D.

Sanitation strategies are also important in controlling HAV. If in water, the virus is inactivated by boiling the water for five minutes. Hand hygiene using alcohol-based hand sanitizers containing 60% to 95% ethanol are ineffective against HAV, even when in contact with the virus for a full two minutes [92; 93]. Therefore, handwashing with soap and water for at least 20 seconds is recommended rather than hygiene using hand sanitizers. If handwashing with soap and water is not an option, cleansing the hands with povidone-iodine for at least 30 seconds may be considered.

### Specific Nursing Measures

Persons with hepatitis A may often be cared for at home. Hospitalized patients will require enteric isolation and interventions for alternation in comfort (pruritus and pain), nutritional intake, and fluid volume; impairment of skin integrity and O<sub>2</sub>/CO<sub>2</sub> exchange; and disturbances in self-concept. Persons giving care in the home should wear gloves if contact with feces is possible. Gowns should be worn in any situation in which gross soiling occurs. Careful attention to handwashing is essential for patients and for those giving care [95].

Discharge planning for hospitalized patients includes encouraging the patient to get ample rest, ingest a well-balanced diet, and avoid alcohol and over-the-counter medications for at least six months. There is no chronic carrier state with hepatitis A. The patient will not progress to chronic hepatitis or cirrhosis [95].

### Hepatitis B

The hepatitis B virus is one of the smallest viruses known to cause disease in animals. Ten HBV genotypes, labeled A through J, and 30 subtypes have been identified [96]. The genotype of the virus influences the likelihood of developing cirrhosis and the response of the virus to therapy with interferon.

HBV consists of a core and an envelope. The envelope contains HBsAg proteins, glycoprotein, and lipids. The core of HBV includes viral DNA, enzymes necessary for replication, and antigenic protein particles distinctly different from those found in the envelope. The viral DNA is circular and predominantly double stranded, but with a single-stranded arc. The core antigen is termed HBcAg.

HBV is a bloodborne pathogen that is typically acquired parenterally, perinatally, or through sexual interaction. As with HIV infection, sexual contact and use of contaminated needles for drug injection are the primary risk factors for HBV [97]. However, HBV is considered 50 to 100 times more infectious than HIV, requiring a much smaller inoculum for transmission. Thus, a needlestick injury from a source patient who is coinfecting with both HBV and HIV is more likely to transmit HBV, even when the needle is solid (e.g., a suture needle) and even when blood is not visible. Because HBV does not transfer across the placenta, perinatal transmission occurs when an infant is exposed to the blood of an infected mother at the time of delivery. Parenteral exposures include occupational exposure of healthcare workers (1%), use of injected drugs (15%), tattoos, ear and body piercing, acupuncture, and blood transfusions received prior to 1980. Rare cases of transfusion-associated HBV continue to occur, indicating that the virus was present in the blood but with antigen levels below the level of laboratory detection [98].

### Clinical Manifestations

The incubation period for HBV can be as little as 45 days or as long as 180 days, but most commonly is 60 to 90 days. The severity of primary HBV infection varies from subclinical to fulminant illness. The age of the patient, the integrity of the immune system, and the infecting dose of the virus influence the severity of acute disease. Persons younger than 5 years of age exhibit mild symptoms or no symptoms, while 70% of infected adults exhibit significant clinical symptoms [99].

Signs and symptoms associated with acute HBV infection are similar to those of other acute viral hepatitis syndromes and include malaise, nausea, abdominal discomfort, icterus, and dark urine. Physical examination of the patient typically reveals an enlarged, tender liver and a yellowish hue to the skin. The spleen is palpable in some patients. In patients with fulminant hepatitis, progressive signs of hepatic encephalopathy (e.g., somnolence, confusion, stupor, coma) are common.

### Therapeutic Measures

There is no specific treatment for acute HBV infection; management is primarily supportive. Control of nausea and vomiting, maintenance of fluid and electrolyte balance, avoidance of potentially hepatotoxic drugs and alcohol, and extended periods of rest are the typical therapies.

In less than 1% of cases, fulminant acute liver failure develops. Treatment for fulminant hepatic failure includes compensating for coagulation defects, correcting acid-base as well as fluid and electrolyte disturbances, prevention of hypoglycemia,

administering prophylactic antibiotics, and therapies to reduce ammonia levels and combat cerebral edema. With aggressive therapy, improved intensive care and the use of orthotopic liver transplantation, the mortality rate for fulminant acute hepatic failure has gone down to 40% [100].

### Preventive Measures

As with hepatitis A, prevention is the best method for dealing with hepatitis B. Hepatitis B vaccine has been available since the 1980s and has been recommended as a routine childhood immunization since the early 1990s. Hepatitis B vaccine is available in the United States in seven different formulations. Of those seven formulations, only Engerix-B and Recombivax-HB are approved for neonates and in pregnancy. Other HBV vaccines include Heplisav-B and PreHevbrio. Combination vaccines that include HBV vaccine in the formulation include Twinrix (providing immunization against HAV and HBV), Pediarix (containing diphtheria toxoid, tetanus toxoid, acellular pertussis antigens, recombinant HBsAg, and inactivated poliovirus) and Vaxelis (containing diphtheria toxoid, tetanus toxoid, acellular pertussis antigens, inactivated poliovirus, recombinant HBsAg, and *Haemophilus influenzae* type b) [99].

Hepatitis B vaccine is typically administered as a series of three intramuscular injections, the second and third doses given at one month and six months, respectively, after the first dose [99]. In 2017, a two-dose series hepatitis B vaccine for unvaccinated or incompletely vaccinated individuals 18 years of age and older was approved by the FDA [101; 102]. In addition, evidence has indicated that two injections may be sufficient to achieve protection if administered in adolescence [99]. The ACIP recommends all adults 19 to 59 years of age and adults 60 years of age and older with risk factors for hepatitis B infection should receive hepatitis B vaccination [103]. Hepatitis B vaccine and hepatitis B immunoglobulin (HBIG) should be administered to infants weighing at least 2,000 grams born to persons with hepatitis B infection within 12 hours of birth, followed by completion of the vaccine series and postvaccination serologic testing. These neonates should receive hepatitis B vaccination within 24 hours of birth, followed by completion of the vaccine series. If the HBsAg-exposed neonate weighs less than 2,000 grams, the first dose of vaccine should not be counted as part of the three-dose series. Instead, the series is administered when the infant attains a weight of 2,000 grams or 1 month of age, whichever comes first, and at 2 and 7 months of age. All unvaccinated children and adolescents younger than 19 years of age also should receive the vaccine [94].

Persons who have not been immunized (or did not respond to the vaccine) and are exposed to hepatitis B virus may achieve passive protection from infection by receiving HBIG within seven days of exposure. The usual dose of HBIG is 0.06 mL/kg. For persons who have not been immunized, an accelerated schedule of immunizations is recommended following the dose of HBIG. For documented nonresponders, a second dose of HBIG is appropriate.

Strict adherence to Standard Precautions is recommended in order to prevent exposure to hepatitis B virus or other bloodborne pathogens. Careful handling of needles is also imperative. Because of the hardness of HBV even in adverse conditions, caution should be used when cleansing objects contaminated with blood or body secretions, regardless of whether or not the body fluids have dried.

Hepatitis B can be inactivated on surfaces with the use of 1:10 bleach solution or hospital-grade disinfectant. Unlike hepatitis A virus, alcohol-based hand sanitizers, used for 30 seconds, are effective against HBV [92].

### Hepatitis C

HCV is a single-stranded RNA virus, with properties similar to those of the flaviviruses, a genus of the family of Flaviviridae that includes yellow fever and St. Louis encephalitis viruses. The genome contains a single open reading frame that encodes a polyprotein of about 3,000 amino acids. The transcript is cleaved into single proteins, including three structural proteins (one core and two envelope proteins) and four nonstructural proteins. The virus is genetically unstable, which leads to multiple genotypes and subtypes.

HCV is considered a bloodborne pathogen. The most common source of infection is percutaneous or parenteral exposure through transfusion, use of injectable drugs, and occupational injury of healthcare providers with a contaminated sharp object. The blood supply in the United States has been tested for hepatitis C since the early 1990s. Now that more advanced screening tests for HCV are used in blood banks, the risk is considered to be less than 1 chance per 2 million units transfused [104]. Therefore, the annual incidence rate of HCV transmission from transfusion therapy since 1994 is less than one case per 100,000 population. In 2016, the CDC issued a health advisory due to an increasing number of acute HCV infections among persons undergoing hemodialysis [105].

Hepatitis C virus is the leading cause of end-stage liver disease and the leading reason for liver transplantation in the United States [104; 106]. Chronic HCV infection has also been associated with membranoproliferative glomerulonephritis, cryoglobulinemia, and B-cell lymphoma [104]. Coinfection of HCV with HIV occurs in 50% to 90% of persons who acquired HIV through injection drug use [107].

HCV occurs throughout the world, with endemic rates varying widely. The WHO estimates that 10% of the population of the Middle East, Africa, and Eastern Europe are infected with HCV. In the United States, an estimated 1.8% of the population (approximately 4 million people) is infected with HCV, and only about half of those infected are aware that they are. Rates of HCV in the United States have increased dramatically since 2010. This has been primarily attributed to the nation's opioid crisis and increased infection among injecting drug users. In 2021, 5,023 new cases of acute HCV were reported, an increase of 492% since 2010 and 129% since 2014 [108].

After adjusting for under-ascertainment and under-reporting, an estimated 69,800 acute hepatitis C cases occurred in 2021 [108]. In addition, 107,540 cases of newly identified chronic hepatitis C were reported in 2021 [108].

### **Clinical Manifestations**

The incubation period for HCV varies widely, from a mean of 7 to 10 weeks and a range of 2 to 20 weeks. HCV antibody is detectable in 80% of cases 15 weeks after exposure and in 97% of cases by 6 months after exposure. People with recently acquired acute infection typically have detectable HCV RNA levels as early as one to two weeks after exposure to the virus [104]. During the acute phase of the infection, 60% to 70% of HCV positive persons will be asymptomatic; approximately 20% of patients will develop mild jaundice, and the remaining persons will have generalized nonspecific symptoms, such as anorexia, nausea, fatigue, malaise, and abdominal pain. During this phase, serum ALT and AST levels are elevated then return to normal range. Fulminant acute hepatitis associated with HCV is rare [100; 109].

After the acute infection, 15% to 25% of patients will demonstrate an absence of HCV RNA in the serum and normalization of liver enzymes, within six months indicating resolution of the infection and clearance of the virus from the body. The presence of detectable HCV RNA in persons who test positive for HCV antibody is 74% in the general population. However, the rate of progression to chronic infection is higher in some subpopulations. In particular, the progression rate is more than 90% in African American individuals and as high as 98% in African American men. In those persons in whom HCV RNA remains detectable, indicating continued presence of the virus, 30% to 40% will maintain normal ALT levels and will show no evidence of chronic liver disease. The remaining 60% to 70% of chronically infected patients will have fluctuating ALT levels indicative of chronic liver disease and risk of subsequent progression to cirrhosis. On rare occasions, a patient will demonstrate positive HCV RNA without the presence of HCV antibody. Therefore, in a patient who exhibits chronic hepatitis without apparent cause, assessment of HCV RNA may be indicated [104; 110].

Chronic hepatitis from HCV infection usually progresses slowly, with cirrhosis developing in 20% to 25% of patients over a period of 20 to 30 years. However, persons with HCV infection whose daily ethanol consumption exceeds 50 g (about 3.5 standard drinks) per day are twice as likely as nondrinkers to develop cirrhosis and progress to cirrhosis more quickly (in as little as 10 years) [111]. Of those with cirrhosis, 25% eventually develop hepatocellular carcinoma. Persons who ingest alcohol or who were older than 40 years of age at the onset of infection have a more rapid progression of cirrhosis. Men have a higher incidence of cirrhosis than women. Persons with MASLD and those receiving immunosuppressive therapy are also more likely to progress to cirrhosis [112].

Because acute HCV infection can be asymptomatic, the first indication of the presence of chronic HCV infection may be elevated liver enzymes on laboratory testing obtained in connection with another clinical condition or routine health examination. In evaluating the cause of liver enzyme elevation, a hepatitis panel is typically ordered. Testing for the presence of HCV RNA has become the accepted method of confirming current HCV infection (acute or chronic) [104]. Qualitative HCV RNA testing determines whether or not hepatitis C viral particles are present in the blood and can therefore differentiate between resolved and continued infection. Quantitative HCV RNA testing evaluates the amount of hepatitis C virus in the blood and can be used to guide therapy [104; 113]. In most commercial laboratories, a positive HCV antibody test triggers a reflex test for quantitative HCV RNA; qualitative HCV RNA is rarely performed.

### **Therapeutic Measures**

Based upon genetic characteristics, eight genotypes and more than 90 different subtypes of HCV virus have been identified. Because the genotypes respond differently to therapy, genotypic testing should be performed for persons with chronic progressive HCV infection who are considering antiviral therapy [104]. In the United States, genotype 1 accounts for 60% to 75% of HCV infections and genotypes 2 and 3 account for about 25% [114].

The treatment of HCV infection has advanced rapidly following the introduction of anti-HCV protease inhibitors in 2011. These newer, direct-acting antiviral drug combinations are highly effective and relatively free of side effects; thus, therapy is now considered for virtually all patients diagnosed with HCV infection [115]. In order to provide healthcare professionals with timely guidance, the IDSA and the AASLD have developed evidence-based recommendations for the diagnosis and management of hepatitis C infection, last updated in 2023. However, due to the rapidly evolving nature of new therapies and other developments, the IDSA and the AASLD recommend reviewing current recommendations online, available at <https://www.hcvguidelines.org> [115].

The IDSA/AASLD 2023 guidelines emphasize that treatment is recommended for all patients with chronic HCV infection, except those with a short life expectancy that cannot be remediated by HCV therapy, liver transplantation, or another directed therapy [115]. Prior to treatment, patients should be educated regarding proper administration of medications, adherence, and prevention of reinfection. Pretreatment assessment to facilitate decision making regarding the treatment strategy and to determine the need for initiating additional measures for the management of cirrhosis (e.g., hepatocellular carcinoma screening) is recommended in all patients.

During treatment, routine laboratory monitoring of hepatic function or inflammation is not indicated in persons without advanced liver disease. Because of drug-drug interactions between warfarin and direct-acting antiviral therapy, periodic INR should be assessed for patients on warfarin in order to

evaluate for subtherapeutic anticoagulation. Drug-drug interactions of direct-acting antiviral therapy and medications used to treat type 2 diabetes can lead to hypoglycemia. Thus, persons on oral diabetes medications should be counseled about the potential for this interaction. No other laboratory studies are required for monitoring.

HCV quantitative RNA should be assessed 12 to 24 weeks after the conclusion of the recommended course of therapy. Persons with sustained virological response at 12 weeks or greater have less than 1% chance of re-emergence of the original infection. They can, however, become re-infected if high-risk practices are continued or re-initiated.

Achieving and maintaining SVR has positive effects on both hepatic and extrahepatic manifestations of HCV infection. These improvements include fibrosis regression, reduction in portal hypertension, reduction in the incidence of hepatocellular carcinoma, reduced incidence of myocardial infarction, reduced incidence of stroke, lower rate of insulin resistance and type 2 diabetes, improved quality of life, and lower all-cause mortality rate [116].

Even in compliant patients, treatment failures can occur. Factors that correlate with treatment failure include degree of fibrosis; the presence of advanced fibrosis in genotype 3 is particularly prone to treatment failure. Other factors that can affect treatment success include age older than 55 years, male sex, and Hispanic or Black ethnicity/race. Fortunately, prior treatment with interferon-based regimens does not usually prevent achieving SVR with direct-acting antiviral therapy. However, prior incomplete or inconsistent treatment with direct-acting antiviral therapy can lead to medication-resistant infection and treatment failure [117]. Patients who experience treatment failure should be referred to a specialist for re-treatment. Monitoring of liver function should be continued by the specialist or primary care provider at least every six months until retreatment is initiated [115].

As noted, infants who are noted perinatally exposed to HCV should have HCV RNA testing at 2 to 6 months of age. Repeat HCV RNA testing, with genotype determination, should be performed when the child is 3 years of age. If viremia remains and genotype 1, 4, 5, or 6 is identified, a weight-based course of ledipasvir-sofosbuvir can be initiated, with an expected SVR in 98% of children. For children with genotype 1-6 and no evidence of fibrosis level 3 or 4, treatment with a weight-based dose of either sofosbuvir-velpatasvir or glecaprevir-pibrentasvir can be accomplished. After successful treatment with any of these three regimens, liver damage caused by HCV usually resolves and these children show no evidence or residual effects [115; 118].

For patients with cirrhosis secondary to chronic HCV or HBV infection that has gone untreated or failed therapy, liver transplantation may be indicated. Replacing the liver, however, does not cure the infection. The transplanted liver will also become infected, and immunosuppressive agents facilitate the progres-

sion of this infection. At present, chronic viral hepatitis is the most common diagnosis of persons receiving liver transplants in the United States [104].

### **Preventive Measures**

There is no vaccine to prevent hepatitis C. The best way to prevent hepatitis C is by avoiding behaviors that can spread the disease, especially injecting drugs with non-sterile injection equipment. Hepatitis C can spread when a person comes into contact with blood from an infected person. Injecting drugs is the most common way HCV is transmitted in the United States. For people who inject drugs, community-based prevention programs, such as medication-assisted treatment and syringe services programs, can reduce the transmission of HCV.

Although the risk of sexual transmission of HCV is considered to be low, avoiding unprotected sexual exposure by using condoms has been shown to reduce the chance of sexually transmitted infections.

### **Hepatitis D**

HDV is an RNA virus, the core of which is distinctively different from other viruses. However, due to a defect in replication, HDV is unable to synthesize a viral coat. It must borrow a coat from HBV in order to complete the replication process. Therefore, HDV cannot cause infection independently but instead must exist as a coinfection (acquired at the same time as HBV) or a superinfection (HDV acquired in a patient who is chronically infected with HBV). In the United States, the infection primarily occurs as a coinfection among intravenous drug users. In some areas of the world in which chronic HBV infection is endemic (including the Amazon Basin of South America, China, and Southeast Asia), HDV is more commonly a superinfection [119; 120].

Patients coinfecting with HBV and HDV tend to have a more severe case of acute hepatitis. The mortality rate in coinfection has been reported to be as high as 20%. Superinfection with HDV results in rapid progression of cirrhosis, with 70% to 80% of coinfecting individuals showing signs of liver failure, compared to 15% to 30% of patients with chronic HBV and no cirrhosis [121]. Prevention of HDV is accomplished through the same means as prevention of hepatitis B. A 12-month course of peginterferon alfa-2a is the recommended treatment for patients with elevated HDV-RNA levels and ALT elevation [96]. Nearly 25% of patients involved in an efficacy study of peginterferon alfa-2a treatment showed sustained clearance of HDV RNA over 48 weeks [122]. Given the limited efficacy of current therapies, it is reasonable to refer patients to specialized centers that offer access to experimental therapies for HDV [96]. Immunization against hepatitis B is effective prevention of HDV also because if the individual is immune to HBV, he/she cannot become infected with HDV. Avoidance of bloodborne pathogen exposure through observance of Standard Precautions is a primary mechanism of prevention for persons already chronically infected with HBV.



## Hepatitis E

Like hepatitis A, hepatitis E virus is spread through the fecal-oral route, and like HAV, HEV was also first identified via electron microscope examination of stools of infected patients. HEV has been associated with outbreaks in India, Burma, Pakistan, Russia, China, northern and central Africa, Peru, and Mexico. Outbreaks are usually associated with a contaminated water supply. No outbreaks have occurred in the United States or Western Europe, though individual cases have been identified in persons who have recently traveled to areas in which the virus is endemic [119; 123].

HEV most often affects young adults. The incubation period is two to nine weeks, with an average of six weeks. Signs and symptoms are similar to HAV, but with a higher incidence of jaundice, which can be prolonged. The disease is self-limited in the majority of patients. The fatality rate in acute HEV is between 1% and 2%, except in pregnant women. In pregnant women with HEV infection, mortality can reach as high as 30% [123]. No cases of chronic liver disease associated with HEV have been reported.

The treatment of HEV is nonspecific and is directed toward supportive care. Because the incidence of HEV is low and most cases resolve without negative sequelae, the development of a vaccine against HEV has not been a priority for pharmaceutical companies or national and international health agencies. Primary preventive strategies, therefore, concentrate on improved sanitation [123; 124].

## AUTOIMMUNE HEPATITIS

Autoimmune hepatitis is a severe type of chronic hepatitis that is associated with interface hepatitis, circulating autoantibodies, and hypergammaglobulinaemia. Although the disorder is usually seen in young women, it can occur in either sex at any age.

Clinical and laboratory observations have led to the hypothesis that autoimmune hepatitis is a multifactorial disorder, with genetic and environmental factors playing important roles. Most knowledge of the genetics of the disease comes from the human leukocyte antigen (HLA), located on the short arm of chromosome 6. The environmental agents assumed to induce autoimmune hepatitis have not been delineated but include viruses and chemical agents [126; 127].

Two distinct types of autoimmune hepatitis have been identified. Type 1 autoimmune hepatitis, the most common form of the disease, is characterized by increased levels of anti-smooth muscle and antinuclear autoantibodies. Approximately 78% of cases occur in women, and 38% of patients with autoimmune hepatitis also have other autoimmune diseases. Susceptibility to type 1 autoimmune hepatitis resides mainly with the *HLA-DRBI* gene.

Type 2 autoimmune hepatitis occurs mainly in children 2 to 14 years of age and is characterized by the presence of antibody to liver and kidney microsomes and liver cytosol. The disorder is often accompanied by other autoimmune disorders, especially type 1 diabetes, vitiligo, and thyroiditis. The genetic component for this type of autoimmune hepatitis is less well defined [126; 127].

## Clinical Manifestations

Clinical manifestations of the disorder covers a spectrum that extends from no apparent symptoms to signs of inflammatory liver disease or cirrhosis. Physical examination may reveal no abnormalities but may also reveal hepatomegaly, splenomegaly, jaundice, and signs and symptoms of chronic liver disease. In asymptomatic cases, the disorder may be discovered when abdominal serum enzyme levels are identified during performance of routine screening tests [126; 127].

## Diagnosis and Treatment

The differential diagnosis of autoimmune hepatitis includes measures to exclude other causes of liver disease, including hepatitis B and C. A characteristic laboratory finding is that of a marked elevation in serum gamma globulins [126; 127].

Corticosteroid and immunosuppressant drugs are the treatments of choice for this type of hepatitis. Although some people remain in remission after drug treatment is withdrawn, most require long-term maintenance therapy. Liver transplantation may be required for those who are refractory to or intolerant of immunosuppressive therapy and in whom end-stage liver disease develops. All hepatotoxic medications should be avoided, even analgesics such as acetaminophen [125; 126; 127].

## CHOLECYSTITIS

Cholecystitis is an inflammation of the gallbladder, and it may be either acute or chronic. An acute inflammation may begin in the mucosal layer as a primary infection. More often, it is superimposed on a chronic infection initially related to cholelithiasis (also known as gallstones). The gallbladder becomes dilated and filled with bile, pus, and blood. Common infective organisms include staphylococci, streptococci, and enteric organisms [128; 129].

## Clinical Manifestations

Major symptoms of cholecystitis are intense pain, tenderness, and rigidity in the right upper quadrant of the abdomen associated with nausea, vomiting, and the usual signs of inflammation. Jaundice and icteric color of the sclera may be present if there is an obstruction. If the gallbladder is filled with frankly purulent matter, the condition is called empyema of the gallbladder. Although chronic cholecystitis may be related to an acute attack, it is almost always associated with cholestasis. Stools may be clay colored due to a stone obstructing flow of bile [128; 129].

### Therapeutic Measures

Laparoscopic cholecystectomy may be indicated after acute inflammation has been relieved by medical intervention. The condition typically resolves following treatment of cholelithiasis [128; 129].

---

## NEOPLASTIC AND OBSTRUCTIVE DISORDERS

---

### CANCER OF THE LIVER

There are two major types of primary liver cancers: hepatocellular carcinoma, which arises from the liver cells, and cholangiocarcinoma, which is a primary cancer of bile duct cells [125].

#### Hepatocellular Carcinoma

Hepatocellular cancer (HCC) accounted for 41,210 new cases of liver cancer in the United States in 2023, making it the most common form of liver cancer. Globally, HCC was identified as the cause for nearly 906,000 new liver cancer cases and 830,000 deaths in 2020 [130]. In recent decades, there has been increased incidence in developed countries as a consequence of chronic HCV infection, and the incidence in the United States has more than tripled since 1980. Although primary tumors of the liver are relatively rare in developed countries of the world, the liver shares with the lung the distinction of being the most common site of metastatic tumor [125].

Among the factors identified as etiologic agents in liver cancer are chronic viral hepatitis (HBV, HCV, HDV), cirrhosis, smoking, heavy alcohol consumption, obesity, and long-term exposure to environmental agents (e.g., aflatoxin). The exact pathogenesis is unclear. With HBV and HCV, both of which become integrated into the host DNA, repeated cycles of cell death and regeneration afford the potential for development of cancer-producing mutations. Aflatoxin, produced by food spoilage molds (e.g., *Aspergillus flavus* and *Aspergillus parasiticus*), is a known human carcinogen and is endemic in certain areas. A particularly susceptible site for aflatoxin mutation is the *TP53* tumor suppressor gene [125].

#### Clinical Manifestations and Diagnosis

The manifestations of HCC often are insidious in onset and masked by those related to cirrhosis or chronic hepatitis. The initial signs and symptoms include weakness, anorexia, weight loss, fatigue abdominal swelling, a sensation of abdominal fullness, and a dull, aching abdominal pain. Ascites, which can obscure weight loss, is common. Jaundice, if present, usually is mild. There may be a rapid increase in liver size and worsening of ascites in people with pre-existing cirrhosis. Usually, the liver is enlarged when these symptoms appear. Various paraneoplastic syndromes (disturbances due to ectopic hormone or growth factor productions by the tumor) have been associated with hepatocellular cancer, including erythrocytosis, hypoglycemia, and hypercalcemia. Serum  $\alpha$ -fetoprotein is present during fetal life but barely detectable in the serum after 2 years of age.

When high levels of  $\alpha$ -fetoprotein are found in adults, it is usually indicative of hepatocellular carcinoma, although not all primary liver cancers produce  $\alpha$ -fetoprotein.

Additional imaging, such as ultrasonography, computed tomography (CT) scan, and magnetic resonance imaging (MRI), are recommended for diagnosis. Liver biopsy may be used to confirm the diagnosis [131; 132; 133; 134]. Genetic testing can reveal susceptibility

#### Treatment

There is no agreement on a single treatment strategy for patients with HCC. Selection of treatment is complex due to several factors, including [135]:

- Underlying liver function
- Extent and location of the tumor
- General condition of the patient

Several treatments for HCC are associated with long-term survival, including surgical resection, liver transplant, and ablation. There are no large, robust, randomized studies that compare treatments considered effective for early-stage disease, nor are there studies comparing these treatments with best supportive care. Often, patients with HCC are evaluated by a multidisciplinary team that includes hepatologists, radiologists, interventional radiologists, radiation oncologists, transplant surgeons, surgical oncologists, pathologists, and medical oncologists.

Best survival rates are achieved when the HCC can be removed either by surgical resection or liver transplant. Surgical resection is usually performed in patients with localized HCC and enough functional hepatic reserve. For patients with decompensated cirrhosis and a solitary lesion (<5 cm) or early multifocal disease (up to three lesions,  $\leq 3$  cm in diameter), the best option is liver transplant, but the limited availability of liver donors restricts the use of this approach.

Transarterial chemoembolization, multikinase inhibitors, and immunotherapy are noncurative treatments for HCC that improve survival. For patients with recurrent disease with metastases and/or vascular involvement, palliative therapy is the most appropriate approach [135].

#### Cholangiocarcinoma

Cholangiocarcinoma, with an incidence of 1.6 per 100,000 in North America, occurs much less frequently than hepatocellular carcinoma [136]. The etiology, clinical features, and prognosis vary considerably with the part of the biliary tree that is the site of origin. Distal and perihilar bile duct cancers frequently cause biliary tract obstruction, leading to the following symptoms [137]:

- Jaundice
- Weight loss
- Abdominal pain
- Fever
- Pruritus

Intrahepatic bile duct cancer may be relatively indolent and difficult to differentiate clinically from metastatic adenocarcinoma deposits in the liver.

Cholangiocarcinoma is not associated with the same risk factors as hepatocellular carcinoma. Instead, most of the risk factors revolve around long-standing inflammation and injury of the bile duct epithelium. Bile duct cancer may occur more frequently in patients with a history of primary sclerosing cholangitis, chronic ulcerative colitis, choledochal cysts, or infections with the liver fluke *Clonorchis sinensis* [137].

### Treatment

The treatment of bile duct cancer depends primarily on whether the cancer can be completely removed by surgery. Localized intrahepatic and extrahepatic bile duct cancer may be completely resected. However, these tumors represent a very small number of cases that are usually in the distal common bile duct. Among patients treated with surgical resection, long-term prognosis varies depending on primary tumor extent, margin status, lymph node involvement, and additional pathological features [137].

Extended resections of hepatic duct bifurcation tumors (also known as Klatskin or hilar tumors) to include adjacent liver, either by lobectomy or removal of portions of segments 4 and 5 of the liver, may be performed. If major hepatic resection is necessary to achieve a complete resection, postoperative hepatic reserve should be evaluated [137].

Unfortunately, most cases of intrahepatic, distal, and perihilar bile duct cancer are unresectable and cannot be completely removed. Often, the cancer invades directly into the portal vein, the adjacent liver, along the common bile duct, and to adjacent lymph nodes. Portal hypertension may result from invasion of the portal vein. Spread to distant parts of the body is uncommon, but intra-abdominal metastases, particularly peritoneal metastases, do occur. Transperitoneal and hematogenous hepatic metastases also occur with bile duct cancer of all sites. Moreover, most patients who undergo resection will develop recurrent disease within the hepatobiliary system or, less frequently, at distant sites.

In locally advanced disease, trials have evaluated chemoradiotherapy with the goal of improved local control and potential downstaging for surgical resection [137]. These approaches have not been compared with standard therapy, and the curative potential is unknown. For patients with unresectable bile duct cancer, management is directed at palliation.

### Metastatic Tumors

Metastatic tumors of the liver are much more common than primary tumors. Common sources include colorectal cancer and those spread from breast, colon, lung, or urogenital cancer. In addition, tumors of neuroendocrine origin can spread to the liver. It often is difficult to distinguish primary from metastatic tumors with the use of CT scans, MRI, or ultrasonography. The diagnosis may be confirmed by biopsy [132; 133].

## CANCER OF THE GALLBLADDER

Cancer of the gallbladder is rare. In 2024, there will be an estimated 12,350 new cases diagnosed and 4,530 deaths [138]. Malignant tumors are usually columnar cell carcinomas that cause symptoms of inflammation and obstruction. In part because of its rarity, biliary carcinoma may be overlooked or confused with cholelithiasis [139; 140]. The most common symptoms caused by gallbladder cancer are jaundice, pain, and fever.

### Treatment

Patients with stage I disease have cancer confined to the gallbladder wall that can be completely resected. Patients with stage I tumors that are discovered incidentally and resected during routine cholecystectomy have five-year survival rates of nearly 100% [138]. Previously unsuspected gallbladder cancer that is incidentally discovered in the mucosa of the gallbladder during pathological examination is curable in more than 80% of patients. However, symptomatic gallbladder cancer that is suspected prior to surgery often penetrates the muscularis and serosa. This type of gallbladder cancer is curable in less than 5% of patients [138].

Treatment options for localized and locally advanced gallbladder cancer include [138]:

- Surgery
- External-beam radiation therapy (EBRT)
- Clinical trials exploring the use of radiation therapy and radiosensitizer drugs to improve local control

During laparoscopic removal of an unsuspected cancer, implantation of carcinoma at all port sites (including the camera site) is possible. All port sites are typically excised completely, even for stage I cancers.

Patients with T2 (tumor invades the perimuscular connective tissue on the peritoneal or hepatic side) or T3 (tumor perforates the serosa and/or directly invades the liver and/or one other adjacent organ or structure) disease have higher rates of unsuspected invasive disease at the time of diagnosis [138]. Eligible patients may undergo re-exploration to resect liver tissue near the gallbladder bed, portal lymph nodes, and lymphatic tissue in the hepatoduodenal ligament. Retrospective analyses suggest that extended re-resection can delay recurrences and potentially improve survival [138].

For patients with locoregional lymph node involvement (at the cystic duct, common bile duct, hepatic artery, and portal vein), long-term disease-free survival can occasionally be achieved with radical resection. In patients with jaundice, preoperative percutaneous transhepatic biliary drainage for relief of biliary obstruction should be considered [138].

Surgery with curative intent is not considered possible in patients with metastatic spread beyond the locoregional lymph nodes or to distant organs [138].

The use of EBRT with or without chemotherapy as a primary treatment has been reported to produce short-term disease control in small groups of patients. Similar benefits have been reported for radiation therapy, with or without chemotherapy, administered after resection [138]. However, there is limited evidence supporting the use of adjuvant radiation therapy, even for patients with high-risk localized disease [138].

### CHOLELITHIASIS

Cholelithiasis, the formation of gallstones, can lead to obstruction of the bile ducts associated with obstructive icterus and severe, colicky pain. An estimated 20 million Americans have cholelithiasis, and almost 1 million new cases are diagnosed each year [129; 139; 140; 141].

Several predisposing factors are related to development of cholelithiasis [129; 139; 140; 141]. Women are affected four times as frequently as men, and taking oral contraceptives are twice as likely as other women to develop gallstones. Further, multigravidas women are more likely to develop the condition than those who have not been pregnant. Persons older than 40 years of age are affected more often than younger persons. High fat intake and cholesterol saturation of bile are considered predisposing factors, and obesity and diabetes are associated with increased risk of gallstone formation. Persons who have had extensive bowel resections (as for Crohn disease) have a threefold to fivefold higher incidence of cholelithiasis, possibly because recirculation of bile salts is interrupted.

Cholesterol saturating of bile appears to be a major factor in development of gallstones. The underlying cause may be dysfunction of the hepatic cells where bile is synthesized. Bile salts precipitate from supersaturated bile, forming nuclei for accretion of layers of cholesterol, calcium, and bilirubin to form calculi within the gallbladder.

Gallstones are classified as either cholesterol or pigment stones. Cholesterol stones are usually of mixed composition and contain more than 70% cholesterol plus calcium salts, bile pigments, fatty acids, and proteins. There is a high incidence of cholesterol stones in North America. Pigment stones are primarily calcium and bilirubin and contain less than 10% cholesterol. Pigment stones are less common in North America but have a high prevalence in Japan [139; 140; 141; 142].

### Clinical Manifestations

Calculi formed in the gallbladder may move into the cystic duct, the common bile duct, or even into the liver via the hepatic ducts. Calculus obstruction of the pancreatic duct may cause pancreatitis [141; 143].

The most common symptom of cholelithiasis is colicky pain believed to be related to spasms of the sphincter of Oddi. Pain may also be related to obstruction and distention of a bile duct. Usually, the pain is felt in the epigastrium or the right upper quadrants of the abdomen, but it may radiate up the back between the scapulae to the right shoulder or around the abdomen to the back, making it difficult for the patient

to assume a comfortable position. Some patients will report laying in the supine position often worsens the discomfort. Biliary colic may occur at varying intervals following meals or may wake the patient from sleep. Usually, symptoms occur at progressively shorter intervals after ingestion of almost any food. Occasionally, however, a single pain episode will never be repeated [129; 139; 140; 141].

In addition to the characteristic pain, nausea and vomiting are common, as is elevated temperature. Distention of the bile ducts stimulates the vomiting center. If the common bile duct is obstructed by a calculus, greenish-yellow jaundice develops. Pruritus often develops before the jaundice is visible in the sclera. Icterus is accompanied by pale stools and dark, frothy urine. Ecchymoses may be evident [139; 140; 141].

Laboratory and diagnostic studies assist in confirming the diagnosis. White blood cell levels, direct bilirubin levels, prothrombin time, alkaline phosphatase, and serum lipid levels will be elevated. Urine urobilinogen levels will decrease, but bilirubin will be found in the urine. Abdominal ultrasound and increased alkaline phosphatase (ALP) levels can help establish a diagnosis of cholelithiasis. Cholecystography, cholangiography, or endoscopic retrograde cholangiopancreatography (ERCP) may be required [139; 140; 141].

### Therapeutic Measures

If symptoms are mild, a low-fat diet may be sufficient to control them. The diet would be high in proteins and carbohydrates [144]. Depending on the patient's nutritional status, intravenous glucose and protein supplementation may be indicated. A nutritious diet promotes healing and helps prevent hepatic damage. Vitamin K may be required if coagulation abnormalities are demonstrated [145].

For acute attacks, treatment often includes medications such as butylscopolamine, flropipione, and nonsteroidal anti-inflammatory drugs (NSAIDs). For patients at risk for the development or exacerbation of cholelithiasis, oral ursodeoxycholic acid (UDCA) is recommended for prophylaxis [146].

There are a variety of options for minimally invasive management. Extracorporeal shock wave lithotripsy (ESWL) and oral chemical dissolution therapy were previously used, but both have largely been replaced in recent years. Both techniques are rarely used in clinical practice in recent years.

Today, many patients with recurrent and/or severe disease undergo ERCP with or without stent placement. If surgical Management is indicated, the preferred approach is laparoscopic cholecystectomy [146].

### Specific Nursing Measures

In addition to comfort measures and administering analgesics and other prescribed medications, nurses can consult with the dietitian and the patient to work out a palatable low-fat diet. The patient may find a list of preferred, appropriate foods useful [59].

## LIVER TRANSPLANTATION

Liver transplantation, one of the most common types of solid organ transplant, is the replacement of the diseased liver by an allograft from a brain-dead donor or a partial replacement of the liver by a living related donor. Dr. T.E. Starzl and associates at the University of Colorado pioneered this treatment modality in the early 1960s. By the end of the decade, surgeons in Pennsylvania and England were performing the procedure. By the beginning of the 21st century, liver transplantation had been performed at dozens of medical centers in the United States, Canada, and Western Europe. Although survival rates in the early programs were only 30%, improvements in technique and timing of the transplant have now brought the one-year survival rate to approximately 90% and the five-year survival rate to approximately 75% [147].

Children and adults who have irreversible liver disease or defects that cannot be overcome or managed by medical options are candidates for liver transplants. In children, the most common reasons for liver transplantation include biliary atresia, neonatal hepatitis, congenital hepatic fibrosis, alpha 1-antitrypsin deficiency, and disorders of metabolism that result in inappropriate storage within the liver or significant liver damage from the buildup of metabolites. The most common diseases necessitating liver transplantation in adults are chronic viral hepatitis (HCV in the United States, HBV in Europe), biliary cirrhosis, alcoholic cirrhosis, sclerosing cholangitis, cryptogenic cirrhosis, Caroli disease, primary hepatocellular malignancies, hepatic adenomas, and hepatic vein thrombosis [148; 149]. Biliary atresia remains a common indication for liver transplantation in pediatric patients [150].

The Model for End-Stage Liver Disease (MELD) is a prognostic system that is now widely accepted as a tool for predicting survival of patients with cirrhosis. MELD, in conjunction with international normalized ratio, serum creatinine, serum bilirubin, and sodium, has been evaluated as a prognostic indicator for cirrhosis regardless of cause. Transplant centers utilize the MELD score in prioritizing clients for transplant [147; 151]. The Pediatric End-Stage Liver Disease (PELD) is used for children younger than 12 years of age [147].

Though patients may have a disease process that is an indication for liver transplant, the presence of compounding factors may provide a contraindication for the therapy. At one time, HIV disease was considered a contraindication for liver transplant. While patients with advanced HIV disease are not transplant candidates, HIV disease that is in an early stage or is controlled by antiretroviral therapy is no longer a contraindication for transplantation therapy. Similarly, persons older than 60 years of age were at one time excluded from this therapy, but persons older than 60 years of age who are healthy other than their liver disease can now be considered for candidacy. Active drug or alcohol use, metastatic cancer, uncontrolled bacterial or fungal infections, advanced cardiac

or lung disease, and uncorrectable life-threatening congenital anomalies remain contraindications for liver transplantation.

Relative contraindications for liver transplantation are those factors that in isolation would not preclude a patient from receiving a transplant but in combination might decrease the probability that the patient would be approved. Examples of relative contraindications include chronic HBV with rapidly replicating virus, significant psychiatric disorder that may interfere with the patient's ability to follow the post-transplant regimen, significant renal disease not associated with the hepatic disease, and previous hepatic or biliary surgery [149].

Historically, donor organs have been obtained from cadavers. In 1998, the use of living related donors became an option in certain cases [152; 153]. Partial liver transplantation from living related donors results in a 20% morbidity rate for the donor. Therefore, cadaveric transplant remains the procedure of choice. The following discussion addresses only cadaveric transplants.

In 2020, the Organ Procurement and Transplantation Network implemented a new liver distribution system called the acuity circle policy, which emphasizes the medical urgency of liver transplant candidates and the distance between the donor and transplant hospitals. The new system replaces the use of decades-old geographic boundaries of 58 donation service areas and 11 transplant regions [154]. Under the new policy, livers from all deceased donors will first be offered to the most urgent liver transplant candidates listed at transplant hospitals within a radius of 500 nautical miles of the donor hospital. Following offers to the most urgent candidates, livers from adult donors will be offered to candidates at hospitals within distances of 150, 250, and 500 nautical miles of the donor hospital. These offers are grouped by medical urgency [147].

Donor livers are usually obtained from brain-dead persons younger than 60 years of age who are free from bloodborne pathogen infections (HCV, HBV, HIV), are not septic, have no existing liver disease, and have not recently experienced abdominal trauma. Some centers consider the use of livers from HBV- or HCV-infected donors for recipients infected with the same strain or subspecies of virus [155]. When donor livers are infected but not yet showing signs of cirrhosis, preliminary results indicate that recipient outcomes are not significantly different from those receiving uninfected livers.

Donor and recipient should have compatible body size and A, B, O blood groups. Unlike kidney transplants, however, donor and recipient do not have to have matching tissue types. The liver is viable for up to 20 hours after removal from the donor, but most centers prefer for the transplant surgery to be completed within 12 hours after organ harvest.

Liver transplantation surgery typically requires a procedure of 6 to 12 hours in duration; in more complex circumstances, the surgery has lasted up to 18 hours. During the procedure, the patient is at risk for coagulopathies, electrolyte disturbances, hypoglycemia, and a large volume of blood loss.

Various combinations of immunosuppressive drugs (monoclonal and polyclonal antibodies) have been used to reduce the probability of post-transplant rejection. It is desirable to try to prevent or minimize the adverse effects of these drugs, including infections, malignancy, and general drug toxicity. In the immediate post-transplant period, a common drug regimen includes a combination of a monoclonal antibody, mycophenolate mofetil, corticosteroids, and a calcineurin inhibitor such as cyclosporine or tacrolimus [148]. According to Hanto, the addition of an anti-IL-2 receptor monoclonal antibody (basiliximab or daclizumab) can result in a decrease in rejection rate from 43.5% to 35.1% [156]. Sirolimus is a newer drug that appears to be useful, especially in patients with renal insufficiency.

Chronic suppressive therapy is usually accomplished with tacrolimus and mycophenolate mofetil. Steroids are weaned within a few weeks of transplantation, except in the presence of autoimmune hepatitis. Liver transplant recipients require lower doses of immunosuppressive therapy than patients receiving other solid organ transplants. Nevertheless, providers should be attentive to drug-drug interactions and therapeutic monitoring of these medications [157].

The process of rejection is insidious in the majority of liver transplantation cases; hyperacute rejection rarely occurs. Most episodes of acute rejection occur within the first six months after the transplant (usually between three and six months) but can be reversed with steroids. In approximately 10% to 20% of patients, steroid resistance occurs, requiring treatment with a monoclonal antibody, such as muromonab-CD3, or a polyclonal antibody, such as thymoglobulin [156]. Acute rejection episodes seldom threaten graft survival. Patient survival rates are 84% with living-donor grafts and 83% with deceased-donor grafts at one year and 34% with living-donor grafts and 46% with deceased-donor grafts at five years [157].

---

## CONCLUSION

---

With knowledge of hepatic and biliary structure and function and the dynamic pathology that intrudes and impedes normal function, nurses are better able to provide quality and often life-saving actions. An awareness of why symptoms appear leads to quicker reporting of changes in the patient's condition. Nurses should also be prepared to perform immediate interventions based on standing orders and the recognition of what needs to be done in order to provide safe, quality care. This knowledge changes what could be only technical care to professional care through use of decision making skills built upon the knowledge of pathophysiology.

---

## CASE STUDIES

---

### CASE ONE: ESOPHAGEAL VARICES

#### Present Illness

Patient A is a man, 60 years of age, who is admitted to the hospital for treatment of acute gastrointestinal bleeding. The patient had a similar episode five weeks ago. An upper endoscopic exam at that time revealed a bleeding esophageal varix for which he received band ligation therapy. He is well-known to the medical community for chronic alcohol use. He has lost several jobs for drinking in the workplace or showing up for work drunk. He has lost his driver's license for drunk driving, and his drinking has placed a significant strain on his marriage. He and his wife are currently separated. He has tried several self-help programs to stop drinking as well as Alcoholics Anonymous, all with little success.

#### Medical History

Patient A has been hospitalized five times during the previous 30 months. Most recently, he was discharged five weeks ago following treatment for bleeding esophageal varices. He has a 44-year history of cigarette smoking (one pack per day), was diagnosed five years ago with alcoholic cirrhosis, and currently drinks an unknown amount of liquor daily. He previously reported drinking 6 to 12 beers per day for many years.

On previous admissions, Patient A has been treated for acute pancreatitis twice, alcohol withdrawal seizures, delirium tremens, ascites, coagulopathy, esophageal varices, peptic ulcer disease, anemia, and gastritis, all of which were determined to be related to his alcohol use. Medications at last discharge included:

- Lactulose (30 mL four times per day)
- Spironolactone (100 mg per day)
- Furosemide (80 mg per day)
- Propranolol (30 mg per day)
- Famotidine (40 mg twice per day)

#### Assessment and Diagnosis

Patient A was found unconscious and face down in a pool of bright red, bloody vomitus by his neighbor. He is resuscitated and taken to the hospital by ambulance and is admitted to the intensive care unit (ICU). Upon admittance to the ICU, a full physical exam is conducted (**Table 1**) and laboratory blood testing is ordered (**Table 2**). Intravenous infusion with a solution of D5W and colloid is started through a central line. Oxygen is started at 3 L/min. Octreotide is administered to help stop the bleeding. An echocardiogram is conducted.

Based on the results of the assessment, Patient A is diagnosed with acute alcohol-related pancreatitis.

PATIENT A'S PHYSICAL EXAM RESULTS	
Parameter	Findings
General appearance	Thin, unkempt White man Height: 5 feet 10 inches (177.8 cm) Weight: 151 pounds (68.5 kg)
Skin	Markedly jaundiced Spider angiomas evident on arms Normal turgor No palmar erythema
Head and eyes	Icteric sclera Pupils are equal, round, and reactive to light and accommodation Extra-ocular motion intact Oropharynx dry, with no erythema or lesions present
Ears	Tympanic membranes intact
Neck	Supple with no nodules Negative for jugular vein distention, thyromegaly, and lymphadenopathy
Chest	Good air exchange bilaterally
Abdomen	Soft, with mild distension and hyperactive bowel sounds Splenomegaly Negative for guarding or rebound tenderness
Extremities	Warm with mild (1+) edema Pulses symmetric at 2+ Muscle tone normal Full range of motion throughout
Genitourinary system	Normal male Stool positive for heme
Neurologic status	Alert and oriented Slow to answer questions Cranial nerves II–XII intact Deep tendon reflexes brisk and equal bilaterally
Cardiovascular system	Tachycardia with normal rhythm Normal S1 and S2 with no additional heart sounds No murmurs or rubs heard Normal sinus rhythm
<b>Vital Signs</b>	
Blood pressure	90/60 mm Hg
Temperature	98.0° F
Heart rate	112 bpm with regular irregular rhythm
Respiratory rate	14 breaths per minute
Source: Author	Table 1

### Study Questions

- Explain the pathophysiology of each of the following clinical manifestations in this patient.
  - Spider angiomas
  - Splenomegaly
  - Edema
  - Jaundice and icteric sclera
- Why has the primary care provider noted the absence of asterixis?
  - What is the significance of the renal test results?
  - What is the significance of the liver enzyme test results?
  - What are the pathophysiology and significance of the total and indirect bilirubin test results?
  - Is blood clotting a concern at this time in this patient?
  - Why might hemoglobin concentration and hematocrit be abnormal?
  - Does this patient have an arterial blood gas problem?

PATIENT A LABORATORY BLOOD TEST RESULTS	
Test	Result
Blood type	B+
Sodium	135 meq/L
Potassium	4.6 meq/L
Chloride	103 meq/L
Bicarbonate	22 meq/L
Blood urea nitrogen (BUN)	10 mg/dL
Creatinine	1.1 mg/dL
Fasting blood glucose	140 mg/dL
Hemoglobin	9.4 g/dL
International normalized ratio (INR)	2.3
Hematocrit	28%
White blood cell count	10,000/mm <sup>3</sup>
Platelets	160,000/mm <sup>3</sup>
Total bilirubin	10.4 mg/dL
Indirect bilirubin	9.9 mg/dL
Amylase	43 IU/L
PaO <sub>2</sub>	85 mm Hg
PaCO <sub>2</sub>	245 mm Hg
pH	7.38
NH <sub>3</sub>	59 mcg/dL
Prothrombin time (PT)	23 seconds
Partial thromboplastin time (PTT)	54 seconds
Aspartate transaminase (AST)	119 IU/L
Alanine transaminase (ALT)	94 IU/L
Total protein	4.9 g/dL
Albumin	2.9 g/dL
Calcium	8.9 mg/dL
Phosphorus	2.8 mg/dL
HIV RNA	Negative
Source: Author	Table 2

- Give a reasonable explanation for the pathophysiology of the patient's blood glucose concentration.
- What evidence is provided that this episode is not associated with another attack of alcohol-induced acute pancreatitis?
- What is the purpose of prescribing lactulose for patients with chronic liver disease?
- Why are diuretics appropriate for patients with chronic hepatic disease?

## CASE STUDY TWO: CIRRHOSIS

### Present Illness

Patient B is a woman, 48 years of age, who presents to the emergency department complaining of a four-week history of progressive abdominal swelling and discomfort. She has no other gastrointestinal symptoms and has a normal appetite and normal bowel habits. Her past medical history is significant only for three pregnancies, one of which was complicated by hemorrhage, requiring a blood transfusion. She has been married for 20 years, exercises, does not smoke, and drinks only occasionally. On pointed questioning, she admits that she was



“wild” in her youth and did use cocaine once or twice at parties many years ago. She does not currently use illicit drugs. She tested HIV-negative at the time of the birth of her last child.

On examination, her temperature is 100.3 degrees F, her heart rate is 88 bpm, and her blood pressure is 94/60 mm Hg. She is thin, her complexion is sallow, her sclerae are icteric, her chest is clear, and her heart is regular with no murmur. Her abdomen is distended and with mild diffuse tenderness, hypoactive bowel sounds, shifting dullness to percussion, and a fluid wave. She has no peripheral edema. Laboratory studies are normal except for the following:

- Sodium: 120 mEq/L
- Albumin: 2.8 mg/dL
- Total bilirubin: 4 mg/dL
- Prothrombin time: 15 seconds
- Hemoglobin: 12 g/dL, with a mean cell volume (MCV) of 102 fL
- Platelet count: 78,000/mm<sup>3</sup>

Patient B is diagnosed with ascites caused by portal hypertension as a complication of hepatic cirrhosis. Paracentesis is performed to evaluate the ascitic fluid to try to determine its likely etiology, as well as evaluate for the complication of spontaneous bacterial peritonitis.

### CASE STUDY THREE: JAUNDICE

#### Present Illness

Patient C is a Black man, 33 years of age, who presents to the office for an acute visit with nausea and diarrhea that he has had for the past week. Along with these symptoms, he has had a low-grade fever, some right upper quadrant abdominal pain, and has noticed that his eyes seem yellow.

#### Medical History

Patient C has no significant medical history and takes no medications regularly. He denies alcohol, tobacco, or IV drug use. He works as a pastor in a local church that went on a mission to build a medical clinic in a rural area of Central America about five weeks ago. While there, he had a mild case of diarrhea, but otherwise has felt well.

#### Assessment and Diagnosis

On examination, Patient C is a well-developed man who appears to be moderately ill. His temperature is 99.8°F, his blood pressure is 110/80 mm Hg, his pulse is 90 beats/minute, and his respiratory rate is 14 breaths/minute. He has a prominent yellow color to his eyes and under his tongue. His mucous membranes are moist. Lung and cardiac examinations are normal. His abdomen has normal bowel sounds and tenderness in the right upper quadrant. His liver edge is palpable just below the costal margin. There are no other masses felt, no rebound, and no guarding. On rectal examination, he has clay-colored soft stool that is hemoccult negative.

Based on the examination and history, Patient C is diagnosed with jaundice, likely related to acute hepatitis A infection. Anti-hepatitis A IgM testing confirms infection. The most probable source of infection is ingestion of contaminated food or water while on his mission.

For this patient, treatment focuses on supportive care and palliation of symptoms. The infection is also reported to the local health department. Close household or sexual contacts are provided with hepatitis A prophylaxis.

### CASE STUDY FOUR: CHRONIC HEPATITIS C

Patient D is a paramedic, 48 years of age. Laboratory work obtained during his annual physical examination reveals hyperlipidemia; complete blood count, glucose, blood urea nitrogen (BUN), and electrolytes are within normal range. With the exception of his weight (15 pounds heavier than indicated for his height), his exam identifies no abnormalities.

After two months of a diet and exercise program, his cholesterol level is 256. Therefore, his physician elects to begin a lipid-lowering agent. A baseline liver profile is drawn prior to initiation of the medication. Because the patient is in a profession that is high-risk for bloodborne pathogen exposure, an HCV antibody test with reflex to qualitative HCV RNA is ordered. The liver profile reveals an AST of 226 Units/L and an ALT of 282 Units/L. HCV antibody and reflex quantitative HCV RNA are both positive.

The physician reviews Patient D’s history and medications. He has been a paramedic for 25 years. He was immunized against HBV in 1999. During his career, he has experienced several exposures to blood (usually blood splashes, but also two needlesticks from IV needles). His most recent exposure was two years ago. An HIV test six months post-exposure was negative. He does not recall hepatitis testing being performed at that time.

Patient D’s surgical history includes a hernia repair in childhood and removal of skin lesions three times in the past eight years. He has had no transfusions. He is the widowed father of two teenage children. His wife died six years ago from ovarian cancer.

The patient has never smoked. He drinks about six beers per week and rarely drinks hard liquor. He denies any history of illicit drug use. Although the patient has no current prescription medications, he uses several herbal preparations including garlic, ginkgo, and an antioxidant preparation. The patient takes ibuprofen for pain, consuming 6 to 10 tablets (200 mg each) per month.

Although alcohol consumption and herbal antioxidants can both cause liver inflammation, the degree of his liver inflammation is much higher than would be expected from limited use of these two factors. The patient is diagnosed with chronic HCV infection.

In order to evaluate the extent of liver damage and determine an appropriate treatment plan, the physician orders an HCV RNA quantitative PCR and genotype as well as a repeat hepatic panel, platelet count, and PT. Shear wave elastography is also ordered. The laboratory results are:

- Platelets:  $237 \times 10^9/L$
- ALT: 253 Units/L
- AST: 214 Units/L
- PT INR: 1.0
- HCV RNA: 350,000 IU/L
- HCV genotype: 3

Based upon these laboratory results, the calculated Fib-4 score is 2.72. The elastography reflects a fibrosis score of F1. No masses are identified on ultrasound. Because the genotype of the virus is 3, resistance testing is ordered. Substitution mutation Y93H is not present.

Treatment options appropriate for HCV genotype 3, and the timing of therapy in relation to his degree of fibrosis and anticipated progression of disease are discussed with Patient D. He is advised to eat a nutritious, balanced diet and abstain completely from alcohol. Although he is not currently sexually active, the patient is educated about the low but present risk of sexual transmission of HCV and how to minimize the risk of transmission. A test for HAV antibody is found to be negative. Immunization against HAV is also recommended, as acquiring an acute case of HAV in a patient with pre-existing chronic hepatitis can be much more serious than either condition alone. He is also provided pneumococcal immunization, as persons with chronic liver disease are at increased risk of pneumococcal infection and complications. Because of uncertainty as to how recently he acquired the infection, the decision is made to defer treatment for three to four months while monitoring the course of the infection.

Four months after the initial diagnosis, there has been no improvement in Patient D's liver function tests: the ALT is 318 Units/L and AST is 287 Units/L. The HCV RNA remains detectable in the blood, and the viral load has increased to 450,000 phages/cc. He is advised to begin antiviral treatment; therapeutic options are discussed in relation to efficacy, potential drug interactions, and cost reimbursement priorities, bearing in mind that he is a treatment-naïve patient with no evidence of cirrhosis. The recommended course of therapy is the 12-week, two-drug oral regimen of sofosbuvir (400 mg) and velpatasvir (100 mg) for a duration of 12 weeks (reported SVR rate: 95% in clinical trials for genotype 3).

On treatment, the patient experiences transient nausea and persistent mild fatigue, but is compliant with the recommended duration of therapy. At 12 weeks, the ALT and AST are both within normal range and HCV RNA is undetectable. Patient D is asked to return in three months to continue his hyperlipidemia treatment follow-up.

### CASE STUDY FIVE: PANCREATITIS – GALLSTONE-INDUCED

#### Present Illness

Patient E is a Hispanic woman, 42 years of age, who presents to the emergency department complaining of 24 hours of severe, steady epigastric abdominal pain, radiating to her back, with several episodes of nausea and vomiting. She has had similar painful episodes in the past, usually in the evening following heavy meals, but they always resolved spontaneously within an hour or two. This time, the pain has not improved, so she is seeking medical attention.

#### Medical History

Patient E has no prior medical history and takes no medications. She is married, has three children, and does not drink alcohol or smoke cigarettes.

#### Assessment and Diagnosis

On examination, Patient E is afebrile. She is experiencing tachycardia, with a heart rate of 104 beats per minute. Her blood pressure is 115/17 mm Hg, and she has shallow respirations of 22 breaths per minute. She is moving uncomfortably on the stretcher, her skin is warm and diaphoretic, and she has scleral icterus. Her abdomen is soft and mildly distended, with marked right upper quadrant and epigastric tenderness to palpation, hypoactive bowel sounds, and no masses or organomegaly appreciated. Her stool is negative for occult blood. Laboratory studies are significant for:

- Total bilirubin: 9.2 g/dL, with a direct fraction of 4.8 g/dL
- Alkaline phosphatase: 285 IU/L
- Aspartate aminotransferase (AST): 78 IU/L
- Alanine aminotransferase (ALT): 92 IU/L
- Amylase: 1,249 IU/L (elevated)
- Leukocyte count:  $16,500/mm^3$ , with 82% polymorphonuclear cells and 16% lymphocytes

Right upper quadrant abdominal ultrasonography shows a distended gallbladder, with several stones.

Based on the assessment, Patient E is diagnosed with acute pancreatitis resulting from choledocholithiasis. The patient is started on systemic antibiotics and prepared for removal of the stones.

### CASE STUDY SIX: HIV AND CHRONIC HBV COINFECTION

Patient C is a man, 32 years of age, with a history of injection drug use, who participated in a free HIV testing day. His screening test was found to be positive. A confirmatory test conducted at the health department was also positive. He has therefore been referred to the Infectious Disease Clinic of a large university medical center for follow up.

During his first visit, the patient indicates that he injected drugs off and on beginning at 19 years of age. His first two experiences with rehabilitation failed, but he has been “clean” for two years, since his best friend died of an overdose. He reports that he also snorted cocaine occasionally during the years he used injected drugs.

The patient’s medical history includes a hospitalization for a motorcycle accident at age 24, with surgery on his right leg both on that admission and again about a year later. He received 2 units of blood during the first admission. The patient denies a history of heart disease, neurologic disorders, or endocrine disorders. He has had pneumonia both in adolescence and again last year.

The patient’s parents are living and in good health. Grandparents all have hypertension, and maternal grandmother has type 2 diabetes. The patient smokes 1/2 to 1 pack of cigarettes per day and consumes two or three drinks per day. The patient’s current medications include acetaminophen or ibuprofen as needed for leg pain and paroxetine for anxiety and depression.

Physical examination reveals no acute distress. Vital signs are within normal limits, and sclerae are non-icteric. Oral cavity is free from thrush and leukoplakia. Cervical lymph nodes are palpable but moveable and nontender. Heart sounds are normal; lungs are clear. Abdomen is soft; both liver and spleen are palpable. Neurologic exam is normal. The patient has full function in upper extremities and left leg; right leg has a slight decrease in strength and a moderate decrease in range of motion.

Initial laboratory tests ordered by the nurse practitioner (NP) include an HIV PCR viral load, a CD4 count, a CBC, a chemistry panel, and a liver profile. Because of the high incidence of HCV and/or HBV coinfection in persons whose HIV was acquired percutaneously, the NP also orders a hepatitis profile. Baseline tuberculosis testing is also recommended for persons with HIV who are entering care. Therefore, a T-SPOT interferon gamma release assay is also ordered. The patient is instructed to return in 72 hours to review lab results and formulate a treatment plan.

Upon his return, all results except the HIV PCR are available. His CD4 count is 246. Hematocrit is 44%, hemoglobin 15 gm/dL, and WBC is 3,800. The liver profile reveals an alkaline phosphatase of 143 Units/mL, AST 358 Units/L, ALT 383 Units/L, total bilirubin 1.2 mg/dL, and albumin 2.8 gm/dL. The remainder of the chemistry panel is unremarkable. Hepatitis profile is positive for HBsAg, HBeAg, and total anti-HBc. The anti-HAV, anti-HCV and anti-HBc IgM are negative. The T-SPOT TB test is negative.

The NP informs Patient C that he is coinfecting with HIV and HBV and instructs him about the problems associated with HIV/HBV coinfection. He is given HAV and pneumococcal immunizations and options for antiretroviral therapy are discussed. Because of its effectiveness against both HIV and HBV, a medication regimen including tenofovir with lamivudine or tenofovir with emtricitabine should be utilized. A third medication for HIV viral suppression should be added, with consideration of the hepatotoxicity profile of the medication. After discussing available options with limited hepatotoxicity, an integrase inhibitor is selected as the third active agent in the combination. A single tablet medication containing bicitegravir, emtricitabine, and tenofovir alafenamide in a once daily formulation was therefore selected to treat both HIV and HBV.

Information is provided to Patient C regarding safe sex practices. He is also instructed to abstain from alcohol and to use ibuprofen (or no more than 2 g acetaminophen in 24 hours) for pain control. The NP also orders a PT to be drawn; in addition, the patient is referred to hepatology for a liver biopsy to be performed in order to evaluate the progression of the liver disease. The patient is scheduled for a follow-up visit in four weeks, with a repeat HIV PCR performed at that time. In the interim, his baseline HIV PCR is found to be 123,000.

Upon his return to the office, Patient C is advised that the liver biopsy revealed periportal inflammation with focal necrosis and bridging fibrosis. PT is 15.6 seconds (control: 12 seconds). These findings indicate severe, advanced liver disease and the guarded prognosis. Because of the severity of his liver disease, he is not a good candidate for PegIFN therapy. The patient’s current HIV status precludes his being a transplant candidate at the time. The recommended treatment plan for Patient C is to maximize his HIV suppression while minimizing his continued liver damage. If he is compliant with his therapy, he should be able to maintain a fairly good quality of life and postpone liver failure for three years or more. Prolonging the time until liver failure also provides the opportunity to improve immunocompetency. Some liver transplant centers now accept HIV-positive patients, provided that HIV viral loads are undetectable and CD4 counts are sufficiently high (usually >500). Patient C’s future, therefore, depends upon his tolerance of the regimen, his compliance with the treatment plan, and his body’s response to therapy.

The patient will initially be followed on a monthly basis. The viral load will be checked one month after the initiation of therapy, then every three months thereafter. Liver profile, CBC, and amylase will be assessed after one month, then bimonthly. After three months, HIV and HBV quantitative PCRs will be measured. If both are well suppressed, follow-up will be extended to every two to three months. If the patient’s liver function significantly deteriorates, supportive therapy for end-stage liver disease will be instituted.

Customer Information and Answer Sheet located on pages 103–104.

COURSE TEST - #38910 PATHOPHYSIOLOGY: THE HEPATOBILIARY SYSTEM

This is an open book test. Please record your responses on the Answer Sheet.

A passing grade of at least 70% must be achieved in order to receive credit for this course.

This 15 contact hour activity must be completed by July 31, 2027.

1. In the intestines, conjugated bilirubin is converted into a highly soluble substance called urobilinogen.  
A) True  
B) False
2. Hepatomegaly due to persistent pathogenic influences is unrelated to fibrosis or impaired blood flow from the hepatic veins.  
A) True  
B) False
3. Lower cholesterol saturation of bile increases the risk of developing cholelithiasis (gallstones) in women.  
A) True  
B) False
4. In dye clearance studies for liver function, the presence of more than 5% of dye in the serum indicates liver cell damage.  
A) True  
B) False
5. For pain associated with cholelithiasis, nonsteroidal anti-inflammatory drugs (NSAIDs) provide greater relief of biliary pain and are considered first-line management.  
A) True  
B) False
6. In developed countries, the most common causes of cirrhosis include nonalcoholic fatty liver disease, hepatitis infection, and excessive alcohol intake.  
A) True  
B) False
7. Hepatic steatosis is the end result of repeated bouts of drinking-related liver injury, designating the onset of end-stage alcoholic liver disease.  
A) True  
B) False
8. MASLD, formerly known as nonalcoholic fatty liver disease (NAFLD), is a condition characterized solely by fatty liver infiltration and is not associated with any other health conditions.  
A) True  
B) False
9. Phenylbutazone and the sulfonamides can produce granulomas within the liver.  
A) True  
B) False
10. Bile duct cancer may occur more frequently in patients with a history of primary sclerosing cholangitis, chronic ulcerative colitis, choledochal cysts, or infections with the liver fluke *Clonorchis sinensis*.  
A) True  
B) False

Be sure to transfer your answers to the Answer Sheet located page 104.

**PLEASE NOTE: Your postmark date will be used as your test completion date.**

# Course Availability List

These courses may be ordered by mail on the Customer Information form located on page 103.

We encourage you to **GO GREEN**. Access your courses **online** or download as an **eBook** to save paper and **receive a discount** or sign up for **One Year of All Access Online CE starting at only \$85!** Additional titles are also available.

[www.NetCE.com](http://www.NetCE.com)



Like us at **NetCEContinuingEducation**

## COMMUNICATION AND SOFT SKILLS IN NURSING PRACTICE

#31350 • 3 ANCC Hours

**Book By Mail – \$26 • Online – \$18**

**Purpose:** The purpose of this course is to provide nurses with strategies to support the soft skills needed to provide optimal patient care and enhance professionalism in health care.

**Faculty:** Mary Franks, MSN, APRN, FNP-C

**Audience:** This course is designed for nurses in all practice settings.

**Additional Approvals:** AACN Synergy CERP Category C



## MIGRAINE: DIAGNOSIS AND THERAPEUTIC ADVANCES

#90073 • 5 ANCC / 5 PHARM Hours

**Book By Mail – \$38 • Online – \$30**

**Purpose:** The purpose of this course is to provide an update of research elucidating the pathophysiology of migraine, which has resulted in “mechanism-based” therapies; to review the differential diagnosis of headache disorders; and to summarize the current and evidence-based guidelines for clinical management of migraine. The course will highlight the need for a graded therapeutic response based on frequency of attacks and pattern of symptoms, and the importance of patient education and self-management techniques as a means of ensuring compliance and improving outcomes.

**Faculty:** A. José Lança, MD, PhD

**Audience:** This course is designed for physicians, physician assistants, nurses, nurse practitioners, and other healthcare professionals involved in the care of patients with known or suspected migraine.

**Additional Approvals:** AACN Synergy CERP Category A



## MULTIMODAL PHARMACOTHERAPY FOR PAIN MANAGEMENT

#35270 • 5 ANCC / 5 PHARM Hours

**Book By Mail – \$38 • Online – \$30**

**Purpose:** The purpose of this course is to provide healthcare providers with a clear understanding of the concept of multimodal pharmacotherapy for pain relief, including available classes of analgesics.

**Faculty:** Richard E. Haas, BSN, MSN, EdM, PhD, CRNA (Retired), LTC US Army Nurse Corps (Retired)

**Audience:** This course is designed for nurses involved in the care of patients with pain.

**Additional Approvals:** AACN Synergy CERP Category A

## ETHICAL DECISION MAKING

#37074 • 15 ANCC Hours

**Book By Mail – \$98 • Online – \$90**

**Purpose:** The purpose of this course is to assist healthcare professionals to define the predominant ethical theories and principles used in health care, determine any legal and regulatory implications, and in collaboration with their colleagues and patients/clients, make effective decisions that determine the appropriate course of treatment, or refusal of such, for and with those for whom they care.

**Faculty:** Michele Nichols, RN, BSN, MA

**Audience:** This course is designed for all nurses and allied healthcare professionals.

**Additional Approvals:** AACN Synergy CERP Category B



## AGITATION, SEDATION, AND DELIRIUM IN ADULT ICU PATIENTS

#90180 • 5 ANCC / 5 PHARM Hours

**Book By Mail – \$38 • Online – \$30**

**Purpose:** The purpose of this course is to provide prescribers and other healthcare professionals with the knowledge and skills necessary to identify and act to avoid or address agitation, inappropriate sedation, and delirium in ICU patients.

**Faculty:** Beth Johnston, PharmD, BCPS

**Audience:** This course is designed for physicians, physician assistants, and nurses involved in the care of patients in intensive care units.

**Additional Approvals:** AACN Synergy CERP Category A



**If you are an APRN seeking an Autonomous license, please see the special offers located on the inside back cover of this booklet.**

*Prices are subject to change.  
Visit [www.NetCE.com](http://www.NetCE.com) for a list of current prices.*

# Course Availability List (Cont'd)

## ISCHEMIC STROKE

#90284 • 10 ANCC / 5 PHARM HOURS

BOOK BY MAIL – \$68 • ONLINE – \$60

**Purpose:** The early identification and management of the risk factors for ischemic stroke can lead to substantial health benefits and reductions in cost. However, research has documented gaps between healthcare professionals' knowledge and practice with respect to prevention, demonstrating that adherence to evidence-based or guideline-endorsed recommendations pertaining to all interventions for primary and secondary prevention are underutilized or ineffective. The purpose of this course is to provide needed information about the roles of diagnosis and screening, timely evaluation of individuals with suspected stroke, immediate treatment of stroke, and the elements of effective rehabilitation programs so that healthcare professionals may implement the necessary interventions appropriately.

**Faculty:** Lori L. Alexander, MTPW, ELS, MWC

**Audience:** This course is designed for physicians, nurses, and physician assistants in the primary care setting. Neurologists and other healthcare practitioners will also benefit from this course.

**Additional Approvals:** AACN Synergy CERP Category A

NP LEVEL

## MATERNAL HEALTH DISPARITIES

#93010 • 4 ANCC HOURS

BOOK BY MAIL – \$32 • ONLINE – \$24

**Purpose:** The purpose of this course is to provide healthcare providers with the knowledge and skills necessary to improve maternal outcomes in all races, ethnicities, and marginalized groups.

**Faculty:** Mary Franks, MSN, APRN, FNP-C

**Audience:** This course is designed for all healthcare providers who may intervene to improve peripartum and postpartum health care and reduce health disparities.

**Additional Approvals:** AACN Synergy CERP Category B

NP LEVEL

## PHARMACOLOGIC AND MEDICAL ADVANCES IN OBESITY MANAGEMENT

#94280 • 15 ANCC / 12 PHARM HOURS

BOOK BY MAIL – \$98 • ONLINE – \$90

**Purpose:** The purpose of this course is to ensure that providers have current and accurate knowledge regarding the available pharmacologic and surgical options to improve outcomes among their patients, with the ultimate goal of improving patient care and outcomes.

**Faculty:** Mark Rose, BS, MA, LP

**Audience:** This course is designed for all physicians, nurses, and allied professionals involved in the care of patients who are overweight or obese.

**Additional Approvals:** AACN Synergy CERP Category A

NEW!  
NP LEVEL

## STRATEGIES FOR APPROPRIATE OPIOID PRESCRIBING: THE FLORIDA APRN/PA REQUIREMENT

#91152 • 3 ANCC / 3 PHARM HOURS

BOOK BY MAIL – \$26 • ONLINE – \$18 • FREE WITH OFFER!

**Purpose:** The purpose of this course is to provide clinicians who prescribe or distribute opioids with an appreciation for the complexities of opioid prescribing and the dual risks of litigation due to inadequate pain control and drug diversion or misuse in order to provide the best possible patient care and to prevent a growing social problem.

**Faculty:** Mark Rose, BS, MA, LP

**Audience:** This course is designed for all nurses and physician assistants who may alter prescribing practices or intervene to prevent drug diversion and inappropriate opioid use.

**Additional Approvals:** AACN Synergy CERP Category A

**Special Approval:** This course fulfills the Florida requirement for 3 hours of education on prescribing of controlled substance medications.

FL  
Mandate

## INFLUENZA: A COMPREHENSIVE REVIEW

#94424 • 10 ANCC / 5 PHARM HOURS

BOOK BY MAIL – \$68 • ONLINE – \$60

**Purpose:** The purpose of this course is to provide healthcare professionals with an updated review of influenza, including clinical aspects, public health issues, and strategies for prevention. The goals are to minimize the burden of influenza on patients and communities, prevent complications and hospitalizations, and save healthcare dollars.

**Faculty:** Elizabeth T. Murane, PHN, BSN, MA

**Audience:** This course is designed to help healthcare professionals and allied personnel understand influenza and their role in its prevention.

**Additional Approvals:** AACN Synergy CERP Category A

Includes  
Bird Flu

## FALLS AND FALL PREVENTION

#91660 • 3 ANCC HOURS

BOOK BY MAIL – \$26 • ONLINE – \$18

**Purpose:** The purpose of course is to provide healthcare professionals with the knowledge and skills necessary to intervene to reduce falls risk in their patients.

**Faculty:** Mary Franks, MSN, APRN, FNP-C

**Audience:** This course is designed for physicians, physician assistants, nurses, and allied professionals involved in the care of patients at risk for falls.

**Additional Approvals:** AACN Synergy CERP Category A

NP LEVEL

## HIV/AIDS: UPDATE FOR FLORIDA

#94724 • 1 ANCC / 1 PHARM HOUR

BOOK BY MAIL – \$23 • ONLINE – \$15

**Purpose:** HIV infection is now endemic in the United States and throughout much of the world, and HIV/AIDS has become less about cure and more about management and control. As with most chronic diseases, treatment protocols and management strategies change over time. The purpose of this course is to provide a basic, practical review and update of knowledge concerning HIV/AIDS, addressing the key issues that impact clinical care and public health practice.

**Faculty:** Jane C. Norman, RN, MSN, CNE, PhD; John M. Leonard, MD

**Audience:** This course is designed for all Florida nurses, physicians, and allied healthcare professionals involved in the care of patients with HIV/AIDS.

**Additional Approvals:** AACN Synergy CERP Category A

**Special Approval:** This course fulfills the Florida requirement for 1 hour of HIV/AIDS education.

FL  
Mandate

Prices are subject to change.

Visit [www.NetCE.com](http://www.NetCE.com) for a list of current prices.

# Course Availability List (Cont'd)

## CHRONIC COUGH IN ADULTS

#94820 • 10 ANCC / 5 PHARM HOURS

BOOK BY MAIL – \$68 • ONLINE – \$60

**Purpose:** Chronic cough is difficult to effectively assess and treat, leading to extended periods before diagnosis and significant negative impact on patients' quality of life. The purpose of this course is to provide clinicians with the knowledge and skills necessary to identify and treat patients with chronic cough, regardless of underlying etiology, in accordance with clinical guidelines.

**Faculty:** Mark Rose, BS, MA, LP

**Audience:** This course is designed for physicians, physician assistants/associates, and nurses involved in the care of patients with chronic cough.

**Additional Approvals:** AACN Synergy CERP Category A

NEW!  
NP LEVEL

## SUBSTANCE USE DISORDERS AND PAIN MANAGEMENT: MATE ACT TRAINING

#95300 • 8 ANCC / 8 PHARM HOURS

BOOK BY MAIL – \$56 • ONLINE – \$48

**Purpose:** The purpose of this course is to provide clinicians who prescribe or distribute controlled substances with an appreciation for the complexities of managing patients with substance use disorders and comorbid pain in order to provide the best possible patient care and to prevent a growing social problem.

**Faculty:** Mark Rose, BS, MA, LP

**Audience:** This course is designed for all healthcare professionals who may alter prescribing practices or intervene to help meet the needs of patients with substance use disorders.

**Additional Approvals:** AACN Synergy CERP Category A

DEA  
MATE Act

## DIABETES PHARMACOLOGY

#95324 • 10 ANCC / 10 PHARM HOURS

BOOK BY MAIL – \$68 • ONLINE – \$60

**Purpose:** The purpose of this course is to meet the needs of healthcare professionals seeking a better understanding of the actions, dosages, onset of action, and adverse effects of diabetes medications in order to provide optimal care to their patient population.

**Faculty:** Diane Thompson, RN, MSN, CDE, CLNC

**Audience:** This course is designed for pharmacy professionals and nurses in any practice setting with a desire to familiarize themselves with the medications used in the treatment of type 2 diabetes.

**Additional Approvals:** AACN Synergy CERP Category A

## DEPRESSION AND SUICIDE

#96404 • 15 ANCC / 2 PHARM HOURS

BOOK BY MAIL – \$98 • ONLINE – \$90

**Purpose:** The purpose of this course is to provide the information and encouragement necessary to allow primary care providers to properly diagnose, treat, and follow-up with patients with depression.

**Faculty:** Mark Rose, BS, MA, LP

**Audience:** This course is designed for physicians, nurses, physician assistants, social workers, therapists, and counselors in the primary care setting who may identify and treat patients who are depressed and/or suicidal.

**Additional Approvals:** AACN Synergy CERP Category A

NP LEVEL

## DIETS AND DIETARY APPROACHES TO WEIGHT LOSS

#98120 • 4 ANCC HOURS

BOOK BY MAIL – \$32 • ONLINE – \$24

**Purpose:** The purpose of this course is to provide healthcare professionals in all practice settings the knowledge necessary to counsel patients regarding diets and dietary approaches to weight management.

**Faculty:** Chelsey McIntyre, PharmD

**Audience:** This course is designed for for all physicians, nurses, and allied professionals involved in the care of patients who are interested in exploring dietary options to weight control.

**Additional Approvals:** AACN Synergy CERP Category A

NEW!  
NP LEVEL

## SUPPLEMENTS FOR AGING

#98190 • 5 ANCC / 5 PHARM HOURS

BOOK BY MAIL – \$38 • ONLINE – \$30

**Purpose:** The purpose of this course is to provide healthcare professionals in all practice settings the knowledge necessary to increase their understanding of the supplements that may be used by their older adult patients.

**Faculty:** Chelsey McIntyre, PharmD

**Audience:** This course is designed for healthcare professionals whose older patients are taking or are interested in supplements.

**Additional Approvals:** AACN Synergy CERP Category A

NEW!  
NP LEVEL

## ANEMIA IN THE ELDERLY

#99084 • 5 ANCC / 2 PHARM HOURS

BOOK BY MAIL – \$38 • ONLINE – \$30

**Purpose:** The purpose of this course is to provide primary care health professionals a review of pathophysiology, clinical assessment, and management of anemia in the elderly. The goal is to promote early diagnosis, appropriate treatment, and improved outcomes for the geriatric population.

**Faculty:** Susan Waterbury, MSN, FNP-BC, ACHPN

**Audience:** This course is designed for physicians, physician assistants, nurses, and other healthcare professionals involved in the care of elderly patients.

**Additional Approvals:** AACN Synergy CERP Category A

NP LEVEL

## ALZHEIMER DISEASE AND DEMENTIAS: EARLY DETECTION AND CARE PLANNING

#99090 • 3 ANCC HOURS

BOOK BY MAIL – \$26 • ONLINE – \$18

**Purpose:** The purpose of this course is to provide healthcare professionals with a clear understanding of Alzheimer disease and other dementias, including early signs, stages, and progression, in order to support effective early diagnosis, care planning, and management that improves patients' quality of life.

**Faculty:** Candace Pierce DNP, RN, CNE, COI,

**Audience:** This course is designed for physicians, PAs, and nursing professionals who are involved in the care of patients who have or may develop dementia.

**Additional Approvals:** AACN Synergy CERP Category A

NEW!  
NP LEVEL

Prices are subject to change.

Visit [www.NetCE.com](http://www.NetCE.com) for a list of current prices.

# How our service works...

1. Read the enclosed courses.
2. **Complete** the course tests, found immediately after each course. A passing grade of at least 70% must be achieved on each course in order to receive your certificate of successful completion. If you have not passed, you will be asked to take the course test again, at no additional charge.
3. **Transfer** your answers to the Answer Sheet located on page 104. Complete the Customer Information form *in full*. **Please be sure to include your license number.** This number is required on your certificate of successful completion. **Incomplete information may result in delayed processing.**
4. **Complete Online** and receive your certificates immediately. Go to [www.NetCE.com/FL25](http://www.NetCE.com/FL25) and enter the **Quick Code** and **Customer ID** found on the back of your booklet. Complete your course tests and receive your certificates. **Your credit will be reported to CE Broker within one hour!**
5. Or **Mail** your Customer Information and Answer Sheet with payment (*check, money order or credit card information*) to NetCE in the envelope provided and receive your certificates of successful completion and study guides (which indicate where the correct answers were located in the text) via first class mail (add \$6 for shipping and handling), or email (free). Additional certificates are available for nurses with licenses in other states.



We invite you to share this valuable publication with your colleagues. Or, call us for additional copies. Our goal is to provide healthcare professionals with the finest continuing education, written by professionals in their field, offered in a unique format. We welcome your comments! Call us at 800-232-4238, email us at [help@NetCE.com](mailto:help@NetCE.com), or write to P.O. Box 997571, Sacramento, CA 95899-7571.

## Ready to Renew Your License?

**We report to  
CE Broker hourly!**



Once you have successfully completed your required courses, you can quickly and easily renew your license online at <http://www.floridasnursing.gov/renewals>. Because we report hourly to CE Broker, your records should be up-to-date within 24 hours of course completion. For more information, you may contact the Florida Board of Nursing's customer care center.

**Department of Health  
Board of Nursing**

4052 Bald Cypress Way  
Bin C-02  
Tallahassee, FL 32399-3252

**Phone:** (850) 488-0595

**Fax:** (850) 617-6460

<http://www.floridasnursing.gov> **OR**  
<http://www.ceat renewal.com>  
(for questions about the renewal process)



# Customer Information

(Incomplete information may delay processing.)

For office use only:

FL25 \_\_\_\_\_

Please print your Customer ID # located on the back of this catalog. (Optional)

--	--	--	--	--	--	--	--	--	--

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_

State \_\_\_\_\_ License # \_\_\_\_\_ Exp. \_\_\_\_\_

State \_\_\_\_\_ Additional License # \_\_\_\_\_ Exp. \_\_\_\_\_

License Type (circle one): RN / LPN / APRN / Other: \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (     ) \_\_\_\_\_

Email \_\_\_\_\_

Sign me up for NetCE Alerts, Promotions, License Reminders, and More!

Receive certificate(s) by:

Online Access - FREE! Email required

Email - FREE!

Mail - Add \$6 for shipping and handling

Order/complete by mail  
**P.O. Box 997571**  
**Sacramento, CA 95899-7571**

Contact us  
**(800) 232-4238**

Email us  
**help@NetCE.com**

Order/complete online  
**www.NetCE.com/FL25**

## ENCLOSED SPECIAL OFFER: 26 HOURS

You may complete ALL seven of these courses for a maximum payment of \$42 (or pay the individual course price, whichever is less).

Price BEFORE July 31, 2025

**\$42**

✓	Course #	Course Title / Contact Hours	Price
	39060	Common Concerns for Patients with Dementia / 1 Contact Hour	\$15
	91334	Medical Error Prevention and Root Cause Analysis / 2 Contact Hours	\$15
	97923	Domestic Violence: The Florida Requirement / 2 Contact Hours	\$15
	31253	Laws and Rules for Florida Nurses / 2 Contact Hours	\$15
	31112	Recognizing Impairment in the Workplace: The Florida Requirement / 2 Contact Hours	\$15
	97111	Recognizing and Reporting Human Trafficking in Florida / 2 Contact Hours	\$15
	38910	Pathophysiology: The Hepatobiliary System / 15 Contact Hours	\$90

**Additional Courses Available by Mail (ACCESS ONLINE FOR A DISCOUNT!)**  
 Payment must accompany this form. To order by phone, please have your credit card ready.

✓	Course #	Course Title / Contact Hours	Price	✓	Course #	Course Title / Contact Hours	Price
<input type="checkbox"/>	31350	Communication & Soft Skills in Nursing Practice / 3.....	\$26	<input type="checkbox"/>	94424	Influenza: A Comprehensive Review / 10 .....	\$68
<input type="checkbox"/>	35270	Multimodal Pharmacotherapy for Pain Mgmt / 5 .....	\$38	<input type="checkbox"/>	94724	HIV/AIDS: Update for Florida / 1 .....	\$23
<input type="checkbox"/>	37074	Ethical Decision Making / 15 .....	\$98	<input type="checkbox"/>	94820	Chronic Cough in Adults / 10 .....	\$68
<input type="checkbox"/>	90073	Migraine: Diagnosis and Therapeutic Advances / 5.....	\$38	<input type="checkbox"/>	95300	Substance Use Disorders: MATE Act Training / 8 .....	\$56
<input type="checkbox"/>	90180	Agitation, Sedation, and Delirium in Adult ICU Pts / 5....	\$38	<input type="checkbox"/>	95324	Diabetes Pharmacology / 10 .....	\$68
<input type="checkbox"/>	90284	Ischemic Stroke / 5 .....	\$68	<input type="checkbox"/>	96404	Depression and Suicide / 15 .....	\$98
<input type="checkbox"/>	91152	Appropriate Opioid Prescribing: FL APRN/PA Req / 3 ...	\$26	<input type="checkbox"/>	98120	Diets and Dietary Approaches to Weight Loss / 4.....	\$32
<input type="checkbox"/>	91660	Falls and Fall Prevention / 3.....	\$26	<input type="checkbox"/>	98190	Supplements for Aging / 5 .....	\$38
<input type="checkbox"/>	93010	Maternal Health Disparities / 4.....	\$32	<input type="checkbox"/>	99084	Anemia in the Elderly / 5 .....	\$38
<input type="checkbox"/>	94280	Pharmacologic & Medical Advances in Obesity Mgmt / 15. \$98	\$98	<input type="checkbox"/>	99090	Alzheimer Disease and Dementias / 3.....	\$26

- Check or Money Order (payable to NetCE)
- VISA / MasterCard / AmEx / Discover

Special Offer (BEFORE July 31, 2025) **\$42**

I would like my certificates mailed for an additional \$6 \_\_\_\_\_

Additional Courses \_\_\_\_\_

Subtotal \_\_\_\_\_

Expedited mail delivery within 2 to 3 days is available in most areas at an additional charge of \$35. Expedited Delivery \_\_\_\_\_

Call for information on international delivery. **Grand Total** \_\_\_\_\_

Please print name (as shown on credit card) \_\_\_\_\_

Credit card # \_\_\_\_\_

Expiration date \_\_\_\_\_ Security code \_\_\_\_\_ Security code is last three numbers in the signature area on back of credit card or four numbers above the account number on front of AmEx cards.

Signature \_\_\_\_\_

Prices are subject to change. Visit [www.NetCE.com](http://www.NetCE.com) for a list of current prices.

# Answer Sheet

(Completion of this form is mandatory)

**Please note the following:**

- A passing grade of at least 70% must be achieved on each course test in order to receive credit.
- Darken only one circle per question. **A = True, B = False**
- Use pen or pencil; please refrain from using markers.
- **Information on the Customer Information form must be completed.**

**#39060 COMMON CONCERNS FOR PATIENTS WITH DEMENTIA—1 HOUR**

Please refer to page 6.

EXPIRATION DATE: 07/31/27      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#91334 MEDICAL ERROR PREVENTION AND ROOT CAUSE ANALYSIS—2 HOURS**

Please refer to page 18.

EXPIRATION DATE: 08/31/25      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#97923 DOMESTIC VIOLENCE: THE FLORIDA REQUIREMENT—2 HOURS**

Please refer to page 28.

EXPIRATION DATE: 07/31/25      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#31253 LAWS AND RULES FOR FLORIDA NURSES—2 HOURS**

Please refer to page 36.

EXPIRATION DATE: 10/31/25      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#31112 RECOGNIZING IMPAIRMENT IN THE WORKPLACE: THE FLORIDA REQUIREMENT—2 HOURS**

Please refer to page 44.

EXPIRATION DATE: 10/31/25      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#97111 RECOGNIZING AND REPORTING HUMAN TRAFFICKING IN FLORIDA—2 HOURS**

Please refer to page 60.

EXPIRATION DATE: 08/31/25      MAY BE TAKEN INDIVIDUALLY FOR \$15

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

**#38910 PATHOPHYSIOLOGY: THE HEPATOBILIARY SYSTEM—15 HOURS**

Please refer to page 98.

EXPIRATION DATE: 07/31/27      MAY BE TAKEN INDIVIDUALLY FOR \$90

A   B	A   B
1. <input type="radio"/> <input type="radio"/>	6. <input type="radio"/> <input type="radio"/>
2. <input type="radio"/> <input type="radio"/>	7. <input type="radio"/> <input type="radio"/>
3. <input type="radio"/> <input type="radio"/>	8. <input type="radio"/> <input type="radio"/>
4. <input type="radio"/> <input type="radio"/>	9. <input type="radio"/> <input type="radio"/>
5. <input type="radio"/> <input type="radio"/>	10. <input type="radio"/> <input type="radio"/>

## Want More CE Choices?

### Get One Year of All Access Online CE starting at only \$85\*!

Includes access to our entire course library of more than 1,700 hours, including over 650 pharmacology hours, special offers, and state-required courses!

The following Online Specials are included with your Online All Access Subscription or may be purchased individually.

#### **NURSES:**

##### **NATURAL MEDICINE SPECIAL OFFER**

Cannabinoids • Top-Selling Supplements • Commonly Abused Supplements • Acupuncture • Microbiome Medley • Glucosamine and Chondroitin • The Scoop on Collagen  
**17.5 Hours \$49**

##### **WOUND MANAGEMENT SPECIAL OFFER**

Pressure Injuries and Skin Care • Hyperglycemia and Wound Management • Treating Pressure Injuries and Chronic Wounds  
**15 Hours \$41**

##### **GERIATRIC SPECIAL OFFER**

Aging and Long-Term Care • Osteoporosis • Alzheimer Disease  
**23 Hours \$52**

#### **ADVANCED PRACTICE NURSES:**

##### **FLORIDA AUTONOMOUS APRN DIFFERENTIAL DIAGNOSIS SPECIAL OFFER**

Geriatric Failure to Thrive • Dizziness and Vertigo • Acute Coronary Syndrome • Anxiety Disorders  
**45 Hours \$73**

##### **FLORIDA AUTONOMOUS APRN PHARMACOLOGY SPECIAL OFFER**

Antibiotics Review • Medical Marijuana and Other Cannabinoids • Palliative Care and Pain Management at the End of Life • Optimizing Opioid Safety and Efficacy  
**55 Hours/45 Pharm Hours \$73**

\*APRNs, get One Year of All Access Online CE for \$139. Includes over 650 Pharmacology hours.

For more details, go to [NetCE.com/AllAccessNurse](https://www.NetCE.com/AllAccessNurse) (Nurses), or [NetCE.com/AllAccessAPRN](https://www.NetCE.com/AllAccessAPRN) (APRNs).

**BUSINESS HOURS:** Monday through Friday, 7am-6pm Pacific Time. We are closed on weekends and holidays.

**CUSTOMER SERVICE:** 800-232-4238 or [help@netce.com](mailto:help@netce.com). Call or email us for customer assistance, course catalogs, additional certificates, or transcripts. If you require special assistance, please contact the Director of Development and Academic Affairs to inform her of your needs by calling 800-232-4238.

**RETURN POLICY:** Satisfaction guaranteed or your money back within 30 days of purchase, unless certificates have been issued. Please return the materials and include a brief note of explanation. For more information, please contact [help@NetCE.com](mailto:help@NetCE.com).

**TURNAROUND TIME:** If sent by mail, your order is processed within 2 to 3 weeks from the day it was received. **For the fastest processing time, visit [www.NetCE.com](https://www.NetCE.com) to purchase, complete for credit, and receive your certificates instantly.**

**MAILING PREFERENCES:** To modify your mailing preferences or to view our privacy policy, please go to [www.NetCE.com](https://www.NetCE.com).

**PRICING:** Prices are subject to change. Visit [www.NetCE.com](https://www.NetCE.com) for a list of current prices.

**RETURNED CHECKS:** If, for any reason, your check is returned, you will be contacted requesting a cashier's check or money order for the full amount of the order plus a \$35 reinstatement fee. In addition, we are unable to accept temporary checks.

**If you have questions about your license or certification renewal or state requirements, please contact your board. A list of approvals and accreditations is available on our website at [www.NetCE.com](https://www.NetCE.com).**



**NatMed**  
a trchealthcare brand

SCAN TO GET  
NATMED ADVISOR

Effectively Answer  
Patient Q&A on  
Natural Medicines  
[trchealthcare.com/natmed](https://trchealthcare.com/natmed)



NetCE | P.O. Box 997571 | Sacramento, CA 95899 | 800-232-4238

Copyright © 2024 NetCE, Sacramento, CA



P.O. Box 997571  
Sacramento, CA 95899

PRESORTED  
STANDARD  
U.S. POSTAGE PAID  
PERMIT NO. 182  
SACRAMENTO, CA

Vol. 150  
No. 9  
FL25

Complete online at [NetCE.com/FL25](http://NetCE.com/FL25)

Quick Code#

Customer ID#

ANYTIME, ANYWHERE, ONLINE CE

## Choose the CE Option that Works Best for You



### Looking to save? **Complete Your Special Offer!**

- Tailored for you: Easily meet your CE requirements.
- Hassle-free: Pre-selected courses for your convenience.

[NetCE.com/FL25](http://NetCE.com/FL25)



### Need more hours? **Upgrade to All Access**

- Unlimited CE: Access the largest course library for \$85.
- Massive Library: 1,700+ hours of Nursing CE available.

[NetCE.com/AllAccessNurse](http://NetCE.com/AllAccessNurse)

### Scan Now to Get Started:

Scan the QR code to choose from state compliance offers, specialty bundles, individual courses, and more.



**We Report Hourly to CE Broker**  
**For Free**  
**No Membership Required**  
Provider #50-2405