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(Meets the New York Requirement for the Updated Child Abuse Curriculum)

NY Infection Control
(Meets the New York Requirement for Infection Control CME)

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We Report for MOC

CME FOR
NEW YORK PHYSICIANS
AND PHYSICIAN ASSISTANTS
2024–2025

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Child Abuse Identification and Reporting: An Update for New York

This course meets the New York requirement to complete the updated Child Abuse curriculum by April 1, 2025.

Audience
This course is designed for all New York physicians, physician assistants, nurses, and other professionals required to complete child abuse education.

Course Objective
The purpose of this course is to enable healthcare professionals in all practice settings to define child abuse and identify the children who are affected by violence. This course describes how a victim can be accurately diagnosed and identifies the community resources available in the state of New York for child abuse victims.

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

1. Evaluate indicators of maltreatment or abuse, including in a virtual setting.
2. Recognize the impact of trauma and adverse childhood experiences on children, families, and yourself.
3. Describe mitigating effects of the protective factors on trauma.
4. Analyze the impact of bias on your decision making.
5. Identify when you have a legal obligation to call the State Central Register (SCR).
6. Discuss how you may better connect individuals and families with services.
7. Outline how to prepare to make the call to the SCR.
8. Describe how to complete the LDSS 2221A form.
9. Review your rights as a mandated reporter.

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.

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

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Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 2 MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit. Completion of this course constitutes permission to share the completion data with ACCME.

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This activity has been approved for the American Board of Anesthesiology's® (ABA) requirements for Part II: Lifelong Learning and Self-Assessment of the American Board of Anesthesiology's (ABA) redesigned Maintenance of Certification in Anesthesiology Program® (MOCA®), known as MOCA 2.0®. Please consult the ABA website, www.theABA.org, for a list of all MOCA 2.0 requirements. Maintenance of Certification in Anesthesiology Program® and MOCA® are registered certification marks of the American Board of Anesthesiology®. MOCA 2.0® is a trademark of the American Board of Anesthesiology®.

Successful completion of this CME activity, which includes participation in the activity with individual assessments of the participant and feedback to the participant, enables the participant to earn 2 MOC points in the American Board of Pediatrics' (ABP) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABP MOC credit.

This activity has been designated for 2 Lifelong Learning (Part II) credits for the American Board of Pathology Continuing Certification Program.

Through an agreement between the Accreditation Council for Continuing Medical Education and the Royal College of Physicians and Surgeons of Canada, medical practitioners participating in the Royal College MOC Program may record completion of accredited activities registered under the ACCME's "CME in Support of MOC" program in Section 3 of the Royal College's MOC Program.

Special Approvals
This activity is designed to comply with the requirements of California Assembly Bill 1195, Cultural and Linguistic Competency, and California Assembly Bill 241, Implicit Bias.

This course is approved by the New York State Education Department to fulfill the requirement for 2 hours of training in the Identification and Reporting of Child Abuse and Maltreatment. Provider #80673.

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.

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PRE-TEST

Before beginning this course, take time to pre-assess your understanding of child abuse identification and reporting in New York State.

1. When determining if a child shows indicators of maltreatment or abuse it is important to remember
- *A) indicators will always be of a physical nature and will be visible.*
- *B) not to view indicators in isolation.*
- *C) the explanation for the presenting concern is irrelevant.*
- *D) your prior experience with this child should not be factored in.*

2. Some mandated reporters connect with children virtually. Which of the following statements is TRUE?
- *A) Due to the virtual setting a mandated reporter cannot assess indicators of abuse/maltreatment.*
- *B) Pay attention to non-verbal cues from the child. Does the child's demeanor change when a particular adult enters the room?*
- *C) Mandated reporters can only report what they see or hear in person.*
- *D) Meeting virtually places children in more danger.*

3. Which is not a form of maltreatment?
- *A) Excessive corporal punishment*
- *B) Lack of supervision*
- *C) Poverty*
- *D) Inadequate guardianship*

4. Adverse childhood experiences can have a lasting impact on
- *A) children.*
- *B) persons legally responsible for children.*
- *C) mandated reporters.*
- *D) All of the above*

5. The following are protective factors that can mitigate child abuse and maltreatment, EXCEPT:
- *A) Parents having concrete supports in time of need*
- *B) Having a robust network of mandated reporters*
- *C) The child's social connections*
- *D) Parental resilience*

6. Research on bias throughout the child welfare system shows
- *A) an under-representation of families of color.*
- *B) an over-representation of families in poverty and families of color.*
- *C) a mandated reporter's decision to make a report is hardly ever influenced by bias.*
- *D) bias does not have long-lasting impact on families and communities.*

7. As mandated reporters, you must use critical thinking when deciding whether to call in a report. Critical thinking includes
- *A) gathering adequate information about the current situation.*
- *B) analyzing that information to separate facts from assumptions.*
- *C) determining whether you are legally required to call the SCR, and if not, determine what alternative options are available.*
- *D) All of the above*

8. When are mandated reporters required to call the State Central Register (SCR) to report suspected child abuse or maltreatment?
- *A) Immediately*
- *B) Within one week*
- *C) Within 48 hours*
- *D) Depends on the severity of the suspected injury*

9. If you are a mandated reporter in a school and a child has been missing from school and the parents are not responding to the schools attempts to discuss the child's lack of attendance, what should you do?
- *A) Make a report to the SCR for educational neglect.*
- *B) Assess if other efforts can be made by the school to engage the family.*
- *C) Discuss the matter with the child's friends.*
- *D) Call the police.*

10. When a mandated reporter finds a family in crisis and the children are not in imminent danger of harm, it is best to
- *A) call the SCR and make a report, just in case.*
- *B) assess the situation to see if the family could benefit from other community resources.*
- *C) do nothing.*
- *D) call law enforcement*

11. What should a mandated reporter do before reporting any allegations of abuse/neglect?
- *A) Have clear and sufficient evidence of the abuse or neglect.*
- *B) Discuss the concerns with the parent or guardian of the child.*
- *C) Talk to the child about what to say to the child protective services worker.*
- *D) Have reasonable cause to suspect the child has been abused or neglected.*

12. When must an LDSS 2221A form be filed?
- *A) Depends on the severity of the injury*
- *B) Within five business days of making the oral report*
- *C) Within 48 hours of making an oral report*
- *D) The 2221A is no longer required.*

Make a note of your answers. We will return to these questions following the activity.

HISTORICAL CONTEXT AND BACKGROUND

There is an established system in the United States to respond to reports of child abuse and neglect; however, this has not always been the case. This is not because child abuse, neglect, and maltreatment are new social phenomena. Rather, the terms "child abuse," "child neglect," and "child maltreatment" are relatively new, despite the fact that this social problem has existed for thousands of years [1]. Cruelty to children by adults has been documented throughout history and across cultures. In China, infant girls were often neglected during times of famine or sold during times of extreme poverty. There is also historical evidence that cultures have taken steps to stop child abuse and cruelty. For example, 6,000 years ago in Mesopotamia, orphans had their own patron goddesses for help and protection [2].

In many cases, the physical abuse of children has been linked to physical punishment. Throughout history, physical child abuse was justified because it was believed that severe physical punishment was necessary either to discipline, rid the child of evil, or educate [2; 13].

It was not until 1861 that there was a public outcry in the United States against extreme corporal punishment. This reform was instigated by Samuel Halliday, who reported the occurrence of many child beatings by parents in New York City [2].

Sexual abuse of children, particularly incest (defined as sex between family members), is very much a taboo. The first concerted efforts to protect children from sexual abuse occurred in England during the 16th century. During this period, boys were protected from forced sodomy and girls younger than 10 years of age from forcible rape [2]. However, in the 1920s, sexual abuse of children was described solely as an assault committed by "strangers," and the victim of such abuse was perceived as a "temptress" rather than as an innocent child [2].

The first public case of child abuse in the United States that garnered widespread interest took place in 1866 in New York City. Mary Ellen Wilson was an illegitimate child, 10 years of age, who lived with her foster parents [3]. Neighbors were concerned that she was being mistreated; however, her foster parents refused to change their behaviors and said that they could treat the child as they wished [2]. Because there were no agencies established to protect children specifically, Henry Berge, founder of the Society for the Prevention of Cruelty to Animals, intervened on Mary's behalf [3]. He argued that she was a member of the animal kingdom and deserved protection. The case received much publicity, and as a result, in 1874 the New York Society for the Prevention of Cruelty to Children was formed [3]. Because of this case, every state now has a child protective services (CPS) system in place.

As a result of Berge's advocacy for children's safety, other nongovernmental agencies were formed throughout the United States, and the establishment of the juvenile court was a direct result of the Prevention of Cruelty to Children [13]. In 1912, the U.S. Children's Bureau was established to monitor and report on children's social and physical welfare [45]. The Bureau was the first formal federal government vehicle to address the welfare of children [45]. During this time, many states and counties had also established child welfare boards or departments. By 1919, all but three states had juvenile courts. However, many of these nongovernmental agencies could not sustain themselves during the Depression [13].

The topic of child abuse and neglect received renewed interest in the 1960s, when a famous study titled "The Battered-Child Syndrome" was published by Henry Kempe [1; 4]. In the study, researchers argued that the battered-child syndrome consisted of traumatic injuries to the head and long bones, most commonly to children younger than 3 years of age, by parents [1; 4]. The study was viewed as the seminal work on child abuse, alerting both the general public and the academic community to the problems of child abuse [1; 2]. This seminal study was the impetus to the adoption of a formal reporting system, and by 1967, all 50 states required physicians to report child abuse [14; 22]. In the early 1970s, Senator Walter Mondale noted that there was no official agency that spent its energies on preventing and treating child maltreatment [13]. Congress passed the Child Abuse Prevention and Treatment Act (CAPTA) of 1974, which targeted federal funds to improve states' interventions for the identification, reporting and training for child abuse [13; 22].

Today, child abuse and neglect are considered significant social problems with deleterious consequences. As noted, a system has been implemented in all 50 states to ensure the safety of children, with laws defining what constitutes abuse and neglect and who is mandated to report. In 2006, recognizing the role of physicians in the detection of child abuse, child abuse pediatrics became a board-certified subspecialty [46]. In 2010, additional prevention and treatment programs were funded through CAPTA, and in 2012, the Administration on Children, Youth, and Families began to focus on protective factors to child abuse and neglect [22].

Social Services Law requires the State Central Register (SCR) to be a single contact for reporting child abuse or maltreatment in New York. The law also requires a CPS department to be established in each local department of social services. In order to help prevent child abuse and maltreatment, CPS needs strong partnerships within the community. To this end, certain professionals are designated as "mandated reporters" under the law. Mandated reporters are legally obligated to call the SCR only in certain circumstances, as will be outlined in this course. Families in crisis may not meet the legal criteria required to call the SCR and may be better served by being connected to a variety of community services in their area.

DEFINITIONS OF CHILD ABUSE AND NEGLECT

The federal definition of child abuse is evident in CAPTA, published as a product of federal legislation. CAPTA defines a child to be any individual younger than 18 years of age, except in cases of sexual abuse. In cases of sexual abuse, the age specified by the child protection laws varies depending on the state in which the child resides [5]. CAPTA defines child abuse as, "any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse, or exploitation, or an act or failure to act which presents an imminent risk of serious harm" [6]. The state of New York defines child abuse and maltreatment/neglect as follows [7]:

> Generally, the term abuse encompasses the most serious harms committed against children. An abused child is a child whose parent or other person legally responsible for his/her care inflicts upon the child serious physical injury, creates a substantial risk of serious physical injury, or commits an act of sex abuse against the child. A person who perpetrates any of these actions against a child in their care can be abusive, and so can a person who allows someone else to do these things to a child.
>
> Maltreatment refers to the quality of care a child is receiving from those responsible for the child. Maltreatment occurs when a parent or other person legally responsible for the care of a child harms a child, or places a child in imminent danger of harm by failing to exercise the minimum degree of care in providing the child with any of the following: food, clothing, shelter, education, or medical care when financially able to do so. Maltreatment can also result from abandonment of a child or from not providing adequate supervision for the child. A child may be maltreated if a parent engages in excessive use of drugs or alcohol such that it interferes with their ability to adequately supervise the child.

In addition to parents, persons legally responsible for children include a child's custodian, guardian, and any person responsible for the child's care at the relevant time. The term "custodian" may include any person continually or at regular intervals found in the same household as the child when the conduct of such person causes or contributes to the abuse or maltreatment of the child.

Parents and legally responsible persons in New York State must provide their children with the minimum degree of care, including adequate food, clothing, shelter, education, supervision, and medical care (to include basic dental care, mental health services, and treatment for drug or alcohol misuse). Guardians' financial ability to provide these items is considered when determining minimum degree of care. Adequate education consists of children being actively enrolled in school; high grades, activity participation, and impeccable attendance are not required. In terms of supervision, there is no provision in New York State law or regulation that dictates how old a child must be to be left alone without adult supervision. A child left alone in a residence or in the community must be able to demonstrate that they have the knowledge and skills necessary to properly respond to a potential emergency and to care for themselves. Just because an individual child may be left safely alone does not mean that child has the necessary skills to supervise other children without an adult present. Determining whether a child can be safely left alone must be made on a case-by-case basis.

In addition to providing essential care, parents and legally responsible persons are required to avoid excessive corporal punishment. While New York State law permits parents to use corporal (physical) punishment to discipline their children, but it cannot be excessive. Excessive corporal punishment is present when:

- The child lacks the capacity to understand the corrective quality of the discipline.
- A less severe method is available and likely to be effective.
- The punishment is inflicted due to the parent's rage.
- The child receives injuries or bruises as a result.
- The length of punishment surpasses the child's endurance.

FORMS OF CHILD ABUSE AND NEGLECT

There are several acts that may be considered abusive, and knowledge of what constitutes abuse is vital for healthcare providers and other mandated reporters. In this section, specific behaviors that fall under the category of abuse and neglect will be reviewed.

Physical Abuse

Physical abuse injuries can range from minor bruises and lacerations to severe neurologic trauma and death. Physical abuse is one of the most easily identifiable forms of abuse and the type most commonly seen by healthcare professionals. Physical injuries that may be indicative of abuse include bruises/welts, burns, fractures, abdominal injuries, lacerations/abrasions, and central nervous system trauma [8; 61].

Bruises and welts are of concern, particularly those that appear on:

- The face, lips, mouth, ears, eyes, neck, or head
- The trunk, back, buttocks, thighs, or extremities
- Multiple body surfaces

Patterns such as the shape of the article (e.g., a cord, belt buckle, teeth, hand) used to inflict the bruise or welt should be noted. Cigar or cigarette burns are common, and they will often appear on the child's soles, palms, back, or buttocks. Patterned burns that resemble shapes of appliances, such as irons, burners, or grills, are of particular concern.

Fractures that result from abuse might be found on the child's skull, ribs, nose, or any facial structure. These may be multiple or spiral fractures at various stages of healing. When examining patients, note bruises on the abdominal wall, any intestinal perforation, ruptured liver or spleen, and blood vessel, kidney, bladder, or pancreatic injury, especially if accounts for the cause do not make sense. Look for signs of abrasions on the child's wrists, ankles, neck, or torso. Lacerations might also appear on the child's lips, ears, eyes, mouth, or genitalia. If violent shaking or trauma occurred, the child might experience a subdural hematoma [8; 61].

Sentinel injuries are those minor injuries (e.g., bruises, intraoral injuries, fractures) that are recognized by providers or parents prior to the formal recognition of child abuse [47; 48]. It is crucial to monitor for these sentinel injuries.

Sexual Abuse

Sexual abuse is defined by CAPTA as [6]:

> the employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or assist any other person to engage in, any sexually explicit conduct or simulation of such conduct for the purpose of producing a visual depiction of such conduct; or the rape, and in cases of caretaker or interfamilial relationships, statutory rape, molestation, prostitution, or other form of sexual exploitation of children, or incest with children.

Child sexual abuse can be committed by a stranger or an individual known to the child. Sexual abuse may be manifested in many different ways, including [9; 10]:

- Verbal: Obscene phone calls or talking about sexual acts for the purpose of sexually arousing the adult perpetrator
- Voyeurism: Watching a child get dressed or encouraging the child to masturbate while the perpetrator watches
- Commercial sexual exploitation and child sex trafficking: Involving the child in sexual acts for monetary profit
- Child pornography: Taking photos of a child in sexually explicit poses or acts
- Exhibitionism: Exposing his/her genitals to the child or forcing the child to observe the adult or other children in sexual acts
- Molestation: Touching, fondling, or kissing the child in a provocative manner; for example, fondling the child's genital area or long, lingering kisses
- Sexual penetration: The penetration of part of the perpetrator's body (e.g., finger, penis, tongue) into the child's body (e.g., mouth, vagina, anus)
- Rape: Usually involves sexual intercourse without the victim's consent and usually involves violence or the threat of violence

This definition is wide in scope and includes behaviors beyond touching, contact, or physical force. Instead, it encompasses sexual intent against an individual's will. It also takes into consideration consent, as there may be some who cannot consent due to age, disability, fear of harm, and/or state of consciousness or intoxication [62].

Physical Maltreatment/Neglect

Undoubtedly, the definition of neglect is an area of controversy. Some argue that neglect is a form of abuse, because neglect involves a caregiver having lower priority and value of the welfare of the child [49]. Some differentiate between the two terms by the fact that emotional abuse involves a commission of an act, while emotional neglect involves an omission [50].

Due to the ambiguity of definitions of child abuse and neglect, CAPTA provides minimum standards that each state must incorporate in its definition. Examples of child neglect may include [6; 11; 12]:

- Failure to provide adequate food, clothing, shelter, hygiene, supervision, education, and protection
- Refusal and/or delay in medical attention and care (e.g., failure to provide needed medical attention as recommended by a healthcare professional or failure to seek timely and appropriate medical care for a health problem)
- Abandonment, characterized by desertion of a child without arranging adequate care and supervision. Children who are not claimed within two days or who are left alone with no supervision and without any information about their parents'/caretakers' whereabouts are examples of abandonment.
- Expulsion or blatant refusals of custody on the part of parent/caretaker, such as ordering a child to leave the home without adequate arrangement of care by others
- Inadequate supervision (i.e., child is left unsupervised or inadequately supervised for extended periods of time)

In New York state, neglect also involves parents/caregivers who fail to exercise a minimum of care of minor who "misuses drugs and alcohol to the extent he/she loses self-control of his/her actions" [63].

Emotional Abuse/Neglect

The following behaviors constitute emotional abuse and neglect [6; 11; 12]:

- Verbal abuse: Belittling or making pejorative statements in front of the child, which results in a loss or negative impact on the child's self-esteem or self-worth
- Inadequate nurturance/affection: Inattention to the child's needs for affection and emotional support
- Witnessing domestic violence: Chronic spousal abuse in homes where the child witnesses the violence
- Substance and/or alcohol abuse: The parent/caretaker is aware of the child's substance misuse problem but chooses not to intervene or allows the behavior to continue
- Refusal or delay of psychological care: Failure or delay in obtaining services for the child's emotional, mental, or behavioral impairments
- Failure to enroll: Failure to enroll or register a child of mandatory school age or causing the child to remain at home for nonlegitimate reasons
- Failure to access special education services: Refusal or failure to obtain recommended services or treatment for remedial or special education for a child's diagnosed learning disorder

In New York, emotional abuse entails the above behaviors or behaviors that impair emotional health or mental or emotional condition [63].

Educational Neglect

All of the following elements must be present to warrant a report for educational neglect:

- Child must be of compulsory school age and currently living in New York State.
- Child must be excessively absent without a valid reason or excuse.
- The child's education must be impaired due to the excessive absenteeism (or the child has an IEP and has missed necessary services due to excessive absenteeism).
- The parent or responsible person has been made aware of the excessive absenteeism and impairment by means beyond simply sending a note home or leaving a voicemail message.
- School officials have made efforts to engage the child and parent/responsible person.
- No parent or responsible person has taken any action to rectify the situation.

It is important to note that poor school attendance, in and of itself, does not equate to a reasonable cause to suspect maltreatment. School personnel should first try working with the student, family, and community agencies to identify needs and resources available to meet those needs. A report of suspected educational neglect should be called in as a remedy for excessive absences only as a last resort.

Sex Trafficking

Enacted in 2015, the Justice for Victims of Trafficking Act includes an amendment to CAPTA, and several states now track data related to the numbers of victims of sex trafficking. In 2021, 35 states reported 1,086 child victims of sex trafficking [15].

Prenatal Substance Exposure

The Comprehensive Addiction and Recovery Act (CARA) of 2016 included an amendment to CAPTA to collect and report the number of infants with prenatal substance exposure. As of 2021, 47 states reported this data and referred prenatal substance exposure cases to CPS agencies. There were 40,799 reports in 2021 [15].

EPIDEMIOLOGY OF CHILD ABUSE AND NEGLECT

NATIONAL PREVALENCE

In 2021, there were 3.9 million referrals to CPS agencies in the United States [15]. More than 2 million were assessed to be appropriate for a response, and 28.7% of reports were made by health and mental or behavioral health professionals [15]. Girls tend to be victims at a slightly higher rate (8.7 per 1,000 girls) compared with boys (7.5 per 1,000 boys) [15]. More than a half (51.7%) of perpetrators are women, and the majority (83.2%) are between the ages of 18 and 44 years [15].

As of 2021, there were at least 3.5 million children referred to CPS agencies and who received an investigation and some form of response, and 8.1 of every 1,000 children in the United States were victims of abuse and/or neglect [15]. This is the unique rate, meaning each child is counted only once regardless the number of times a report may have been filed for abuse/neglect. The fatality rate for 2021 was 2.46 deaths per 100,000 children [15].

Research has shown that racial and ethnic minority children (particularly African American/Black, Native American/Alaska Native, and multi-racial children) tend to have higher rates of reported child maltreatment compared to their White counterparts (***Table 1***) [15]. However, the lowest reported rate is among Asian American children [15]. It is important to note the role of explicit and implicit bias in the higher rates of child abuse reports among minority populations.

CHILD ABUSE VICTIMIZATION ACCORDING TO RACE/ETHNICITY, 2020	
Race/Ethnicity	**Child Abuse Rate Per 1,000 Children**
Native American/Alaska Native	15.5
African American	13.2
Multi-race	10.3
Pacific Islander	9.0
White	7.4
Hispanic	7.8
Asian American	1.6
Source: [15]	*Table 1*

NEW YORK STATE PREVALENCE

In 2021, the rate of child abuse and neglect in New York State was 13.8 per 1,000 children [15]. This translates to approximately 58,760 cases of child abuse and neglect in New York in 2021, a decrease of 20.3% compared with 2017 [15]. In terms of fatalities, 126 children in New York died in 2021 as a result of child abuse and neglect—a rate of 3.06 per 100,000 children [15]. This is greater than the national rate of 2.46 per 100,000 per children [15].

INDICATORS OF CHILD MALTREATMENT AND ABUSE

It is crucial that practitioners become familiar with the indications of child abuse and neglect. These factors do not necessarily conclusively indicate the presence of abuse or neglect; rather, they are clues that require further interpretation and clinical investigation. Some parental risk indicators include [8; 10; 12; 15; 16; 64]:

- Recounting of events that do not conform either with the physical findings or the child's physical and/or developmental capabilities
- Inappropriate delay in bringing the child to a health facility
- Unwillingness to provide information or the information provided is vague
- History of family violence in the home
- Parental misuse of substances and/or alcohol
- Minimal knowledge or concern about the child's development and care
- Environmental stressors, such as poverty, single parenthood, unemployment, or chronic illness in the family
- Unwanted pregnancy
- Early adolescent parent
- Expression that the parent(s) wanted a baby in order to feel loved
- Unrealistic expectations of the child
- Use of excessive physical punishment
- Healthcare service "shopping"
- History of parent "losing control" or "hitting too hard"
- Asks teacher to employ harsh disciplining for misbehaviors

Child risk indicators include [8; 10; 12; 16; 48; 64]:

- Multiple school absences
- Learning or developmental disabilities or special needs
- History of multiple, unexplained illnesses, hospitalizations, or accidents
- Poor general appearance (e.g., fearful, poor hygiene, malnourished appearance, inappropriate clothing for weather conditions)
- Begs for money or food
- Stress-related symptoms, such as headaches or stomachaches
- Frozen watchfulness
- Mental illness or symptoms, such as psychosis, depression, anxiety, eating disorders, or panic attacks
- Regression to wetting and soiling
- Sexually explicit play
- Excessive or out-of-the-ordinary clinging behavior
- Difficulties with concentration
- Disruptions in sleep patterns and/or nightmares
- Symptoms of wasting (i.e., unintended and significant weight loss), protruding ribs or bones, abdominal distension, edema, and sparse hair indicating nutritional neglect
- Abuses/mistreats pets

Some of the types of behaviors and symptoms discussed in the definitions of physical, sexual, and emotional abuse/neglect are also warning signs. For example, any of the injuries that may result from physical abuse, such as a child presenting with bruises in the shape of electric cords or belt buckles, should be considered risk factors for abuse.

It is important to note that indicators of child abuse/maltreatment should be viewed in the context of the whole person and situation, not in isolation. Each indicator should be considered in relation to the child's current age and circumstances and in the context of their physical condition or behavior. Evaluate if there is an explanation for the presenting concern and whether the explanation is consistent with the observed physical and

behavioral indicators. Any prior experiences with the child and deviation from usual observations should be a part of the assessment. Abuse or maltreatment should never be assumed. It is vital to make an objective assessment that is free from any implicit or explicit bias.

THE VIRTUAL ENVIRONMENT

Mandated reporters may have interactions with children that occur in a virtual environment. For example, children may attend school remotely, visit physicians and nurses using telemedicine, and participate in therapy sessions on virtual platforms. Those professionally interacting with children virtually have the same responsibilities as those interacting with children in person.

When assessing safety virtually, where possible:

- Be alert for indications that a child is trying to communicate something to you without someone else in the room noticing.
- Note if a child's demeanor or behavior is different when someone else enters the room.
- Listen for concerning statements a child makes to you, siblings, or their peers.
- Try to observe the child's body, even if you can only see the child's face, neck, shoulders, and chest, for anything suspicious
- Assess the child's mood and demeanor (e.g., does the child appear depressed or anxious?)

When interacting virtually, one may observe or hear an altercation between children or adults. Even if this does not rise to a level of making a report, it may create an opportunity for a conversation about safety or managing stress

Professionals utilizing technology to provide services should always use reliable technology, with adequate lighting and sound. At the start of each visit, it is good practice to verify the child's location, in the event you need to contact emergency services. Everyone present in the video or call should be introduced, even if they enter after the visit starts. The child should be present for at least part of the visit.

The child and/or parent should be asked if there is enough privacy to discuss sensitive matters. If necessary, nonparticipating household members may be asked to move to a different room or to leave the home, if possible.

Nonverbal cues should be monitored and noted. If a child's demeanor or behavior changes when someone else enters the room, this should prompt further exploration. Similarly, if a child turns off a webcam or is very hesitant to use one, this can be a sign that they are trying to avoid confrontation or assessment.

In addition, the child's environment should be monitored for noticeable unsafe conditions. It should be clear that there is appropriate supervision for the child. One may also see that young children are being held responsible for even younger siblings.

All professionals involved in virtual contact with children should provide clear channels to reach out via e-mail, phone, chat, text, or online tool.

IMPACT OF CHILD ABUSE

TRAUMA AND ADVERSE CHILDHOOD EXPERIENCES

Trauma is an intense event that threatens a person's life or safety in a way that is too much for the mind to handle and leaves the person powerless. Trauma can trigger physical reactions, including rapid heart rate, tense muscles, or shallow breathing. Common traumatic events could be going through or seeing:

- Family violence
- Sexual abuse
- Emotional abuse
- Violence in the community

For many parents, having a child removed from the home and dealing with the child welfare system are traumatic events. As such, trauma impacts much of the work mandated reporters do.

Adverse childhood experiences (ACEs) (including abuse and maltreatment) are defined as potentially traumatic experiences that affect an individual during childhood (before 18 years of age) and increase the risk for future health and mental health problems (including increased engagement in risky behaviors) as adults [76]. These experiences are broadly common, occurring in approximately 64% of the U.S. population [82]. ACEs and trauma alone may not rise to the level of child abuse or maltreatment; it is the impact on the child that should be assessed. ACEs have a lasting impact on children, persons legally responsible for children, and mandated reporters.

Toxic stress occurs when a person experiences severe, prolonged adversity without adequate support. Toxic stress means that the stress response stays continuously activated in the body. This prolonged exposure to adversity can impact children developmentally and behaviorally.

SPECIFIC CONSEQUENCES OF CHILD MALTREATMENT AND ABUSE

The consequences of child abuse and neglect vary from child to child; these differences continue as victims grow older. Several factors will mediate the outcomes. These factors include [17]:

- Severity, intensity, frequency, duration, and nature of the abuse and/or neglect
- Age or developmental stage of the child when the abuse occurred
- Relationship between the victim and the perpetrator
- Support from family members and friends
- Level of acknowledgment of the abuse by the perpetrator
- Quality of family functioning

In examining some of the effects of physical abuse, it is helpful to frame the consequences along a lifespan perspective [18]. During infancy, physical abuse can cause neurologic impairments. Most cases of infant head trauma are the result of child abuse [19]. Neurologic damage may also affect future cognitive, behavioral, and developmental outcomes. Some studies have noted that, in early childhood, physically abused children show less secure attachments to their caretakers compared to their nonabused counterparts [20].

By middle to late childhood, the consequences are more notable. Studies have shown significant intellectual and linguistic deficits in physically abused children [18]. Other environmental conditions, such as poverty, may also compound this effect. In addition, a number of affective and behavioral problems have been reported among child abuse victims, including anxiety, depression, low self-esteem, excessive aggressive behaviors, conduct disorders, delinquency, hyperactivity, and social detachment [8; 10; 12; 18].

Surprisingly, there has been little research on the effects of childhood physical abuse on adolescents [18]. However, differences have been noted in parents who abuse their children during adolescence rather than preadolescence. It appears that lower socioeconomic status plays a lesser role in adolescent abuse as compared to abuse during preadolescence [21]. In addition, parents who abuse their children during adolescence are less likely to have been abused as children themselves compared to those parents who abused their children during preadolescence [21]. It is believed that the psychosocial effects of physical abuse manifest similarly in late childhood and adolescence.

Research findings regarding the effects of childhood physical abuse on adult survivors have been less consistent. Some adult survivors function well socially and in terms of mental and physical health, while others exhibit depression, anxiety, post-traumatic stress, substance abuse, criminal behavior, violent behavior, and poor interpersonal relationships [17; 18]. A 2019 meta-analysis found a robust association between five forms of child maltreatment (i.e., sexual abuse, physical abuse, emotional abuse, neglect, and exposure to intimate partner violence) and the development of mental disorders, including depressive disorders, anxiety disorders, and post-traumatic stress disorder [24]. Similar results were found in a longitudinal study that compared a child welfare cohort to a group with no child welfare involvement. The child welfare group was twice as likely to experience moderate-to-severe depression and generalized anxiety compared with the control group [25].

Although not all adult survivors of sexual abuse experience long-term psychological consequences, it is estimated that 20% to 50% of all adult survivors have identifiable adverse mental health outcomes [23]. In the Wisconsin Longitudinal Study, men who disclosed a history of childhood sexual abuse were more likely to have or develop depression, somatic symptoms, and increased levels of hostility [51]. Other possible psychological outcomes include [10; 52]:

- Affective symptoms: Numbing, post-traumatic stress disorder, anxiety, depression, obsessions and compulsions, somatization
- Various health problems, including general pain and gastrointestinal symptoms
- Interpersonal problems: Difficulties trusting others, social isolation, feelings of inadequacy, sexual difficulties (e.g., difficulties experiencing arousal and orgasm), avoidance of sex
- Distorted self-perceptions: Poor self-esteem, self-loathing, self-criticism, guilt, shame
- Behavioral problems: Risk of suicide, substance abuse, self-mutilation, violence
- Increased risk-taking behaviors: Abuse of substances, cigarette smoking, sexual risk-taking

Adult male survivors of child sexual abuse are three times as likely to perpetrate domestic violence as non-victims. In addition, female survivors of child sexual abuse are more vulnerable to bulimia, being a victim of domestic violence, and being dependent on alcohol [28].

In more recent years, research has focused on the impact of ACEs in general [76]. Abuse and neglect during childhood are clear ACEs, but other examples include witnessing family or community violence; experiencing a family member attempting or completing suicide; parental divorce; parental or guardian substance abuse; and parental incarceration [76]. Adults who experienced ACEs are at increased risk for chronic illness, impaired health, violence, arrest, and substance use disorder [77; 78]. It has been found that other factors can intensify the effects of ACEs, including poverty, racism, generational trauma, and frequent unintended or indirect discrimination. The effects of ACEs can be reduced by supporting children and families and increasing protective factors.

The economic costs of non-fatal child maltreatment equate to $210,012 per child victim, excluding the costs associated with adverse physical and mental health consequences and those incurred by the criminal justice and special education systems [53]. A 2017 study found a cost of more than $400,000 per child abuse victim over the course of his or her lifetime [65].

REPORTING SUSPECTED CHILD ABUSE

MANDATED REPORTERS

In the state of New York, certain professionals are legally required or mandated to report immediately any suspected cases of child abuse, maltreatment, and/or neglect that they encounter in their professional roles (i.e., working or volunteering in a role that requires your specific licensure or certification) to the New York Statewide Central Register (SCR) of Child Abuse and Maltreatment. Reasonable cause for suspicion is based upon behaviors that have been observed or reported that cause the professional to believe that a specific circumstance might involve child abuse or neglect [26]. Child abuse laws in New York, and in all states, do not require reporters to have absolute proof of abuse [27]. Reporting suspected cases should be done in good faith, and mandatory reporting laws give the reporter immunity from criminal and civil liability regardless of the substantiation of abuse [16]. Good faith is defined as "the reporter, to the best of his or her knowledge, has reason to believe that the child in question is being subjected to abuse or neglect" [14]. Note that poverty, in and of itself, does not equate to maltreatment or abuse.

However, if mandated reporters fail to report an incident of suspected child abuse or maltreatment, they may be charged with a Class A misdemeanor, subject to criminal penalties, and can be sued for monetary damages for any harm in a civil court [26]. It is vital to remember that mandated reporters are not required to provide absolute evidence; this is the responsibility of CPS [29]. No employer or organization is permitted to require approval prior to calling the SCR. Mandated reporters' legal obligations are personal, and organizations may not impede calling the SCR. Further, all employers and organizations are prohibited from retaliating in any way for mandated reporters' fulfilling their duties. The law also does not require multiple reports on the same incident from the same organization.

The following individuals are classified as mandated reporters in the state of New York [26]:

- Physicians (including osteopaths)
- Registered physician's assistants
- Surgeons
- Medical examiners
- Coroners
- Dentists
- Dental hygienists
- Optometrists
- Chiropractors
- Podiatrists
- Medical residents
- Interns
- Psychologists
- Registered nurses
- Social workers
- Emergency medical technicians
- Licensed creative arts therapists
- Licensed marriage and family therapists
- Licensed mental health counselors
- Licensed psychoanalysts
- Hospital personnel engaged in the admission, examination, care, or treatment of persons
- Christian Science practitioners
- School officials
- Social services workers
- Day care center workers
- Providers of family or group family day care
- Any employees or volunteers in a residential care facility for children
- Any other childcare or foster care workers
- Mental health professionals
- Substance abuse counselors
- Alcoholism counselors
- Peace officers
- Police officers
- District attorneys or assistant district attorneys
- Investigators employed in the Office of the District Attorney
- Any other law enforcement officials

Confidentiality

State law provides confidentiality for mandated reporters and all sources of child abuse and maltreatment reports. However, CPS or the SCR may be required to provide the identity of the source of the CPS report in very limited circumstances and only as described in the law.

The legal obligation to report suspected child abuse and maltreatment under New York State law supersedes client-patient confidentiality provisions. The Health Insurance Portability and Accountability Act (HIPAA) contains specific provisions allowing healthcare and other professionals to report information to the SCR, including personally protected health information that is otherwise confidential.

THE PROCESS OF REPORTING TO THE NEW YORK STATEWIDE CENTRAL REGISTER (SCR) OF CHILD ABUSE AND MALTREATMENT

When mandated reporters suspect a case of child abuse or maltreatment, they must report to the SCR at 1-800-635-1522. The general public can report suspected abuse by calling 1-800-342-3720 [38]. In an emergency situation, always call 911 first.

The SCR is open 24 hours per day, 7 days per week [26]. The mandated reporter is not obligated to contact the parents or the legal guardians of the child either before or after the call to SCR [26]. Good practice dictates that the reporter either seek consent or notify the parent(s) that essential information is being (and is required to be) shared, unless doing so would put the child's health or safety at risk. However, even if the parent does not consent, the mandated reporter is still obligated to contact the SCR [26]. (Additional child abuse hotline information may be found in the ***Resources*** section of this course.)

The worker who answers the phone will attempt to accumulate as much information from you as possible. According to the New York State Office of Children and Family Services, they will ask you the following types of questions [26; 38]:

- What is the nature and extent of the child's injuries, or the risk of harm to the child?
- Have there been any prior suspicious injuries to this child or his/her siblings?
- What is the child's name, home address, age?
- What is the name and address of the parent or other person legally responsible who caused the injury, or created the risk of harm to the child?
- What are the names and addresses of the child's siblings and parents if different from the information provided above?
- Do you have any information regarding treatment of the child, or the child's current whereabouts?

Within 48 hours of reporting the suspected abuse to SCR, the reporter must also complete and sign a written report (LDSS-2221A) and submit the report to the local department of social services (LDSS) that has been assigned to the investigation [26]. The forms may be accessed on the New York State Office of Children and Family Services website at https://ocfs.ny.gov/forms/ldss/LDSS-2221/OCFS-LDSS-2221A.docx. Information required to complete the form includes:

- Full name of the parent or person legally responsible for the child
- Parents or other adults' dates of birth, when available
- Full name of the child or children you suspect are being abused or maltreated
- Child or children's dates of birth, when available
- Specific information that led to having a reasonable suspicion of abuse or maltreatment
- Addresses or locating information for the relevant adults and children (required in order for SCR to accept the report)
- Your full name
- The name of your agency or organization
- Your contact information, including phone number and email address
- The name of any other mandated reporter you believe personally observed or was provided with relevant information about the child

The SCR is bound by legal criteria that dictates whether they can accept a report:

- The child must be born and must be younger than 18 years of age
- The alleged perpetrator must be the child's parent or another person 18 years of age or older who is legally responsible for the child
- The conduct described must meet the legal definition of maltreatment or abuse

The SCR is not legally required to accept all reports from mandated reporters. The SCR staff will conduct their own interview to determine if the information you provide during the call rises to the legal level of suspected child abuse or maltreatment. If it does not rise to this level, based on the information provided, the SCR cannot accept the report. Mandated reporters have fulfilled their legal obligations even if the SCR declines to accept the report.

The CPS unit of the LDSS is required to begin an investigation of the reported abuse within 24 hours [26]. A CPS specialist will ask questions about the suspected abuse and the child and ill contact the child(ren) and alleged perpetrator. For example, the specialist will ask for the child's name, age, and home address, the name of the suspected person who inflicted the abuse, his or her address, and the nature of the abuse. The specialist should also evaluate the safety of the child named in the report as well as that of any other children in the home. If the child's safety is at risk, the specialist may take the child and other children in the home into protective custody to prevent further abuse or maltreatment. CPS has 60 days after receiving the report to determine whether it is substantiated or unsubstantiated. CPS is obligated to inform the child's parents or other subject of the report of their rights and offer potentially helpful services, according to the New York State Social Services Law, and must inform the SCR of the determination of the investigation [26]. The most common outcome of a CPS investigation is that the caseworker will work with the family to obtain necessary services or aid to alleviate problems and promote safety. However, CPS intervention is not required for parents, children, or families to obtain services.

BARRIERS TO REPORTING

Studies have shown that many professionals who are mandated to report child abuse and neglect are concerned and/or anxious about reporting. Identified barriers to reporting include [29; 30; 31; 40; 54; 55]:

- Professionals may not feel skilled in their knowledge base about child abuse and neglect. In addition, they lack the confidence to identify sexual and emotional abuse.
- Professionals may be frustrated with how little they can do about poverty, unemployment, drug use, and the intergenerational nature of abuse.
- Although professionals understand their legal obligation, they may still feel that they are violating patient confidentiality.
- Many professionals are skeptical about the effectiveness of reporting child abuse cases given the bureaucracy of CPS and the large caseloads.
- Practitioners may be concerned that they do not have adequate or sufficient evidence of child abuse.
- Practitioners may have a belief that government entities do not have the right to get involved in matters within the family arena.
- There may be some confusion and emotional distress in the reporting process.
- Practitioners may fear that reporting will negatively impact the therapeutic relationship.
- Loyalty to the family
- Fear of driving the family away from seeking health, social, and mental health services
- Some professionals have concerns that there might be negative repercussions against the child by the perpetrator.
- Some simply underestimate the seriousness and risk of the situation and may make excuses for the parents.

The failure to identify and report child abuse may result in continued abuse of the child and potentially severe consequences. Improved and ongoing education about child abuse and maltreatment has been shown to improve identification and reporting rates among physicians and other professionals. The education should include [32]:

- Management and outcomes
- The role of the CPS investigator
- The role of the physician/other reporting professional
- The benefits of CPS involvement
- The benefits of mandated education on identification/reporting
- The benefits of professional debriefing for the reporter
- The benefits of collaboration (e.g., with local emergency departments, pediatric specialists)

Other suggestions for improving reporting include [32]:

- Improving the relationship between CPS and medical providers
- Allowing certain registered professionals with demonstrated expertise in identifying/treating child abuse "flexible reporting options" (e.g., defer reporting when no immediate threat exists or make the report confidentially and defer an investigation until deemed necessary)
- Improving interaction with the legal system

ASSESSMENT GUIDELINES FOR PROFESSIONALS

Assessment for child abuse and neglect involves the systematic collection of data. Information should be obtained regarding the primary reason for the visit, family health history, the child's health history, history of illnesses, the parents' attitudes toward discipline, and the child's pattern of nutrition, sleep, and diet [16]. If abuse is a concern after the preliminary evaluation, consultation with a child abuse specialist, pediatric specialist, or pediatrician experienced in this area, if available, may be helpful in determining the best way to proceed with assessment [16].

It is important for professionals to ask questions in a non-judgmental manner [33]. An environment where support and concern facilitate an open, trusting relationship between the parent and the practitioner should be created. By providing such an environment, the parent has the opportunity to voice concerns and ask for help. Questions that convey concern and may provide valuable information to the professional include, "Who helps you care for your children?" or "How do you discipline your children?" It may be necessary to interview the child and parent separately; however, by spending some time with the child and parent together, practitioners can observe interactions and communication.

Accuracy in record taking is also important. Be sure to record the date and time of the visit, the sources of any information, and the date, time, and place of the alleged abuse or assault [16; 34]. When talking to the child, the practitioner should use developmentally appropriate language that will be easily understood. Leading questions should be avoided [34]. Be sensitive to the fact that children often wonder if the abuse actually happened, as the abuser may behave as if nothing occurred [56]. Asking the following questions may be helpful when interacting with children [34; 35]:

- "Do you know why you are here today?"
- "Can you tell me what happened?"
- "How did it begin?"
- "What happened next?"
- "Where did this happen?"
- "Have you been hurt lately?"

It is important to note the child's demeanor during questioning. Some children may be protective of their abuser, openly fearful of their abuser, or may fear retribution for "telling." Strong nonverbal cues of anxiety and reluctance to answer questions about potential abuse are important considerations when a safety plan for the child is necessary [16; 33].

Supporting and facilitating the victim's emotions are also important. This helps to promote rapport between the interviewer and the child. One way of promoting the rapport is by expressing interest or care by saying: "I want to know more about how you are feeling" [65]. Certain feelings or events may be legitimized by confirming to the child that he/she is safe talking about bad things. Finally, the interviewer can reinforce these sentiments by thanking the child for expressing certain emotions [65].

Because studies have demonstrated a correlation between child abuse and domestic violence, there is a need for dual screening for both types of family violence [16; 20]. An estimated 75% of victims of domestic violence live in a household with at least one child younger than 18 years of age, and between 3.3 million and 10 million children witness domestic violence annually [36; 37]. When a woman presents with a child whom the professional suspects to be at risk for child abuse, the professional should ask the woman if she has ever been hurt or injured by her spouse/intimate partner. Professionals should minimize the discomfort associated with the questioning by first discussing the prevalence of domestic violence in intimate relationships and by stating that such questioning is commonly done [39]. Because of the sensitive nature of child abuse, it can evoke extreme emotions on the part of the professional. However, it is important to manage emotions when talking to children [57].

In cases of child sexual abuse, the child should be interviewed alone. The professional should try to keep a neutral tone of voice and manner. Open-ended, nonleading questions should be used. For example, the practitioner may ask: "Has anyone ever touched you in a way that you did not like or that made you feel uncomfortable?" Because the interview may be admissible in court, careful documentation of the questions and responses is important; the exchange should be documented verbatim [16].

TRAUMA-INFORMED PRACTICE

All interactions with patients, regardless of whether or not they are potential victims of abuse, should be centered on the patient's experiences, needs, and preferences. Providing patient-centered care means that care will be respectful of and responsive to individual patient preferences, needs, and values and will reflect the patient's values. This should be considered at all stages of assessment, intervention, and continued care/follow-up.

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. Physical, emotional, and psychological safety is at the heart of trauma-informed care. This approach allows for trust-building and continued communication, both vital to ensuring that patients receive the care and support they require.

Being trauma-informed is a strengths-based approach that is responsive to the impact of trauma on a person's life. It requires recognizing symptoms of trauma and designing all interactions with victims in such a way that minimizes the potential for retraumatization. This involves creating a safe physical space in which to interact with survivors as well as assessing all levels of service and policy to create as many opportunities as possible for survivors to rebuild a sense of control. Most importantly, it promotes survivor empowerment and self-sufficiency. Children should have access to services that promote autonomy and are comprehensive, victim-centered, and culturally appropriate.

When assessing and providing care to children affected by trauma, it is important to consider protective factors that can lower the risk of negative health outcomes. Protective factors against child maltreatment and abuse include:

- Nurturing and attachment
- Knowledge of parenting and of child and youth development
- Parental resilience
- Social connections
- Concrete supports for parents
- Social and emotional competence of children

SCREENING FOR ABUSE IN CHILDREN WITH SPECIAL NEEDS OR DISABILITIES

The rates of child maltreatment for children with disabilities are reportedly 1.7 to 7 times higher compared with children without disabilities [42]. In one study, researchers found that among substantiated reports of maltreatment among children, 22% of victims had some form of disability, most commonly an emotional disability [58]. A systematic review found that there was a prevalence rate of 20.4% for physical abuse, 13.7% for sexual abuse, and 26.7% for both forms of abuse combined among children with intellectual disabilities [66]. Children with disabilities can be more vulnerable to maltreatment if the parents/caregivers view the disability and its associated behaviors as "difficult," if the parents have unrealistic expectations of the child's behavior or abilities, if the parents are facing additional caregiver stress, or if the parent perceives the child as unable to defend him/herself [43]. Furthermore, they may be less likely to disclose the abuse because they not only do not realize they have been harmed or they have impaired communication skills [59].

To effectively interview a child with a disability, the practitioner should first obtain some preliminary data, including [33]:

- The child's primary disability
- Accompanying disabilities, if any
- How the disability affects the child's current functioning
- Whether the child is highly distractible
- What the appropriate method of communication will be (e.g., sign language, language board, facilitative communication) if communication is an issue
- What, if any, behavioral challenges (e.g., compulsive, withdrawal) the child has

Overall, when conducting an interview of a child with a disability or special need, the practitioner should work with someone to validate impressions or feelings about the child, develop and use a multidisciplinary resource team, be aware of the child's vulnerabilities (e.g., behavioral challenges, accompanying disabilities), and remember that he/she may be the first person able to stop the child from being further victimized [41]. When questioning the child, it is important to ask open-ended questions, as this approach maximizes recall. Some assume that children with disabilities will not be able to handle open-ended questions, but this is not strictly true [67]. When working with those with intellectual disabilities, interviewers should try shorter open-ended questions before falling back to closed-ended questions [67]. Scaffolding questions, or breaking up the tasks and gradually building up the questions with specific instructions and comprehension checks along the way, can also be beneficial [68]. Comprehension check questions can be as simple as: "Can you repeat the question I just asked?" or "I just asked you <insert question>, what does that question mean to you?" [68].

SCREENING FOR ABUSE IN NON-ENGLISH-PROFICIENT FAMILIES

Communication with children and families regarding the signs and history of abuse is a necessary step in obtaining an accurate diagnosis. When interviewing children for whom English is not their first language, they may switch back to their first language during the interview, even if they express the wish to have the interview conducted in English [69].

There will also be many occasions when an interpreter is warranted. Without an interpreter, children may experience additional stress, struggling to find the right words in English, which can result in more feelings of fear, disempowerment, and voicelessness [44].

It may be tempting to locate a practitioner who has some language ability to speak to the child and/or family member; however, this should be avoided if at all possible [44]. When looking for an interpreter in the community, it is important to consider if the interpreter and the family are acquainted, as this can cause an uncomfortable situation [69]. The language for screening for child abuse requires precision as well as sensitivity, and professional interpreters are recommended.

In this multicultural landscape, interpreters are a valuable resource to help bridge the communication and cultural gap between patients and practitioners [33]. Interpreters are more than passive agents who translate and transmit information back and forth from party to party. When they are enlisted and treated as part of the interdisciplinary clinical team, they serve as cultural brokers, who ultimately enhance the clinical encounter. They should be familiar with both the nuances of the language and the cultural norms and value systems of the target community [44]. When providing care for children and parents for whom English is a second language, the consideration of the use of an interpreter and/or patient education materials in their native language may improve patient understanding and outcomes.

It is also vital to take into account interpreters' competence when working in the area of child abuse. Because of the sensitive nature of child abuse and the type of information being asked and recalled, interpreters should be well trained in communicating with victims and perpetrators [60].

EXPLICIT AND IMPLICIT BIAS

In a sociocultural context, biases are generally defined as negative evaluations of a particular social group relative to another group. Explicit biases are conscious, whereby an individual is fully aware of his/her attitudes and there may be intentional behaviors related to these attitudes [84]. There are also cases in which implicit cognitive processes are involved in biases and conscious availability, controllability, and mental resources are not [85]. The term "implicit bias" refers to the unconscious attitudes and evaluations held by individuals. These individuals do not necessarily endorse the bias, but the embedded beliefs/attitudes can negatively affect their behaviors [86; 87; 88; 89]. Some have asserted that the cognitive processes that dictate implicit and explicit biases are separate and independent [89].

Because implicit biases occur on the subconscious or unconscious level, particular social attributes (e.g., skin color) can quietly and insidiously affect perceptions and behaviors [90]. According to Georgetown University's National Center on Cultural Competency, social characteristics that can trigger implicit biases include [91]:

- Age
- Disability
- Education
- English language proficiency and fluency
- Ethnicity
- Health status
- Disease/diagnosis (e.g., HIV/AIDS)

- Insurance
- Obesity
- Race
- Socioeconomic status
- Sexual orientation, gender identity, or gender expression
- Skin tone
- Substance use

Project Implicit is a research project sponsored by Harvard University and devoted to the study and monitoring of implicit biases. It houses the Implicit Association Test (IAT), which is one of the most widely utilized standardized instruments to measure implicit biases. A variety of IAT tests can be accessed at https://implicit.harvard.edu/implicit.

In an ideal situation, health professionals would be explicitly and implicitly objective and clinical decisions would be completely free of bias. However, healthcare providers have implicit (and explicit) biases at a rate comparable to that of the general population [85; 92]. It is possible that these implicit biases shape healthcare professionals' behaviors, communications, and interactions, which may produce differences in help-seeking, diagnoses, and ultimately treatments and interventions [92]. They may also unwittingly produce professional behaviors, attitudes, and interactions that reduce patients' trust and comfort with their provider, leading to earlier termination of visits and/or reduced adherence and follow-up [87].

However, biases can be unlearned, and one of the benefits of being aware of the potential impact of one's own biases is that you can choose to take a proactive role in reducing how they impact your decision-making.

IMPACT OF IMPLICIT BIAS IN CHILD WELFARE

National research shows, and OCFS data confirm, that disparities exist throughout the child welfare system presently and historically [83]. The OCFS' Disproportionate Minority Representation data show historical over-representation of children and families of color in the child welfare system. Families of color have been more likely to be involved in a report to the SCR, and children of color have been more likely to be placed in foster care and generally experience slower achievement of permanency goals.

In addition, income status of families is a significant predictor of involvement with the child welfare system. Research shows that families investigated by CPS have several poverty-related risk factors, such as unemployment, single parenthood, food insecurity, housing instability, or lack of access to childcare [83]. Families living below the poverty line are three times more likely to be substantiated for child maltreatment than those with higher income.

A mandated reporter's decision whether to call the SCR can change the course of the life of a child and the members of a family. It is important to be aware of the propensity for implicit or explicit bias and to be intentional about making decisions based on the objective facts of a situation. Part of this process involves increase our own awareness regarding our own beliefs, including those that may be hidden or unconscious. Mandated reporters should only call the SCR when they have a legal obligation to do so.

All mandated reporters should approach their responsibility with empathy, compassion, care, and curiosity. When assessing information received about a child and their family, instead of making assumptions or jumping to conclusions that a child is being maltreated or abused, consider the right analytical and evaluative questions. Evaluate whether the needs of the child and family can be met through means outside of the CPS system.

STRATEGIES TO REDUCE IMPLICIT BIAS

The first step in unraveling implicit bias is understanding the lens through which one views the world. By their nature, implicit biases can be difficult to recognize in oneself. The IAT can be used as a metric to assess professionals' level of implicit bias on a variety of subjects [93]. When providers are aware that implicit biases exist, discussion and education can be implemented to help reduce them and/or their impact.

Another way of facilitating awareness of providers' implicit bias is to ask self-reflective questions about each interaction with patients. Some have suggested using SOAP (subjective, objective, assessment, and plan) notes to assist practitioners in identifying implicit biases in day-to-day interactions with patients [94]. Integrating the following questions into charts and notes can stimulate reflection about implicit bias globally and for each specific patient interaction:

- Did I think about any socioeconomic and/or environmental factors that may contribute to the health and access of this patient?
- How was my communication and interaction with this patient? Did it change from my customary pattern?
- How could my implicit biases influence care for this patient?

A proven strategy to reduce bias is to examine whether the facts of the situation would lead you to the same decision to call the SCR if the demographic information for the child or family were different. Consider if you would make the same decision if any of the following were different for the child or family:

- Race
- Ethnicity
- Gender/gender identity

- Sexual orientation or expression
- Religion
- Immigration status
- Primary spoken language
- Culture
- Age
- Neighborhood or place of residence
- Presence of a disability
- Occupation
- Socioeconomic status

The best tool to reduce bias is solid critical thinking. In the case of identifying possible abuse, this consists of identifying what specifically concerns you about the current situation, gathering adequate information about the current situation, analyzing that information to separate facts from assumptions, recognizing the possibility of bias, developing multiple hypotheses that could explain the situation, and determining whether you are legally required to call the SCR and, if not, whether an alternative option is better, such as connecting the individual or family to appropriate services in their community. In all cases, mandated reporters should approach the situation with humility and be open and willing to learn and consider information that might be different from first impressions and assumptions.

INTERPROFESSIONAL COLLABORATIONS AND CHILD MALTREATMENT

Interprofessional collaboration, defined as a partnership or network of providers who work in a concerted and coordinated effort on a common goal for clients/patients and their families to improve health, mental health, social, and/or family outcomes, is a vital component in child abuse identification and intervention [70]. Positive outcomes with this approach have been demonstrated on individual and organizational levels, including increased patient/client safety and satisfaction and improved health outcomes and quality of life [71; 72; 73].

However, promoting interprofessional collaboration can be challenging, as it challenges the Western paradigm that focuses on individualism and working in a silo [74]. For example, physicians and other health professionals often do not ask their patients and family members about child abuse/neglect or about contact with the child welfare system. Even if this issue is not acute, knowledge of this background information can help to better understand the patient or family as a whole unit. Similarly, child welfare workers rarely engage with physicians, instead focusing primarily on their investigation [75].

Practitioners should work with each other to learn and understand each other's roles and traditions [79; 80]. In focus groups, physicians believed that child welfare workers were supposed to solve child abuse cases by providing social services and removing a child from the home but did not appreciate the underlying complexities of child abuse and neglect. Child welfare workers overestimated physicians' understanding of the child welfare system [75].

Social workers are often an integral part of the interprofessional practice for child abuse and neglect, acting as a liaison between the families, healthcare workers, and outside entities [81]. When a family has to deal with an issue of suspected child abuse, social workers are able to intervene and offer tools to manage the crisis.

CASE SCENARIOS

In the following case scenarios, consider if the case should be reported as possible child abuse in accordance with New York law.

A young girl, 2 years of age, is brought to the emergency department by her mother and stepfather for a scalp laceration. The girl is very quiet and appears listless and out of sorts. Her mother reports that she was injured when she fell onto a rock outside, but that the injury occurred when the girl was being watched by the stepfather. The girl undergoes assessment for traumatic brain injury, including assessment of function using the modified Glasgow Coma Score. The toddler is found to have mild impairment (a score of 13), and the follow-up test two hours later indicates normal functioning. The nurse notices that the toddler appears to be afraid of the stepfather, leaning away and crying when he is near her. The stepfather also appears to be easily frustrated with the child, saying that he does not know why she cries so much.

A boy, 13 years of age, is undergoing a routine physical exam with his family physician. The physician asks the boy if he is excited to start school in the next few weeks and how his baseball team is doing. The boy becomes quiet and states that he is nervous about an upcoming trip with his baseball team but does not give additional information. When asked directly, the boy says that he is uncomfortable with the new assistant coach, who watches pornography with them during out-of-town tournaments and supplies them with pornographic magazines. However, the boy states that he doesn't think it's a big deal and that "all of the other kids seem to really like it."

CONCLUSION

Child abuse and neglect are considered significant social problems with deleterious consequences. As noted, a system has been implemented in all 50 states to ensure the safety of children, with laws defining what constitutes abuse and neglect and who is mandated to report. Healthcare professionals, regardless of their discipline or field, are in a unique position to assist in the identification, education, and prevention of child abuse and neglect.

RESOURCES

NEW YORK STATE

New York Statewide Central Register (SCR) of Child Abuse and Maltreatment

Mandated Reporters Hotline
1-800-635-1522

General Public
1-800-342-3720

Onondaga County
315-422-9701

New York State Office of Children and Family Services

Child Protective Services
518-473-7793
https://ocfs.ny.gov/programs/cps

OCFS Help, Empower, Advocate, Reassure and Support (HEARS)
1-888-554-3277 (Monday through Friday 8:30 a.m.-4:30 p.m.)

Child Welfare and Community Services: Adverse Childhood Experiences (ACEs)
https://ocfs.ny.gov/programs/cwcs/aces.php

Mandated Reporter Resource Center
http://nysmandatedreporter.org

Prevent Child Abuse New York
1-800-CHILDREN
https://www.preventchildabuseny.org

New York State Office for the Prevention of Domestic Violence
https://opdv.ny.gov/survivors-victims

New York State Trauma-Informed Network
https://www.traumainformedny.org

NATIONAL

American Academy of Pediatrics
https://www.aap.org

Childhelp
1-800-4-A-CHILD
https://www.childhelp.org

Child Welfare Information Gateway
1-800-394-3366
https://www.childwelfare.gov

Child Welfare League of America
202-688-4200
https://www.cwla.org

National Council on Child Abuse and Family Violence
202-429-6695
https://www.preventfamilyviolence.org

National Child Traumatic Stress Network
https://www.nctsn.org

National Center for PTSD
https://www.ptsd.va.gov

Parents Anonymous
https://parentsanonymous.org

Center for the Study of Social Policy
https://cssp.org

211 Helpline
https://www.211.org

Parents and caregivers may call 211, operated by the United Way, for health and human services information, referrals, assessments, and crisis support. 211 is multilingual and available 24 hours per day, 7 days per week.

Customer Information/Answer Sheet/Evaluation insert located between pages 16–17.

COURSE TEST
#97534 CHILD ABUSE IDENTIFICATION AND REPORTING: AN UPDATE FOR NEW YORK

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.

In accordance with the AMA PRA Category 1 Credit™ system,
physicians must complete and pass a post-test to receive credit.

This 2 credit activity must be completed by September 30, 2026.

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1. When determining if a child shows indicators of maltreatment or abuse it is important to remember
- A) *indicators will always be of a physical nature and will be visible.*
- B) *not to view indicators in isolation.*
- C) *the explanation for the presenting concern is irrelevant.*
- D) *your prior experience with this child should not be factored in.*

2. Some mandated reporters connect with children virtually. Which of the following statements is TRUE?
- A) *Due to the virtual setting a mandated reporter cannot assess indicators of abuse/maltreatment.*
- B) *Pay attention to non-verbal cues from the child. Does the child's demeanor change when a particular adult enters the room?*
- C) *Mandated reporters can only report what they see or hear in person.*
- D) *Meeting virtually places children in more danger.*

3. Which is not a form of maltreatment?
- A) *Excessive corporal punishment*
- B) *Lack of supervision*
- C) *Poverty*
- D) *Inadequate guardianship*

4. Adverse childhood experiences can have a lasting impact on
- A) *children.*
- B) *persons legally responsible for children.*
- C) *mandated reporters.*
- D) *All of the above*

5. The following are protective factors that can mitigate child abuse and maltreatment, EXCEPT:
- A) *Parents having concrete supports in time of need*
- B) *Having a robust network of mandated reporters*
- C) *The child's social connections*
- D) *Parental resilience*

6. Research on bias throughout the child welfare system shows
- A) *an under-representation of families of color.*
- B) *an over-representation of families in poverty and families of color.*
- C) *a mandated reporter's decision to make a report is hardly ever influenced by bias.*
- D) *bias does not have long-lasting impact on families and communities.*

7. As mandated reporters, you must use critical thinking when deciding whether to call in a report. Critical thinking includes
- A) *gathering adequate information about the current situation.*
- B) *analyzing that information to separate facts from assumptions.*
- C) *determining whether you are legally required to call the SCR, and if not, determine what alternative options are available.*
- D) *All of the above*

Test questions continue on next page ➞

8. **When are mandated reporters required to call the State Central Register (SCR) to report suspected child abuse or maltreatment?**
   - A) *Immediately*
   - B) *Within one week*
   - C) *Within 48 hours*
   - D) *Depends on the severity of the suspected injury*

9. **If you are a mandated reporter in a school and a child has been missing from school and the parents are not responding to the schools attempts to discuss the child's lack of attendance, what should you do?**
   - A) *Make a report to the SCR for educational neglect.*
   - B) *Assess if other efforts can be made by the school to engage the family.*
   - C) *Discuss the matter with the child's friends.*
   - D) *Call the police.*

10. **When a mandated reporter finds a family in crisis and the children are not in imminent danger of harm, it is best to**
    - A) *call the SCR and make a report, just in case.*
    - B) *assess the situation to see if the family could benefit from other community resources.*
    - C) *do nothing.*
    - D) *call law enforcement*

11. **What should a mandated reporter do before reporting any allegations of abuse/neglect?**
    - A) *Have clear and sufficient evidence of the abuse or neglect.*
    - B) *Discuss the concerns with the parent or guardian of the child.*
    - C) *Talk to the child about what to say to the child protective services worker.*
    - D) *Have reasonable cause to suspect the child has been abused or neglected.*

12. **When must an LDSS 2221A form be filed?**
    - A) *Depends on the severity of the injury*
    - B) *Within five business days of making the oral report*
    - C) *Within 48 hours of making an oral report*
    - D) *The 2221A is no longer required.*

Be sure to transfer your answers to the Answer Sheet insert located between pages 16–17.
PLEASE NOTE: Your postmark or facsimile date will be used as your test completion date.

Infection Control: The New York Requirement

This course meets the New York requirement for infection control education.

Audience
This course is designed for physicians, physician assistants, nurses, and other healthcare professionals in New York required to complete education to enhance their knowledge of infection control.

Course Objective
The purpose of this course is to provide a review of current infection control practices and accepted standards, with an emphasis on the application of infection control standards and practices in outpatient and ambulatory settings.

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

1. Discuss the standards of professional conduct associated with infection control in the healthcare setting.
2. Outline the infectious disease process.
3. Describe various practices that can result in exposure to bloodborne pathogens.
4. Identify effective strategies to prevent or control infection, including precautions, isolation techniques, hand hygiene, standards for cleaning, and safe injection practices.
5. Describe the role of surveillance and reporting in an effective infection control program.
6. Discuss the impact of communicable diseases in healthcare professionals, including the necessity for preplacement evaluations, periodic health assessments, education, and postexposure prophylaxis.
7. Evaluate the impact and appropriate response to sepsis.

Faculty
Lori L. Alexander, MTPW, ELS, MWC, is President of Editorial Rx, Inc., which provides medical writing and editing services on a wide variety of clinical topics and in a range of media. A medical writer and editor for more than 30 years, Ms. Alexander has written for both professional and lay audiences, with a focus on continuing education materials, medical meeting coverage, and educational resources for patients. (A complete biography can be found at NetCE.com.)

Carol Shenold, RN, ICP, graduated from St. Paul's Nursing School, Dallas, Texas, achieving her diploma in nursing. Over the past thirty years she has worked in hospital nursing in various states in the areas of obstetrics, orthopedics, intensive care, surgery and general medicine. (A complete biography can be found at NetCE.com.)

Faculty Disclosure
Contributing faculty, Lori L. Alexander, MTPW, ELS, MWC, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

Contributing faculty, Carol Shenold, RN, ICP, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

Division Planner
Ronald Runciman, MD

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.

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Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to earn credit toward the CME and Self-Assessment requirements of the American Board of Surgery's Continuous Certification program. It is the CME activity provider's responsibility to submit learner completion information to ACCME for the purpose of granting ABS credit.

This activity has been approved for the American Board of Anesthesiology's® (ABA) requirements for Part II: Lifelong Learning and Self-Assessment of the American Board of Anesthesiology's (ABA) redesigned Maintenance of Certification in Anesthesiology Program® (MOCA®), known as MOCA 2.0®. Please consult the ABA website, www.theABA.org, for a list of all MOCA 2.0 requirements. Maintenance of Certification in Anesthesiology Program® and MOCA® are registered certification marks of the American Board of Anesthesiology®. MOCA 2.0® is a trademark of the American Board of Anesthesiology®.

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Special Approvals

This course is approved by the New York State Department of Health to fulfill the requirement for Infection Control Training as mandated by Chapter 786 of the Laws of 1992. Provider #OT10781.

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INTRODUCTION

The development of formal infection control programs in hospitals and other healthcare facilities was spurred by the Joint Commission accreditation standards for infection control, published in 1976. According to the standards, accredited facilities should have a program for the surveillance, prevention, and control of healthcare-associated infections (HAIs) [1]. The most important aspect of infection control is establishing multidisciplinary programs that promote teamwork and foster an organizational culture centered on patient safety.

HAIs are one of the leading causes of death and increased morbidity for hospitalized patients and are a significant problem for healthcare providers [2]. Historically, these infections have been known as nosocomial infections or hospital-acquired infections because they develop during hospitalization. As health care has increasingly expanded beyond hospitals into

outpatient settings, nursing homes, long-term care facilities, and even home care settings, the more appropriate term has become healthcare-acquired or healthcare-associated infection.

Many factors have contributed to an increase in HAIs. Advances in medical treatments have led to more patients with decreased immune function or chronic disease. The increase in the number of these patients, coupled with a shift in health care to the outpatient setting, yields a hospital population that is both more susceptible to infection and more vulnerable once infected. In addition, the increased use of invasive devices and procedures has contributed to higher rates of infection [3].

According to data published in 2014, HAIs develop in an estimated 1 in 25 hospitalized patients (excluding skilled nursing facilities); this number varies from year to year and had previously been estimated at a high of 1 in 10 [1; 4; 5; 6]. HAI data from the Centers for Disease Control and Prevention (CDC) indicate that the number is higher, at 1 in 31 patients [5]. Based on CDC-sponsored hospital surveillance data from 2018, an estimated 633,000 hospitalized patients develop an HAI each year [7]. These infections are the cause of approximately 72,000 deaths and add approximately $28.4 to $33.8 billion in direct medical costs annually [4; 6; 8].

Between January 2015 and December 2017, the most common types of HAIs were surgical site infections (42.4%), catheter-associated urinary tract infections (29.7%), central-line-associated bloodstream infections (25.3%), and ventilator-associated pneumonia (2.6%) [9]. Of the 355,633 reported pathogens, *Escherichia coli* was the most common pathogen across all HAIs, accounting for nearly 18% of reported infections [9].

As HAIs have become a cause for increasing concern, many national organizations, state departments of health, and professional organizations have taken additional steps to prevent or control infection in the healthcare environment. According to data from the CDC, these steps appear to be working. The 2020 *National and State Healthcare-Associated Infections (HAI) Progress Report* provides national- and state-level data about HAI incidence across four healthcare settings: acute care hospitals, critical access hospitals, inpatient rehabilitation facilities, and long-term acute care hospitals [10]. The progress report includes data gathered by the CDC's National Healthcare Safety Network (NHSN), a national HAI surveillance system that gathers data from more than 25,000 hospitals and other healthcare facilities.

Prior to 2020, the prevalence of HAIs had been declining, the result of an ongoing national collaborative effort. However, an analysis of NHSN data from acute care hospitals in 12 U.S. states found that rates of central-line-associated bloodstream infections, catheter-related urinary tract infections, and ventilator-associated events increased significantly compared with 2019, largely as a result of the COVID-19 pandemic [11]. The analysis showed that national standard infection ratios for central-line-associated bloodstream infections initially declined in the first quarter of 2020 compared with the first quarter of 2019, but then rose by 27.9%, 46.4%, and 47.0% in the second, third, and fourth quarters of the year, respectively. Ventilator-associated events rose by 44.8% in the fourth quarter of 2020 compared with the same period for 2019 [11]. While acknowledging that 2020 was an unprecedented time for hospitals, the authors of the analysis emphasized the continued need for regular review of HAI surveillance data to identify gaps in prevention [11].

STANDARDS OF PROFESSIONAL CONDUCT

The increased focus on healthcare quality over the past decade has highlighted the need to prevent HAIs as part of overall efforts to enhance patient safety. These efforts have been developed by healthcare quality agencies, professional associations, advocacy organizations, healthcare regulating bodies, and policymakers [12; 13; 14; 15; 16; 17; 18; 19]. Prevention of HAIs and of methicillin-resistant *Staphylococcus aureus* (MRSA) infection are listed among safe healthcare practices established by the Agency for Healthcare Research and Quality (AHRQ) and the National Quality Forum, and prevention of HAIs was noted by the Institute of Medicine (IOM) to be one of 20 priority areas for enhancing the quality of health care [12; 13; 18]. In 2004, the Institute for Healthcare Improvement (IHI) established the 100,000 Lives Campaign as a challenge to save 100,000 patient lives through six healthcare interventions, three of which were related to HAIs: preventing central-line infections, surgical site infections, and ventilator-associated pneumonia [14]. Building on the success of the 100,000 Lives Campaign, the IHI established the 5 Million Lives Campaign in December 2006, adding six more interventions, one of which is to reduce MRSA infection [14]. In 2010, the Centers for Medicare & Medicaid Services (CMS) launched the Partnership for Patients with the goal of reducing all HAIs 40% compared to 2010 and reducing readmissions due to HAIs by 20% by focusing on transitions from one care setting to another [20]. According to data from the AHRQ, successful reductions in HAIs helped prevent 20,500 hospital deaths and saved $7.7 billion in healthcare costs from 2014 to 2017 [20].

Regulatory bodies have also focused on HAIs. Goal 7 of the National Patient Safety Goals developed by the Joint Commission is to reduce the risk of HAIs in hospitals as well as ambulatory care/office-based surgery, long-term care, and assisted living settings [19]. Perhaps the most aggressive campaign against HAIs has come from CMS, which has suspended reimbursement of hospital costs related to three categories of HAIs it considers "reasonably preventable:" catheter-related urinary tract infection, vascular catheter-associated infection, and various surgical site infections [16; 17; 21]. However, studies have shown that this policy has not been a contributor to any decrease in the rate of HAIs, and a survey indicated that adherence to only a few prevention strategies has increased as a result of the policy [22; 23]. The policy also has the potential to lead to increased unnecessary use of antimicrobials in an effort to prevent infections [24]. Additionally, one study found that

many acute care hospitals commonly listed the reimbursement restricted HAIs as "present on admission," which mitigated the impact intended by CMS [25].

The New York Codes, Rules, and Regulations require that certain healthcare professionals who may influence the control and prevention of HAIs complete training or education regarding infection control and barrier precautions [26]. New York State has also established professional standards of conduct to ensure that infection prevention and control practices are adhered to. According to the Rules of the Board of Regents: Part 29, "failing to use scientifically accepted infection prevention techniques appropriate to each profession for the cleaning and sterilization or disinfection of instruments, devices, materials and work surfaces, utilization of protective garb, use of covers for contamination-prone equipment and the handling of sharp instruments" is considered unprofessional conduct [27]. Appropriate infection control techniques include, but are not limited to, wearing appropriate personal protective equipment, adhering to recommendations for Universal and Standard Precautions, following sterilization and disinfection standards, and using the correct equipment in the correct way [27].

Healthcare professionals have the responsibility to adhere to scientifically accepted principles and practices of infection control in all healthcare settings and to oversee and monitor those medical and ancillary personnel for whom the professional is responsible [27]. Healthcare professionals are expected to use scientifically accepted infection prevention techniques appropriate to each profession for handwashing; aseptic technique; cleaning and sterilization or disinfection of instruments, devices, materials, and work surfaces; use of protective garb; use of covers for contamination-prone equipment; and handling of sharp instruments [26; 27; 28].

CONSEQUENCES OF NONCOMPLIANCE WITH GUIDELINES

The results of the CDC Study of Efficacy of Nosocomial Infection Control suggested that 6% of all HAIs could be prevented by minimal infection control efforts and 32% by "well organized and highly effective infection control programs" [29; 30]. A later review estimated that as many as 65% to 70% of cases of catheter-associated infections and 55% of cases of surgical site infections are preventable [31].

Evidence-based guidelines are at the heart of strategies to prevent and control HAIs and drug-resistant infections and address a wide range of issues from architectural design of hospitals to hand hygiene. These guidelines have been developed primarily by the CDC and the World Health Organization (WHO), infection-related organizations, and other professional societies. Some specialty organizations and quality improvement groups have summarized the guidelines for easier use in practice [2; 28; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43; 44; 45; 46; 47; 48; 49; 50; 51; 52; 53]. Adherence to individual guidelines varies but, in general, is low. Historically, 87% of hospitals have failed to implement all of the recommended guidelines for preventing HAIs [54]. Hand hygiene is the most basic and single most important preventive measure, yet compliance rates among healthcare workers have averaged only 30% to 50% [3; 25; 42; 55; 56; 57; 58]. Decreasing the number of HAIs will require research to better understand the reasons behind lack of compliance with guidelines and to develop strategies that target those reasons.

In addition, there are professional consequences for New York healthcare professionals who do not adhere to appropriate infection control efforts. Healthcare professionals who fail to use scientifically accepted barrier precautions and state-established infection control practices may be subject to charges of professional misconduct [59]. The Office of Professional Medical Conduct may investigate on its own any suspected professional misconduct and is required to investigate each complaint received regardless of the source. The charges must state the substance of the alleged misconduct and the material facts (but not the evidence). A hearing may be called, if warranted. The results of the hearing (i.e., findings, conclusions, determinations, order) will be made public upon issuance. Any professional found guilty of misconduct shall be subject to penalties, including [60]:

- Censure and reprimand
- Suspension of license or limitation of license to a specified area or type of practice
- Revocation of license
- Annulment of license or registration
- Limitation on registration or issuance of any further license
- A fine not to exceed $10,000 upon each specification of charges of which the respondent is determined to be guilty
- A requirement that a licensee pursue a course of education or training
- A requirement that a licensee perform up to 500 hours of public service in a manner and at a time and place as directed

METHODS OF COMPLIANCE

The education and training of healthcare personnel are prerequisites for ensuring that Standard Precautions are understood and practiced. Education on the principles and practices for preventing transmission of infectious agents should begin during training in the health professions and be provided to anyone who has an opportunity for contact with patients or medical equipment. Education programs for healthcare personnel have been associated with sustained improvement in adherence to best practices [28].

Adherence to recommended infection control practices decreases transmission of infectious agents in healthcare settings; however, several observational studies have shown limited adherence to recommended practices by healthcare personnel. Improving adherence to infection control practices

requires a multifaceted approach that incorporates continuous assessment of both the individual and the work environment. It also requires that the organizational leadership make prevention an institutional priority and integrate infection control practices into the organization's safety culture [28; 61; 62].

THE INFECTIOUS DISEASE PROCESS

A comprehensive description of the pathogenesis of infection is beyond the scope of this course. However, a broad overview of pathogen-host interaction will aid in the understanding of how infection develops in the healthcare setting.

A healthy human body has several defenses against infection: the skin and mucous membranes form natural barriers to infection, and immune responses (nonspecific and specific) are activated to resist micro-organisms that are able to invade. The skin can effectively protect the body from most micro-organisms unless there is physical disruption. For example, the human papillomavirus can invade the skin, and some parasites can penetrate intact skin, but bacteria and fungi cannot [63]. Other disrupters of the natural barrier are lesions (e.g., chapped, abraded, affected by dermatitis), injury, or in the healthcare setting, invasive procedures or devices [64].

In addition to breaks in the skin, other primary entry points for micro-organisms are mucosal surfaces, such as the respiratory, gastrointestinal, and genitourinary tracts [65]. The membranes lining these tracts comprise a major internal barrier to micro-organisms due to the antimicrobial properties of their secretions. The respiratory tract filters inhaled micro-organisms, and mucociliary epithelium in the tracheobronchial tree moves them out of the lung. In the gastrointestinal tract, gastric acid, pancreatic enzymes, bile, and intestinal secretions destroy harmful micro-organisms. Nonpathogenic bacteria (commensal bacteria) make up the normal flora in the gastrointestinal tract and act as protectants against invading pathogenic bacteria. Commensal bacteria are a source of infection only if they are transmitted to another part of the body or if they are altered by the use of antibiotics [2].

HAIs are commonly caused by bacteria, but can also be caused by viruses, fungi, and parasites. These types of infection occur less frequently and often do not carry the same risks of morbidity and mortality as bacterial infections. Viral infections are more common in children than in adults and carry a high epidemic risk [1]. Fungal infections frequently occur during prolonged treatment with antibiotics and in patients who have compromised immune systems [2]. Various pathogens have different levels of pathogenicity, virulence, and infectivity.

The transmission of infection follows the cycle (the "cycle of infection") that has been described for all diseases, and humans are at the center of this cycle [2; 66]. In brief, a micro-organism requires a reservoir (a human, soil, air, or water), or a host, in which to live. The micro-organism also needs an environment that supports its survival once it exits the host and a method of transmission. Inherent properties allow micro-organisms to remain viable during transmission from a reservoir to a susceptible host, another essential factor for transmission of infection. The primary routes of transmission for infections are through the air, blood (or body fluid), contact (direct or indirect), fecal-oral route, food, animals, or insects. Once inside a host, micro-organisms thrive because of adherent properties that allow them to survive against mechanisms in the body that act to flush them out. Bacteria adhere to cell surfaces through hair-like projections, such as fibrillae, fimbriae, or pili, as well as by proteins that serve as adhesions [65]. Fimbriae and pili are found on gram-negative bacteria, whereas other types of adhesions are found with both gram-negative and gram-positive bacteria. Receptor molecules in the body act as ligands to bind the adhesions, enabling bacteria to colonize skin and mucous membranes. The virulence of the micro-organism, the integrity of the skin and membrane barriers, and patient status will determine whether colonization is followed by invasive infection. With colonization, there is no damage to local or distant tissues and no immune reaction; with infection, bacterial toxins that break down cells and intracellular matrices are released, causing damage to local and distant tissues and prompting an immune response in the host. Bacteria continue to thrive within a host through strategies that enable them to acquire iron for nutrition and to defend against the immune response. These virulence factors enhance a micro-organism's potential for infection by interrupting or avoiding phagocytosis or living inside phagocytes [65].

A healthcare environment increases the risk of infection for two primary reasons. First, it is likely that normally sterile body sites will become exposed, allowing pathogens to cause infection through contact with mucous membranes, nonintact skin, and internal body areas [66]. Second, the likelihood of a susceptible host is high due to the vulnerable health status of patients. Especially in an era of decreased hospital stays and increased outpatient treatments, it is the sickest patients who are hospitalized, increasing the risk not only for infection to develop in these patients but also for their infection to be more severe and to be transmitted to others.

Infection is transmitted in a healthcare environment primarily through exogenous and endogenous modes. Exogenous transmission is through patient-to-patient or staff-to-patient contact. Patients who do not have infection but have bacterial colonization can act as vectors of transmission. Staff members can also act as vectors because of colonization or contamination. Endogenous infection occurs within an individual patient through displacement of commensal micro-organisms.

Factors specifically related to the healthcare environment are not common causes of HAIs [2; 67; 68]. However, consideration should be given to the prevention of infection with environmental pathogens. The CDC revised guideline related to environmental factors for infection provides clear recommendations for infection control measures according to several environment-related categories, including air (normal

ventilation and filtration, as well as handling during construction or repair), water (water supply systems, ice machines, hydrotherapy tanks and pools), and environmental services (laundry, housekeeping) [41].

In general, the spread of infectious disease is prevented by eliminating the conditions necessary for the micro-organism to be transmitted from a reservoir to a susceptible host. This can be accomplished by:

- Destroying the micro-organism
- Blocking the transmission
- Protecting individuals from becoming vectors of transmission
- Decreasing the susceptibility of potential hosts

Antiseptic techniques and antibiotics will kill micro-organisms, while proper hand hygiene will block their transmission. Gloves, gowns, and masks remove healthcare professionals from the transmission cycle by protecting them from contact with micro-organisms. Contact Precautions and isolation techniques help patients avoid being vectors of transmission. Lastly, ensuring that patients and healthcare professionals are immune or vaccinated can help decrease the availability of potential hosts.

HIGH-RISK PRACTICES: EXPOSURE TO BLOODBORNE PATHOGENS

Healthcare professionals, emergency response personnel, and public safety personnel may be exposed to a variety of bloodborne pathogens, including human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV). Exposure may occur percutaneously, parenterally, or through contact with mucous membranes and nonintact skin [69].

PERCUTANEOUS EXPOSURE

Percutaneous exposures may occur through the handling, disassembly, disposal, or reprocessing of contaminated needles and other sharp objects. They may also be related to the performance of procedures in which there is poor visualization (e.g., blind suturing, placing the nondominant hand next to or opposing a sharp, or performing procedures where bone spicules or metal fragments are produced). Data from the CDC National Surveillance System for Hospital Health Care Workers (NaSH) have shown that approximately 70% of percutaneous injuries occur during use of a sharp, 15% occur after use and before disposal, and 3% occur during or after disposal [70].

PARENTERAL EXPOSURE

Parenteral exposures (i.e., injection with infectious material) may occur during administration of parenteral medications, sharing of blood monitoring devices (e.g., glucometers, lancets), or infusion of contaminated blood products or fluids. Generally, these exposures are the result of poor adherence to Standard Precautions and infection control guidelines.

MUCOUS MEMBRANE AND NONINTACT SKIN EXPOSURE

Mucous membrane and nonintact skin exposures may occur when blood or body fluids come in direct contact with the eyes, nose, mouth, or other mucous membranes via contaminated hands, open skin lesions, or splashes or sprays of blood or body fluids (e.g., during irrigation or suctioning). Again, following established infection control guidelines greatly reduces the risk of this type of exposure.

PRECAUTIONS AND ISOLATION TECHNIQUES

The CDC guideline for isolation precautions in hospitals, last updated in 2007, synthesizes a variety of recommendations for precautions based on the type of infection, the route of transmission, and the healthcare setting [28]. As defined by the CDC, Standard Precautions represent measures that should be followed for all patients in a healthcare facility, regardless of diagnosis or infection status. Standard Precautions apply to blood; all body fluids, secretions, and excretions except sweat, regardless of whether they contain visible blood; nonintact skin; and mucous membranes [28]. For patients who are known to have or are highly suspected to have colonization or infection, Contact Precautions should be followed. This type of precaution is designed to reduce exogenous transmission of micro-organisms through direct or indirect contact from healthcare professionals or other patients. Airborne Precautions are used for patients who have or are highly suspected of having infection that is spread by airborne droplet nuclei, such as tuberculosis, measles, or varicella. Droplet Precautions target infections that are transmitted through larger droplets generated through talking, sneezing, or coughing, such as invasive *Haemophilus influenzae* type b disease, diphtheria (pharyngeal), pertussis, group A streptococcal pharyngitis, influenza, mumps, and rubella [28].

The Infectious Diseases Society of America and Society for Healthcare Epidemiology of America recommend patients with suspected *Clostridioides difficile* infection should be placed on preemptive contact precautions pending the *C. difficile* test results if test results cannot be obtained on the same day.

(https://www.idsociety.org/practice-guideline/clostridium-difficile. Last accessed June 15, 2024.)

Strength of Recommendation/Level of Evidence: Strong recommendation, moderate-quality evidence

The CDC guideline includes descriptions of all the elements involved in the four types of precautions, including hand hygiene; the use of personal protection equipment (i.e., gloves, gown, face protection); placement of the patient; handling of patient-care equipment; and environmental services and occupational health. New elements of Standard Precautions added to the 2007 guideline include infection control practices (i.e., use of masks) for special lumbar puncture procedures, safe injection practices (discussed later in this course), and respiratory hygiene/cough etiquette [28]. Recommendations in this area address the importance of educating healthcare professionals about adherence to measures to control the transmission of respiratory pathogens, especially during seasonal outbreaks of viral respiratory tract infections. In addition, the guideline states that efforts should be made to contain respiratory secretions in patients and other individuals who have signs and symptoms of a respiratory infection, beginning at the point of initial encounter in a healthcare setting. Signs should be posted to instruct patients and visitors with symptoms of respiratory infection to cover their mouths/noses when coughing or sneezing, to use and dispose of tissues, and to perform hand hygiene after contact with respiratory secretions. Masks should be offered to coughing patients and other individuals with symptoms, and such persons should be encouraged to maintain an ideal distance of at least 3 feet from others in common waiting areas.

The following descriptions of precautions are summarized from the 2007 guideline for isolation precautions [28]. Although the 2007 guideline is the most recent version, guidance regarding Ebola virus precautions and isolation has been updated and will be discussed briefly [71].

STANDARD PRECAUTIONS

Hand Hygiene

The guideline includes recommendations found in the CDC guideline on hand hygiene [42]. Hand hygiene guidelines will be discussed in length later in this course.

Gloves

Wear gloves (clean, nonsterile gloves are adequate) when touching blood, body fluids, secretions, excretions, and contaminated items. Latex or nitrile gloves are preferable for clinical procedures that require manual dexterity and/or will involve more than brief patient contact. Put on clean gloves just before touching mucous membranes and nonintact skin. When worn in combination with other personal protective equipment, don gloves last.

Change gloves between tasks and procedures on the same patient after contact with material that may contain a high concentration of micro-organisms. Remove gloves promptly after use, before touching noncontaminated items and environmental surfaces and before going to another patient, and wash hands immediately to avoid transfer of micro-organisms to other patients or environments. Avoid contamination of clothing and skin when removing gloves. Do not reuse gloves or wash gloves for subsequent reuse.

Mask, Eye Protection, Face Shield

Wear a mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.

Gowns

Wear a gown (a clean, nonsterile gown is adequate) to protect skin and to prevent soiling of clothing during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Select a gown that is appropriate for the activity and amount of fluid likely to be encountered. Remove a soiled gown as promptly as possible (turning outer "contaminated" side of the gown inward), roll gown into a bundle, and discard appropriately. Wash hands to avoid transfer of micro-organisms to other patients or environments. Do not reuse gowns, even for repeated tasks with the same patient.

Patient Placement

Use a private room for a patient who contaminates the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control. If a private room is not available, consult with infection control professionals regarding patient placement or other alternatives.

Patient-Care Equipment

Handle used patient-care equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of micro-organisms to other patients and environments. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

Environmental Control

Ensure that the hospital has adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bedrails, bedside equipment, and other frequently touched surfaces, and ensure that these procedures are being followed.

Linen

Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretions in a manner that prevents contamination of air, surfaces, and individuals.

Occupational Health and Bloodborne Pathogens

Take care to prevent injuries when using needles, scalpels, and other sharp instruments or devices; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing of used needles. Never recap used needles, or otherwise manipulate them using both hands, or use any other technique that involves directing the point of a needle toward any part of the body. Rather, use either a one-handed "scoop" technique or a mechanical device designed for holding the needle sheath. Do not remove used needles from disposable syringes by hand, and do not bend, break, or otherwise manipulate used needles by hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers, which are located as close as practical to the area in which the items were used, and place reusable syringes and needles in a puncture-resistant container for transport to the reprocessing area.

Use mouthpieces, resuscitation bags, or other ventilation devices as an alternative to mouth-to-mouth resuscitation methods in areas where the need for resuscitation is predictable.

CONTACT PRECAUTIONS

Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same micro-organism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, consider the epidemiology of the micro-organism and the patient population when determining patient placement. Consultation with infection control professionals is advised before patient placement.

Gloves and Handwashing

In addition to wearing gloves as outlined under Standard Precautions, wear gloves (clean, nonsterile gloves are adequate) when entering the room. During the course of providing care for a patient, change gloves after having contact with infective material that may contain high concentrations of micro-organisms (e.g., fecal material, wound drainage). Remove gloves before leaving the patient's room, and wash hands immediately with an antimicrobial agent or a waterless antiseptic agent. After glove removal and handwashing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room, to avoid transfer of micro-organisms to other patients or environments.

Gown

In addition to wearing a gown as outlined under Standard Precautions, wear a gown (a clean, nonsterile gown is adequate) when entering the room if you anticipate that your clothing will have substantial contact with the patient, environmental surfaces, or items in the patient's room, or if the patient is incontinent or has diarrhea, an ileostomy, a colostomy, or wound drainage not contained by a dressing. Remove the gown before leaving the patient's environment. After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces, to avoid transfer of micro-organisms to other patients or environments.

Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If the patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of micro-organisms to other patients and contamination of environmental surfaces or equipment.

Patient-Care Equipment

When possible, dedicate the use of noncritical patient-care equipment to a single patient (or cohort of patients infected or colonized with the pathogen requiring precautions) to avoid sharing between patients. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient.

AIRBORNE PRECAUTIONS

All precautions described for airborne pathogens are in addition to Standard Precautions.

Patient Placement

Place the patient in a private room that has (1) monitored negative air pressure in relation to the surrounding areas; (2) 6 to 12 air changes per hour; and (3) appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital. Keep the room door closed and the patient in the room. When a private room is not available, place the patient in a room with a patient who has active infection with the same micro-organism, unless otherwise recommended, but with no other infection. When a private room is not available and cohorting is not desirable, consultation with infection control professionals is advised before patient placement.

Respiratory Protection

Wear respiratory protection (N95 respirator) when entering the room of a patient with known or suspected infectious pulmonary tuberculosis. Susceptible persons should not enter the room of patients known or suspected to have rubeola (measles) or varicella (chickenpox) if other immune caregivers are available. If susceptible persons must enter the room of a patient known or suspected to have rubeola or varicella, they should wear respiratory protection (N95 respirator). Persons immune to rubeola or varicella need not wear respiratory protection.

Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient, if possible.

SUMMARY OF CDC RECOMMENDATIONS FOR HAND HYGIENE
Indications for Hand Hygiene
Wash hands with nonantimicrobial or antimicrobial soap and water when they are visibly dirty, contaminated, or soiled. If hands are not visibly soiled, use an alcohol-based handrub for routinely decontaminating hands.
Specific Indications
Wash hands before patient contact and before putting on gloves for insertion of invasive devices that do not require surgery (e.g., urinary catheters, intravascular devices). Wash hands after: • Contact with a patient's skin • Contact with body fluids or excretions, nonintact skin, or wound dressings • Removing gloves
Recommended Handrub Technique
Apply to palm of one hand, rub hands together, covering all surfaces until dry.
Recommended Handwashing Technique
• Wet hands with water, apply soap, and rub hands together for at least 15 seconds. • Rinse and dry with disposable towel. • Use towel to turn off faucet.
Fingernails and Artificial Nails
Keep tips of natural nails to a length of ¼ inch. Do not wear artificial nails during direct contact with high-risk patients (e.g., patients in intensive care unit or operating room).
Use of Gloves
Use gloves when there is potential for contact with blood or other potentially infectious materials, mucous membranes, or nonintact skin. Change gloves after use for each patient.
Source: [42] *Table 1*

DROPLET PRECAUTIONS

All precautions described for droplet pathogens are in addition to Standard Precautions.

Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same micro-organism but with no other infection. When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 feet between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open.

Masks

In addition to wearing a mask as outlined under Standard Precautions, wear a mask when working within 3 feet of the patient. (Logistically, some hospitals may want to implement a policy of wearing a mask to enter the room.)

Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by placing a surgical mask on the patient, if possible.

HAND HYGIENE

Hand hygiene is the most important preventive measure in hospitals, and the Joint Commission mandates that hospitals and other healthcare facilities comply with the Level I recommendations in the CDC guideline for hand hygiene [42]. The CDC guideline states the specific indications for washing hands, the recommended hand hygiene techniques, and recommendations about fingernails and the use of gloves (***Table 1***) [42]. The guideline also provides recommendations for surgical hand antisepsis, selection of hand-hygiene agents, skin care, educational and motivational programs for healthcare professionals, and administrative measures.

Despite the simplicity of the intervention, its substantial impact, and wide dissemination of the guideline, compliance with recommended hand hygiene has ranged from 16% to 81%, with an average of 30% to 50% [3; 42; 54; 56; 57; 58]. Among the reasons given for the lack of compliance are inconvenience, understaffing, and damage to skin [1; 42; 56; 72]. The development of effective alcohol-based handrub solutions addresses these concerns, and studies have demonstrated that these solutions have increased compliance [57; 73; 74]. The CDC guideline recommends the use of such solutions on the basis of several advantages, including [42]:

- Better efficacy against both gram-negative and gram-positive bacteria, mycobacteria, fungi, and viruses than either soap and water or antimicrobial soaps (e.g., chlorhexidine)
- More rapid disinfection than other hand-hygiene techniques
- Less damaging to skin
- Time savings (18 minutes compared with 56 minutes per 8-hour shift)

The guideline suggests that healthcare facilities promote compliance by making the handrub solution available in dispensers in convenient locations (e.g., entrance to patients' room, at the bedside) and provide individual pocket-sized containers [42]. In one small survey of hand hygiene practices, healthcare workers indicated that they would be more likely to clean their hands as recommended if alcohol-based handrub solution was located near the patient [75]. The handrub solution may be used in all clinical situations except for when hands are visibly dirty or are contaminated with blood or body fluids. In such instances, soap (either antimicrobial or nonantimicrobial) and water must be used.

However, there are many other reasons for lack of adherence to appropriate hand hygiene, including denial about risks, forgetfulness, and belief that gloves provide sufficient protection [1; 42; 56]. These reasons demand education for healthcare professionals to emphasize the importance of hand hygiene. Also necessary is research to determine which interventions are most likely to improve hand-hygiene practices, as no studies have demonstrated the superiority of any intervention [76]. Single interventions are unlikely to be effective [76]. Studies indicate that multimodal interventions (e.g., education, observation, provision of supplies, administrative support, reminders, surveillance, performance feedback) may be more effective in raising compliance [76; 77; 78].

Several single-institution studies have demonstrated that appropriate hand hygiene reduces overall rates of HAIs, including those caused by MRSA and vancomycin-resistant enterococci [57; 58; 73; 74]. However, rigorous evidence linking hand hygiene alone with the prevention of HAIs is lacking, making it difficult to evaluate the true impact of hand hygiene alone in reducing HAIs [79]. One challenge in evaluating the impact of hand hygiene is that a variety of methodologies (e.g., surveys, direct observation, measurement of product use) have been used to assess compliance, each with its own advantages and disadvantages [80]. Measuring the effect of appropriate hand hygiene alone is also difficult because the intervention is often one aspect of a multicomponent strategy to reduce infection [58]. Lastly, as noted previously, the development of HAIs is complex, with many contributing factors [58]. Although more research is needed to assess the individual impact of appropriate hand hygiene, this basic prevention measure is the essential foundation of an effective infection control strategy and is an element of every infection control guideline [2; 28; 36; 37; 39; 40; 42; 43; 44; 47; 49].

EBOLA VIRUS

Care of patients with Ebola requires Standard, Contact, and Airborne Precautions. Duration of these measures is determined on a case-by-case basis, in conjunction with local, state, and federal health authorities. A single-patient room with the door closed is preferred. A log of all people entering the patient's room is required. Avoid entry of visitors into the patient's room except as needed for the patient's well-being and on a case-by-case basis. Any visits should be scheduled and controlled. Barrier protections against blood and body fluids should be used upon entry into the room (i.e., gloves, fluid-resistant or impermeable gown, face/eye protection with masks, goggles or face shields). Additional protective wear (i.e., double gloves, leg and shoe coverings) should be used during the final stages of illness when hemorrhage may occur. The use of dedicated disposable medical equipment is preferred for patient care. All nondedicated, nondisposable equipment should be cleaned and disinfected after use. Disinfection of environmental surfaces should be conducted using a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant. Selection of a disinfectant product with a higher potency than is normally required for an enveloped virus is recommended. If possible, needles, sharps, and aerosol-generating procedures should be avoided as much as possible, and the number of procedures and tests should be limited. All needles and sharps should be handled with extreme care and disposed in puncture-proof, sealed containers. Ebola virus is classified as a Category A infectious substance regulated by the U.S. Department of Transportation's (DOT) Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180). Any item transported offsite for disposal that is contaminated or suspected of being contaminated with a Category A infectious substance must be packaged and transported in accordance with the HMR. Public health officials should be notified immediately if Ebola is suspected [28; 71; 81; 82].

STANDARDS FOR EQUIPMENT AND ENVIRONMENTAL SERVICES

The infection control manual should contain details on cleaning and disinfecting equipment and the healthcare environment. The procedures should follow those set forth by the CDC in its guidelines for environmental infection control and for disinfection and sterilization [37; 41]. These procedures are related to the routine cleaning, disinfection, and reprocessing of equipment; the cleaning and disinfection of environmental surfaces; the cleaning of spills of blood and other body fluids; the cleaning and maintenance of laundry and bedding, carpeting, and cloth furnishings; and the handling of medical waste.

DEFINITIONS OF LEVELS OF CLEANING AND DISINFECTION	
Level	**Definition**
Decontamination	Use of a 0.5% chlorine solution to reduce the number of pathogenic organisms on the device
Cleaning	Use of soap and water to remove all visible dust, soil, blood, or other body fluids
Low-level disinfection	Use of disinfectant to destroy pathogenic organisms (may not eliminate resistant bacteria or most viruses or fungi)
Intermediate-level disinfection	Use of disinfectant to destroy pathogenic organisms (eliminates most bacteria, viruses, and fungi)
High-level disinfection	Use of chemical disinfectants, boiling, or steaming to destroy all micro-organisms
Sterilization	Use of high-pressure steam (autoclave), dry heat (oven), chemical sterilants, or radiation to eliminate all forms of viable micro-organisms
Reprocessing	A multistep procedure that consists of meticulous cleaning, high-level disinfection with a liquid chemical sterilant or disinfectant, and proper drying
Source: [2; 37; 66]	*Table 2*

CLEANING, DISINFECTING, AND REPROCESSING EQUIPMENT

The guideline on disinfection and sterilization published by the CDC in 2008 includes updated evidence-based recommendations on preferred methods for cleaning, disinfecting, and sterilizing medical devices and for cleaning and disinfecting the healthcare environment [37]. The guideline also addresses several new topics, including inactivation of antibiotic-resistant bacteria, bioterrorist agents, emerging pathogens, and bloodborne pathogens; toxicologic, environmental, and occupational concerns associated with disinfection and sterilization practices; disinfection of patient-care equipment used in ambulatory settings and home care; new sterilization processes, such as hydrogen peroxide gas plasma and liquid peracetic acid; and disinfection of complex medical instruments (e.g., endoscopes) [37].

Various levels of cleaning and disinfection have been defined, and decontamination and cleaning must be carried out before any of the higher level processes (***Table 2***) [2; 37; 66]. The cleaning and disinfection of devices varies according to the Spaulding classification, which categorizes devices as critical (i.e., enters normally sterile tissue or the vascular system), semicritical (i.e., comes into contact with intact mucous membranes and does not ordinarily penetrate sterile tissue), or noncritical (i.e., does not ordinarily touch a patient or touches only intact skin) [66; 83]. Critical devices require sterilization, and semicritical devices require high-level disinfection; noncritical devices may be cleaned with low-level disinfection [2; 48; 66; 83].

EVIDENCE-BASED PRACTICE RECOMMENDATION

According to the Association of periOperative Registered Nurses, instruments should be cleaned and decontaminated as soon as possible after use. Preparation for decontamination of instruments should begin at the point of use, and instruments should be kept free of gross soil during the procedure. Instruments should be kept moist until they are cleaned. A towel moistened with water placed over the instruments may be used. Saline should not be used.

(https://apic.org/Resource_/TinyMceFileManager/Implementation_Guides/9_AORNGuidelineSummaryCleaning&CareofSurgicalInstruments.pdf. Last accessed June 15, 2024.)

Strength of Recommendation: Expert Opinion/ Consensus Statement

Endoscopic instruments present a challenge to proper reprocessing because of the complex internal design and long, narrow channels [2]. Reprocessing should be carried out by trained and accredited personnel according to the manufacturer's recommendations, and the process should be monitored regularly for quality control [84]. Guidelines and recommendations for reprocessing of gastrointestinal endoscopes have been developed by several federal agencies, such as the U.S. Food and Drug Administration (FDA) and the CDC, as well as many professional organizations [2; 48; 84; 85; 86; 87]. The reprocessing procedure should begin immediately after use to prevent secretions from drying [2; 37; 86; 87].

Some inconsistencies across reprocessing guidelines and manufacturer recommendations have been found, primarily with regard to drying [86]. Also, various steps in the procedure have been emphasized as being the most critical. For example, one report notes that meticulous mechanical cleaning is the most important step because it removes the majority of the contaminating bacteria [84]. Another report emphasizes the importance of drying to avoid waterborne bacteria, such as Pseudomonas aeruginosa [86].

A report of four patients with infection with *P. aeruginosa* after transrectal ultrasound-guided prostate biopsies raised awareness about the need for thorough cleaning of equipment. Evaluation of the findings on the four patients demonstrated that the infection was caused by contamination of the needle guide as a result of inadequate cleaning (with a brush) and improper rinsing (with tap water) after reprocessing [88]. The report led to the FDA issuing a Public Health Notification on proper reprocessing of such devices [89].

Reprocessing of bronchoscopes has received less attention, perhaps because of the low risk of infection, but general recommendations, similar to those for gastrointestinal endoscopes, are available [32; 90].

CLEANING THE ENVIRONMENT

Every healthcare facility should have a written housekeeping schedule for the routine cleaning of the environment. Routine cleaning removes so-called visible dirt, which can harbor micro-organisms. Soap and water can be used to remove visible dirt from most surfaces, such as walls, doors, ceilings, and floors. A disinfectant should be used when there are signs of contamination. The level of asepsis in cleaning depends on the likelihood of contamination. WHO suggests classifying areas within a healthcare facility into four zones [2]:

- Zone A: No patient contact
- Zone B: Care of patients who are not infected and are not highly susceptible
- Zone C: Infected patients (isolation units)
- Zone D: Highly susceptible patients (protective isolation) or protected areas such as operating suites, delivery rooms, intensive care units, neonatal intensive care, transplant units, oncology units, and hemodialysis units

Cleaning according to this classification should be as follows [2]:

- Zone A: Normal cleaning
- Zone B: Cleaning procedures that do not raise dust. (Dry sweeping or vacuum cleaners are not recommended.) Use a detergent solution and disinfect any areas with visible contamination with blood or body fluids before cleaning.
- Zone C: Cleaning with a detergent/disinfectant solution, with separate cleaning equipment for each room
- Zone D: Cleaning with a detergent/disinfectant solution and separate cleaning equipment

Written policies should specify how frequently each area should be cleaned and should note the cleaning agents used for various surfaces and items such as beds, curtains, screens, fixtures, and furniture. In general, all surfaces in the environment (e.g., walls, doors, floors) must be cleaned daily to remove soil. Sinks, toilets, and baths should be scrubbed daily, or more often if needed, with a disinfectant cleaning solution using a separate mop, brush, or cloth. Patient rooms should also be cleaned daily and after each patient is discharged. Surfaces and countertops in procedure rooms, examination rooms, and the laboratory must be cleaned with a disinfectant solution after any activity.

Spills of blood or other body fluid should be removed and cleaned immediately. The area should first be cleaned with a 0.5% chlorine solution and then washed clean with a disinfectant solution. Gloves should be worn while cleaning.

MANAGING WASTE

Management of waste is a concern in healthcare facilities, but 75% to 90% of waste poses no risk of infection. The following types of waste are considered to be hazardous [2]:

- Infection-associated waste (from isolation units, laboratory cultures, tissue swabs)
- Pathologic waste (blood, body fluids, human tissue)
- Sharps (needles, scalpels, blades, knives)
- Pharmaceutical waste (expired pharmaceutical agents)
- Chemical waste (laboratory reagents, solvents)
- Heavy metal waste (broken blood pressure gauges, batteries)
- Radioactive waste

As with cleaning, written policies should document the appropriate handling, storage, and transportation of all types of waste.

SAFE INJECTION PRACTICES

Infection prevention also includes safe injection practices intended to prevent or reduce the risk of transmission of infectious diseases between one patient and another or between a patient and healthcare provider. A safe injection does not harm the recipient, does not expose the provider to any avoidable risks, and does not result in waste that is dangerous for the community [91].

Unsafe injection practices put patients and healthcare providers at unnecessary risk. A wide variety of procedures, such as the administration of anesthetics for outpatient procedures, the administration of other IV medications, flushing IV lines or catheters, and the administration of IM vaccines, have been associated with unsafe injection [91]. Outbreaks related to these practices indicate that some healthcare personnel do

not adhere to basic principles of infection control and aseptic technique. A survey of U.S. healthcare professionals who provide medication through injection found that 1% to 3% reused the same needle and/or syringe on multiple patients [28].

The following guidelines should be considered with regards to injection practices [28]:

- Use aseptic technique to avoid contamination of sterile injection equipment.
- Never administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed. Needles, cannulae, and syringes are sterile, single-use items; they should not be reused for multiple patients.
- Use fluid infusion and administration sets (e.g., intravenous bags, tubing, connectors) for one patient only, and dispose appropriately after use.
- Use single-dose vials for parenteral medications whenever possible.
- If multidose vials must be used, both the needle or cannula and syringe used to access the multidose vial must be sterile.
- Do not keep multidose vials in the immediate patient treatment area, and store in accordance with the manufacturer's recommendations. D iscard if sterility is compromised or questionable.
- Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients.

SURVEILLANCE

Surveillance is an essential component of an infection control program. The infection control team has traditionally conducted surveillance through open communication with the nursing staff and physicians and meticulous review of patient records and microbiology results. The advent of electronic health systems has enabled some infection control programs to create algorithm-driven surveillance [1]. In addition, newer technology is adding to changes in the way surveillance is conducted. An electronic, laboratory-based marker has been developed and compared with traditional medical record review and accepted surveillance methods, including hospital-wide detection by the Study on the Efficacy of Nosocomial Infection Control chart review and intensive care unit detection by National Nosocomial Infections Surveillance System techniques. Analysis with the marker was significantly better than the hospital-wide detection methods and had sensitivity comparable to medical record review [92].

The infections most commonly targeted for surveillance are those difficult to treat and those associated with substantial costs in terms of morbidity, mortality, or economics [1]. In addition, infections with a predilection for epidemics are a focus. The data gathered should be evaluated in relation to regional and national norms, and temporal trends should also be noted. Continuing analysis of the data allows the infection control team to evaluate the efficacy of programs designed to enhance compliance with hospital-wide strategies to prevent HAIs.

EXPOSURE INCIDENTS

If an occupational exposure to a bloodborne pathogen or infectious material occurs, employers should follow all federal (including the Occupational Safety and Health Administration) and state requirements for recording and reporting. The circumstances surrounding the exposure and postexposure management strategies should be recorded in the exposed person's confidential medical record and should include [93]:

- Date and time of exposure
- Details of the procedure performed
- Details of the exposure
- Details about the exposure source
- Details about the exposed person and any need for counseling, postexposure management, or follow-up

COMMUNICABLE DISEASE EXPOSURES IN HEALTHCARE PROFESSIONALS

PREPLACEMENT EVALUATIONS AND PERIODIC HEALTH ASSESSMENTS

Medical evaluations before placement may reduce the undue risk of infection to employees, patients, and visitors. Preplacement evaluations should include a review of each employee's job description for duties that may affect the risk of acquiring or transmitting infections in healthcare settings [94]. A health inventory for all new healthcare professionals who have direct patient/family contact must be documented prior to the beginning of patient/family contact. The inventory should include [26; 94; 95]:

- A history of medical conditions and other factors that may affect the risk of acquiring or transmitting infections
- A certificate of immunization against vaccine-preventable diseases (e.g., rubella, measles), as recommended for healthcare personnel by the Advisory Committee on Immunization Practices (ACIP), or professionally certified medical exemption from immunization
- A purified protein derivative (PPD) (Mantoux) skin test for tuberculosis prior to employment, and no less than every year thereafter for negative findings. Positive findings require appropriate clinical follow-up but no repeat test.
- An annual (or more frequent, if needed) health status assessment to ensure freedom from any health impairment that might pose a risk for other workers, patients, or visitors

- Documentation of pre-employment and annual vaccination against influenza

Screening tests are available to determine susceptibility to vaccine-preventable diseases, such as measles, mumps, rubella, and varicella. The results of these tests should be included in personnel immunization records to ensure that susceptible personnel are promptly identified and appropriately vaccinated. All healthcare settings should conduct initial and ongoing risk assessments for the transmission of tuberculosis to determine the types of administrative, environmental, and respiratory-protection controls needed. Part of the assessment should include risk classification to determine the need for a screening program and the frequency of screening. All healthcare professionals with suspected or confirmed tuberculosis disease who have duties that involve face-to-face contact with patients should be included in a screening program [96].

All healthcare professionals experiencing fever, cough, rash, vesicular lesions, draining wounds, vomiting, or diarrhea require immediate evaluation by a licensed medical professional and possible restriction from patient care activities and return to work clearance [95]. The CDC recommends that all healthcare personnel obtain annual influenza vaccination to reduce infection of staff, patients, and family members and to decrease absenteeism [97]. Immunization against hepatitis B and pertussis (Tdap), in addition to all core vaccines, is also recommended [98]. Vaccination of healthcare personnel is considered an essential component of a patient safety program [97].

Management Strategies

Prompt diagnosis and management of job-related illnesses, appropriate postexposure prophylaxis, and implementation of measures to prevent further infection transmission are important aspects of an effective infection control program. Healthcare organization leaders and administrators are encouraged to establish a timely, confidential, and nonpunitive mechanism for healthcare personnel to report potentially infectious exposures and to access exposure and illness management services 24 hours per day and seven days per week [94]. Exclusion of personnel from work or patient contact, depending on the mode of transmission and the pathogenesis of the disease, may also be necessary. In these cases, personnel should avoid contact with susceptible persons and should be encouraged to report illnesses or exposures, including any that occur outside the healthcare setting. Notification of emergency response personnel possibly exposed to selected infectious diseases is mandatory [95].

Education on best practices is a crucial aspect of preventing HAIs and is a recommendation in all infection control guidelines [2; 15; 28; 36; 37; 39; 40; 42; 43; 44; 47; 49]. Education should highlight the effect of prevention measures on the rates of HAIs, enhance knowledge about currently available guidelines, and provide instruction on carrying out guideline recommendations. Research has also suggested that education about prevention strategies may be more effective if patterns of care and levels of risk are incorporated into recommendations [99]. Numerous studies have shown that knowledge and practices related to HAIs and guidelines are improved after educational programs. The combination of a self-study module (with pretest and post-test), in-service lectures, posters, and fact sheets on the prevention of intravascular device-related bloodstream infections and appropriate practices led to substantial reductions in the prevalence of such infections [100; 101]. A small study showed that intensive care nurses' knowledge and practices were enhanced by education on the prevention of ventilator-associated pneumonia [102]. A Canadian study demonstrated that rates of nosocomial MRSA infection significantly decreased after a mandatory infection control education program on MRSA that included discussion of hospital-specific MRSA data and case-based practice [103].

It is important that all education campaigns, whether they target healthcare professionals, facility staff (e.g., janitorial staff), or the patient populations, take into consideration the special needs of the intended audience. Compounding this issue is the high rate of individuals with limited English proficiency. According to the U.S. Census Bureau data from 2019, more than 65 million Americans speak a language other than English at home, with more than 25.6 million (8.4%) of these individuals reporting that they speak English less than "very well" [104]. Even those who do speak English well may prefer to receive education in another language.

POSTEXPOSURE EVALUATION AND MANAGEMENT

When a healthcare provider has been exposed to particular infectious agents, it is important that recommended postexposure management guidelines are followed. This should reduce the risk of infection and of transmitting the infection to others [95].

Bloodborne Pathogens

Transmission of bloodborne pathogens due to occupational exposure of healthcare professionals has occurred in needlestick accidents (0.3% risk) and blood splashes to the mucous membranes (0.09% risk) [64]. Needlestick is the most common route, but the risk of infection even through this route is low, and most exposures do not result in infection [64; 105]. The risk for transmission increases based on the source patient's viral load and the quantity of blood transferred (e.g., a needle visibly contaminated with blood; a large-gauge hollow-bore needle; a procedure that involved the needle entering directly into the patient's artery or vein; a deep puncture from a contaminated needle). In order to decrease the risks associated with bloodborne pathogen exposures, postexposure prophylaxis should be initiated as soon as possible after the incident.

Hepatitis Viruses

Recommendations for HBV postexposure management include initiation of the hepatitis B vaccine series to any susceptible, unvaccinated person who sustains an occupational blood or body fluid exposure. Postexposure prophylaxis with hepatitis B immune globulin (HBIG) and/or hepatitis B vac-

cine series should be considered for occupational exposures after evaluation of the hepatitis B surface antigen status of the source as well as the vaccination and vaccine-response status of the exposed person [93].

Immune globulin and antiviral agents (e.g., interferon with or without ribavirin) are not recommended for postexposure prophylaxis of HCV. In this instance, the HCV status of the source and the exposed person should be determined as soon as possible (preferably within 48 hours) after the exposure, using one of two options: test for HCV RNA (preferred), or test for anti-HCV and then if positive, test for HCV RNA [106]. If the source patient is known or suspected to have recent behavior risks for HCV acquisition (e.g., injection drug use), or if the risk cannot be reliably assessed, the initial testing should include a nucleic acid test for HCV RNA. Persons with recently acquired acute infection typically have detectable HCV RNA levels as early as one to two weeks after exposure [106]. For healthcare professionals exposed to an HCV-positive source, follow-up HCV testing should be performed to determine if infection develops [93; 106]. The timing and type of follow-up testing recommended is included in guidance from the CDC published in 2020 [106].

Healthcare professionals exposed to hepatitis viruses should refrain from donating blood, plasma, organs, tissue, or semen [93]. When based only on exposure to HBV- or HCV-positive blood, modifications to an exposed healthcare professional's patient-care responsibilities are not necessary. Acutely infected healthcare professionals should be evaluated according to current guidelines; healthcare professionals chronically infected with HBV or HCV should follow all recommended infection control practices [93].

HIV

This section is from the Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis as published by the CDC on September 25, 2013, in Infection Control and Hospital Epidemiology.

The following recommendations apply to situations where healthcare professionals have had exposure to a source person with HIV or where information suggests that there is likelihood that the source person is HIV-infected. Because most occupational HIV exposures do not result in the transmission of HIV, potential toxicity should be carefully considered when prescribing postexposure prophylaxis. The 2013 update focused on tolerability, side effects, toxicity, safety in pregnancy and lactation, pill burden, and frequency of dosing to maximize adherence to a postexposure prophylaxis (PEP) regimen [64]. When possible, these recommendations should be implemented in consultation with persons having expertise in antiretroviral therapy and HIV transmission, due to the complexity of selecting appropriate treatment.

The preferred regimen for PEP provided in the U.S. Public Health Service Guidelines for management of healthcare professionals' exposures to HIV is a basic regimen that should be appropriate for most HIV exposures: emtricitabine and tenofovir dispensed together as Truvada, a fixed-dose combination tablet, 1 mg once daily, plus raltegravir, 400 mg twice daily [64]. This preparation is available as a starter packet that should be stocked at every healthcare facility where exposure to HIV is possible. As discussed, the regimen has been selected for its tolerability and safety profile. There are several alternative regimens that may be selected due to individual patient concerns. For example, tenofovir is associated with renal toxicity, and an alternative nucleoside/nucleotide reverse-transcriptase inhibitor pair, such as zidovudine plus lamivudine (available as Combivir) would be selected for patients with renal disease [64].

Healthcare professionals with occupational exposure to HIV should receive follow-up counseling, postexposure testing, and medical evaluation regardless of whether they receive PEP. The 2013 guideline highlights the importance of follow-up within 72 hours to allow the initial shock to fade and to provide greater opportunity for full understanding of the risks and benefits of PEP; confirmation testing to ensure the necessity of PEP; increase adherence to PEP; monitoring for adverse reactions and side effects; and treating comorbidities and altering the regimen [64]. This window provides an opportunity to discuss the importance of preventing secondary transmission of HIV in the 6 to 12 weeks following initial infection. HIV-antibody testing should be performed for at least six months postexposure (e.g., at 6 weeks, 12 weeks, and 6 months). It is unclear whether an extended follow-up period (e.g., 12 months) is indicated for individuals not coinfected with HCV and HIV. If PEP is used, drug-toxicity monitoring should be performed at baseline and again two weeks after starting PEP. Clinical judgment, based on medical conditions that may exist in preexposure and/or as a result of the regimen, should determine the scope of testing. If the source patient is found to be HIV negative, PEP should be discontinued immediately [64].

Airborne/Droplet Pathogens

Tuberculosis

Healthcare professionals with known or presumed exposure to *Mycobacterium tuberculosis* should be asked whether they have experienced any signs or symptoms of tuberculosis (i.e., coughing for more than three weeks, loss of appetite, unexplained weight loss, night sweats, bloody sputum, hoarseness, fever, fatigue, or chest pain). Because a blood assay for *M. tuberculosis* (BAMT) conversion likely indicates recent infection, a BAMT result should be obtained to exclude tuberculosis [107]. If either the symptom screen or the BAMT result is positive, the exposed healthcare professional should be promptly evaluated for tuberculosis. If tuberculosis is excluded, additional medical and diagnostic evaluations for latent tuberculosis infection, including an assessment of the extent of exposure, should be obtained [96; 107]. Healthcare professionals with active tuberculosis should be excluded from duty until proved noninfectious [95].

Measles

According to the CDC and Hospital Infection Control Practices Advisory Committee (HICPAC), postexposure measles vaccine should be administered to measles-susceptible personnel who have had contact with persons with measles within 72 hours postexposure [95]. People at risk for severe illness and complications from measles (e.g., infants younger than 12 months of age, pregnant women with no evidence of immunity) and people with severely compromised immune systems should receive immunoglobulin [108]. Furthermore, adherence to Airborne Precautions (for suspected and proven cases) is also necessary [108]. Healthcare professionals without evidence of immunity who are not vaccinated after exposure should be removed from all patient contact and furloughed from day 5 after first exposure through day 21 after last exposure [98; 108].

Mumps

The CDC and HICPAC have also established postexposure protocols for mumps. The mumps vaccine should be administered to all personnel without documented evidence of mumps immunity, unless otherwise contraindicated [95; 98]. Routine serologic screening is not necessary unless the healthcare professional considers screening cost-effective or requests it. Susceptible personnel who are exposed to mumps should not work from the 12th day after first exposure through the 26th day after last exposure or, if symptoms develop, until five days after onset of parotitis [95].

Pertussis

The CDC/HICPAC guideline indicates that antimicrobial prophylaxis against pertussis should be immediately offered to personnel who have had unprotected, intensive contact with a patient who has clinical syndrome that suggests pertussis and whose cultures are pending [95; 98]. Other healthcare personnel should either receive postexposure antimicrobial prophylaxis or be monitored daily for 21 days after exposure and treated at the onset of signs and symptoms [98]. Prophylaxis may be discontinued if results of cultures or other tests are negative for pertussis and the clinical course suggests an alternate diagnosis.

Rubella

Susceptible personnel who are exposed to rubella should be excluded from duty from the 7th day after first exposure through the 21st day after last exposure [95; 98]. Those who acquire rubella should not work until seven days after the beginning of the rash.

Varicella

The Advisory Committee on Immunization Practices (ACIP) recommends postexposure prophylaxis (with vaccination or varicella-zoster immunoglobulin [VZIG], depending on immune status) of exposed healthcare personnel without evidence of immunity [98]. Healthcare professionals who have onset of varicella should be furloughed until all lesions have dried and crusted [95]. Personnel exposed to varicella who are not known to be immune (by history or serology) should be excused from work beginning on the 10th day after first exposure until the 21st day after last exposure.

Immunocompetent personnel with localized zoster should refrain from the care of high-risk patients until lesions are crusted. They may continue to care for other patients with lesions covered [95]. Susceptible personnel exposed to zoster should not engage in patient contact from the 10th day after first exposure through the 21st day after last exposure (or 28th day if VZIG was given) [95; 98].

Serologic screening is indicated for exposed personnel who have not had varicella or are unvaccinated; screening for immunity to varicella may be considered for exposed, vaccinated personnel whose antibody status is not known [95; 98]. If the initial test result is negative, retest five to six days postexposure to determine whether an immune response occurred.

All exposed susceptible personnel should receive postexposure prophylaxis [98]. If VZIG is given, exclude personnel from duty from the 8th day after first exposure through the 28th day after last exposure.

Norovirus

Although the most frequent routes of transmission of noroviruses are direct contact and food and waterborne routes, several reports suggest that noroviruses may be transmitted through infectious small-particle aerosols (e.g., vomitus, fecal material) over distances further than 3 feet, typically within a defined airspace (e.g., a patient's room) [109; 110; 111; 112; 113; 114]. It is hypothesized that the aerosolized particles are inhaled and subsequently swallowed. Because of its propensity for transmission within healthcare facilities, and its ability to have a disruptive impact in healthcare facilities, norovirus is an "epidemiologically important organism" [28].

The average incubation period for gastroenteritis caused by noroviruses is 12 to 48 hours, with a clinical course lasting 12 to 60 hours. There are no recommendations for postexposure prophylaxis for healthcare personnel with norovirus infection. However, recommendations for healthcare personnel who have symptoms consistent with norovirus infection include exemption from work for a minimum of 48 hours after the resolution of symptoms and exclusion of nonessential staff from areas in which outbreaks of norovirus gastroenteritis have occurred [28; 115].

Cohorting of affected patients to separate airspaces and toilet facilities may help interrupt transmission during outbreaks. Contact Precautions should be used for diapered or incontinent persons for the duration of illness or to control outbreaks. Consistent environmental cleaning and disinfection is important, with focus on restrooms even when apparently unsoiled. Persons who clean heavily contaminated areas may benefit from wearing masks, as the virus can be aerosolized [28].

NEW YORK DEPARTMENT OF HEALTH POLICY FOR TESTING POSSIBLE HIV SOURCES IN THE HEALTHCARE SETTING
Postexposure prophylaxis (PEP) is recommended for healthcare professionals following exposure to blood or visibly bloody fluid or other potentially infectious material associated with potential HIV transmission.
If HIV serostatus of the source is unknown, voluntary HIV testing of the source should be sought. In New York State, specific informed consent for HIV testing is required.
When the source is available and consents to HIV testing, use of an HIV-1/2 antigen (Ag)/Ab combination immunoassay is recommended, preferably with a fast turn-around time. Results from point-of-care assays are available in less than one hour, and results from laboratory-based screening tests are often available within one to two hours. Rapid oral testing is not recommended due to lack of sensitivity to identify recent infection and requirements regarding food, drink, and tobacco use.
When the source of any potential exposure to HIV is not known, not available, or cannot be HIV tested for any reason, the care provider should assess the exposed individual's level of risk, assume the source has HIV until proven otherwise, and respond accordingly.
Determining whether the exposure warrants PEP and promptly initiating PEP when indicated should be the focus at initial presentation, rather than the HIV status of the source.
Source: [38] — *Table 3*

HEALTHCARE PROFESSIONALS INFECTED WITH BLOODBORNE PATHOGENS

Routine voluntary, confidential testing has been recommended for all healthcare providers, particularly for those whose clinical practice places them at higher risk for exposure and transmission [116]. The New York Department of Health has developed a policy regarding HIV testing of healthcare professionals (***Table 3***) [38]. It is important to note that New York State Public Health Law protects the confidentiality and privacy of anyone who has been tested for, exposed to, or treated for HIV [38]. In addition, according to the Americans with Disabilities Act, an individual is considered to have a disability if he or she has a physical or mental impairment that substantially limits one or more major life activities, has a record of such impairment, or is regarded as having such impairment [117]. Persons with HIV disease, both symptomatic and asymptomatic, have physical impairments that substantially limit one or more major life activities and are, therefore, protected by the law. Persons who are discriminated against because they are regarded as being HIV-positive are also protected.

In 2010, the Society for Healthcare Epidemiology of America (SHEA) updated its guidelines for the management of healthcare professionals who are infected with bloodborne pathogens [116]. According to these guidelines, healthcare providers with HBV, HCV, and/or HIV with greater viral loads ($\geq 10^4$ genome equivalents/mL for hepatitis viruses, $\geq 5 \times 10^2$ genome equivalents/mL for HIV) should be restricted from performing activities associated with a definite risk for provider-to-patient transmission of bloodborne pathogens, such as most surgeries, organ transplantation, and interactions with patients prone to biting [116]. These providers may engage in procedures for which the risk of transmission is insignificant (e.g., history taking, regular dental preventive procedures, minor surface suturing) or unlikely (e.g., locally anesthetized ophthalmologic surgery, percutaneous cardiac procedures, breast augmentation, minor oral surgery). Routine double gloving is also recommended [116].

According to the CDC, healthcare providers with active hepatitis B infection (i.e., those who are HBsAg-positive) who do not perform exposure-prone procedures but who practice non- or minimally invasive procedures should not be subject to any restrictions of their activities or study. They do not need to achieve low or undetectable levels of circulating HBV DNA, hepatitis e-antigen negativity, or have review and oversight by an expert review panel, as recommended for those performing exposure-prone procedures.

(https://www.cdc.gov/mmwr/PDF/rr/rr6210.pdf. Last accessed June 15, 2024.)

Strength of Recommendation: Expert Opinion/ Consensus Statement

Infected healthcare professionals with lower viral burdens ($<10^4$ genome equivalents/mL of hepatitis viruses, $<5 \times 10^2$ genome equivalents/mL for HIV) may engage in all clinical activities [116]. However, all healthcare providers with a bloodborne pathogen must obtain advice from an expert review panel about continued practice, undergo follow-up routinely by an appropriate public health official, receive follow-up by a personal physician who has expertise in the management of the infection, and adhere to strict infection control procedures [116]. Those with low viral burdens should undergo testing twice per year to demonstrate maintenance of viral level.

SEPSIS

Sepsis is a systemic pathophysiologic and clinical syndrome caused by infection and manifest by signs of inflammation, host immune response, and organ dysfunction. The causes of sepsis are myriad, and the scope of illness is broad. Most cases of sepsis syndrome arise from bacterial infection, but certain viral (e.g., Ebola and other hemorrhagic fevers) and fungal (e.g., candidiasis, histoplasmosis) infections induce a sepsis syndrome as well.

In simple terms, infection is the invasion of normally sterile host tissue by a micro-organism; clinically, infection is recognized by the constellation of symptoms and signs that issue from the host response to the invading micro-organism. Bacteremia is defined as the demonstrable presence (e.g., by culture) of viable bacteria within the general circulation.

It is important that clinicians and patients alike are aware that sepsis is a life-threatening medical emergency. Most patients who develop sepsis have recently used healthcare services or have a chronic condition requiring frequent medical care. Morbidity and mortality can be decreased by early recognition and intervention.

EPIDEMIOLOGY AND BURDEN OF SEPSIS

Sepsis, septic shock, and multiple organ failure are major causes of morbidity and mortality in the United States, resulting in an estimated 1.7 million hospitalizations and 270,000 deaths annually. One in three patients who die in a hospital has sepsis [118]. In New York, sepsis and septic shock impact approximately 50,000 patients each year, almost 30% of which will die from this syndrome [119]. It is estimated that 9.3% of all deaths in the United States, and nearly half of hospital deaths, are a result of sepsis, which equals the number of deaths resulting from myocardial infarction and far exceeds the mortality rates from acquired immune deficiency syndrome (AIDS) or breast cancer. The aggregate hospital cost of care for patients with septicemia totaled nearly $23.7 billion in 2013 [120; 121; 122; 123; 124].

A study of hospital emergency department visits between 2009 and 2011 found that of the more than 1.3 million visits, nearly 850,000 were attributed to sepsis [125]. The average length of stay in the emergency department is 4.7 hours. However, more than 20% of patients with sepsis had a length of stay that exceeded six hours, resulting in a substantial burden on facilities nationwide in providing sepsis care [126; 127].

The incidence of septicemia more than doubled between 1993 and 2009, increasing by an annual average of 6% [120]. Between 1993 and 2003, 8.4 million cases of sepsis and 2.4 million cases of severe sepsis were reported. The percentage of severe sepsis cases among all sepsis cases increased from 25.6% to 43.8% during the same time period [128]. Studies continue to report an increase in the incidence of septicemia; however, they also indicate that in-hospital mortality rates for sepsis appear to be declining. For example, according to the results of one retrospective cohort study, the incidence of septicemia as a proportion of medical and surgical admissions increased from 3.9% to 9.4% from 2010 to 2015, whereas the in-hospital mortality rate for sepsis hospitalizations declined from 24.1% to 14.8% during the same period. The percentage of patients at risk for hospital readmission after sepsis increased from 2.7% to 7.8%. Although 30-day readmission rates declined from 26.4% to 23.1% from 2010 to 2015, this was offset by an increase in emergency department visits, from 2.8% in 2010 to 5.4% in 2014 [124]. Another study that analyzed data from 2009 to 2014 also reported an increase in the incidence of sepsis but a decline in sepsis-related mortality rates [129]. The reported incidence of sepsis in the general population varies greatly and has been attributed to the data source, sepsis surveillance definition, and advances in supportive care for the critically ill [129; 130; 131; 132].

The reported incidence rates of sepsis increase with advanced age. Two-thirds of all sepsis cases occur in people 65 years of age and older, with case fatality rates as high as 40% [121]. Age-adjusted rates for sepsis hospitalization and mortality increased annually by 8.2% and 5.6%, respectively, between 1993 and 2003, whereas the fatality rate decreased by 1.4% [128]. Sepsis is more common among men than women, and the fatality rate is greater in men and nonwhite populations [133].

Mortality from sepsis of gram-negative etiology is the cause of 20% to 50% of the overall total number of septic deaths. The figures are now similar for sepsis of gram-positive etiology [134]. Mortality has been reported as high as 60% in patients with underlying medical problems. Among patients who develop the complications of shock and organ failure, mortality can reach 90% [135]. Extent of organ failure contributes to the prognosis, with a greater survival rate in patients with fewer than three failing organs. The risk of death increases as each organ fails [135].

Sepsis is among the leading causes of hospitalization and ranks as the most expensive inpatient condition treated in U.S. hospitals [136]. Data from the 2008 National Hospital Discharge Survey (now the National Hospital Care Survey) show that the rate of hospitalization for sepsis increased from 11.8 to 24 per 10,000 population during the period 2000 through 2008 [136]. Compared with other conditions, the hospital stay for sepsis was 75% longer and the likelihood of dying during hospitalization was eight times higher. The estimated annual cost of hospitalization for sepsis and septicemia in 2008 was $14.6 billion and increasing at the rate of 11.9% each year [136].

One retrospective study was conducted in 2018 to characterize the burden, outcomes, and costs of managing sepsis patients in U.S. hospitals [137]. The cohort consisted of adults 18 years of age and older with a hospital discharge diagnosis code of sepsis between January 2010 and September 2016. Of the more than 2.5 million patients included in the final study cohort, the mean age was 65 years and more than one-half were female (50.8%). The overall mortality was 12.5% but varied accord-

ing to severity of sepsis (i.e., 5.6% for sepsis without organ dysfunction; 14.9% for severe sepsis; and 34.2% for septic shock). Economic costs also increased according to the severity level of sepsis ($16,324, $24,638, and $38,298, respectively) and varied widely by sepsis at presentation ($18,023) and not present at admission ($51,022) [137].

Despite immense clinical effort and high treatment expenditures, mortality rates remain high. Those who survive often sustain permanent organ damage, some degree of physical disability, and long-term cognitive impairment [138].

New York State Sepsis Improvement Initiative

In 2013, New York adopted new laws to combat sepsis, referred to as Rory's Regulations, in honor of Rory Staunton, who had died the previous year after multiple healthcare encounters failed to diagnose sepsis [139]. Specifically, amendments were made to sections 405.2 and 405.4 of Title 10 (Health) of the Official Compilation of Codes, Rules and Regulations of the State of New York. Section 405.2 requires hospitals to have in place evidence-based protocols for the early recognition and treatment of patients with severe sepsis/septic shock that are based on generally accepted standards of care [140]. Section 405.4 further requires that these protocols include the following components [140]:

- A process for the screening and early recognition of patients with sepsis, severe sepsis, and septic shock
- A process to identify and document individuals appropriate for treatment through severe sepsis protocols, including explicit criteria defining those patients who should be excluded from the protocols, such as patients with certain clinical conditions or who have elected palliative care
- Guidelines for hemodynamic support with explicit physiologic and biomarker treatment goals, methodology for invasive or non-invasive hemodynamic monitoring, and timeframe goals
- For infants and children, guidelines for fluid resuscitation with explicit timeframes for vascular access and fluid delivery consistent with current, evidence-based guidelines for severe sepsis and septic shock with defined therapeutic goals for children
- A procedure for identification of infectious source and delivery of early antibiotics with timeframe goals
- Criteria for use, where appropriate, of an invasive protocol and for use of vasoactive agents

In addition, hospitals are required to report to the Department data that are used to calculate each hospital's performance on key measures of early treatment and protocol use.

As part of this movement, the New York State Sepsis Care Improvement Initiative was begun by the Department of Health as a resource for quality improvement in sepsis care by improving early detection and intervention, especially for patients with severe sepsis and shock [119]. The Initiative also publishes an annual public report detailing data collection, adherence to guidelines, improvements on quality measures and outcomes, and stakeholder collaborations.

RISK FACTORS AND PREVENTION

Factors considered important in the development of sepsis include: inappropriate broad-spectrum antibiotic therapy; immunosuppressive treatments, such as cancer chemotherapy; invasive procedures; transplantations; fungal organisms; burns or other trauma; anatomic obstruction; intestinal ulceration; age (the very young and the very old); and progressive clinical conditions, such as malignancy, diabetes, or AIDS [141].

Healthcare-associated infections are a major cause of sepsis among severely ill patients. Increased risk of nosocomial infection is associated with the presence of underlying chronic disease, alteration in host defenses, prolonged hospital stay, and the presence of invasive catheters or monitoring devices [142]. Pulmonary, urinary tract, gastrointestinal, and wound infections predominate [143; 144]. In hospitalized adult patients, the etiology of sepsis has shifted from being predominantly gram-negative nosocomial infections (*Escherichia coli*, *Klebsiella* spp., *Enterobacter* spp., and *Pseudomonas aeruginosa*) to gram-positive infections (*Staphylococcus aureus*, *Streptococcus pneumoniae*, and *Streptococcus pyogenes*) [145]. The incidence of sepsis caused by gram-positive infections has increased by 26.3% per year over the last three decades [146]. Multidrug-resistant pathogens, such as *S. aureus*, now account for more than half of all sepsis cases. *S. aureus* is singly responsible for 40% of ventilator-associated pneumonia episodes and most cases of nosocomial pneumonia [146; 147]. Group B streptococcus is a leading cause of neonatal sepsis in the United States [148].

Vascular and monitoring catheters and infusion sets may become contaminated and lead to the development of nosocomial infections and sepsis. The risk of catheter-related sepsis is increased when the IV catheter is placed in a central vein, particularly if the catheter remains in place longer than three to five days or if the catheter is used for blood sampling [149]. The results of a Cochrane review originally revised in 2013 found evidence indicating that administration sets that do not contain lipids, blood, or blood products may be left in place for intervals of up to 96 hours without increasing the risk of infection [150; 151]. Generally, consideration should be given to changing the catheter and possibly the insertion site after 72 hours [152]. The risk of contamination of arterial catheters is higher than that observed with venous catheters. Contamination can occur if the system is entered frequently for blood sampling, if the infusate remains in place for more than 48 hours, or if inflammation develops near the catheterized artery [152]. Urinary catheters left in the bladder longer than two weeks often cause infection. Therefore, increased surveillance for signs of urinary tract infections when catheters remain in place beyond a few days is necessary [153].

Central venous catheters (CVCs) are increasingly used in the pediatric population, leading to an increase in CVC-related complications. Implanted ports may be the device of choice

when long indwelling times are expected, with consideration given to the patient's age and need for sedation and analgesia during the insertion procedure. Radiograph following the insertion procedure is recommended to ensure correct catheter positioning. Full sterile barrier precautions, strict protocols for catheter care, and prompt removal of the catheter when it is no longer needed are recommended to prevent infectious complications [154]. A study conducted by the American Pediatric Surgical Association found that chlorhexidine skin prep and chlorhexidine-impregnated dressing and heparin and antibiotic-impregnated CVCs can decrease CVC colonization and bloodstream infection and that ethanol and vancomycin lock therapy can reduce the incidence of catheter-associated bloodstream infections [155].

Bacterial contamination of platelet units (estimated at 1 in 1,000–3,000) results in many occurrences of transfusion-associated sepsis in the United States each year. In 2017, two separate clusters of platelet transfusion-associated bacterial sepsis were reported in Utah and California, resulting in three deaths [156]. The AABB (formerly the American Association of Blood Banks) adopted a new standard in 2004 requiring member blood banks and transfusion services to implement detection measures and limit bacterial contamination in all platelet components [157]. The 33rd edition of the standard is available as of April 2022 [158; 159].

DIAGNOSIS AND MANAGEMENT

Methods to identify critically ill patients who are likely to die as a result of sepsis have become clearer, and increased awareness that sepsis is more common and lethal than previously understood has helped to promote the development of an organized approach to care. While the early diagnosis of sepsis continues to be a challenge (primarily because a rapid, sensitive, and specific diagnostic test is lacking), research indicates that improvements in outcomes are possible when treatment protocols are applied in a timely manner [160; 161].

An international consortium of critical care specialty societies has worked to standardize the definition and clinical parameters of sepsis and to develop evidence-based guidelines for optimal management of sepsis and septic shock. This is an ongoing effort, the goal of which is to improve care and reduce mortality worldwide. Clinical care guidelines have been developed by the Surviving Sepsis Campaign and published by the Society of Critical Care Medicine (SCCM) in 2008, 2013, and 2016. Detailed management strategies are provided for rapid diagnostic evaluation and antimicrobial treatment, fluid resuscitation, and the use of vasopressors in septic shock [162; 163; 164].

Initial funding of the Surviving Sepsis Campaign was provided by the SCCM. The ongoing work and the campaign's guidelines have no direct or indirect connection to industry support. The 2021 international guideline for the management of sepsis and septic shock are available online at https://www.sccm.org/Clinical-Resources/Guidelines/Guidelines/Surviving-Sepsis-Guidelines-2021 [165].

The 2021 guideline recommendations use the "Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach to identify outcomes that the authors considered important from a patient's perspective [165; 166].

Management of Sepsis

Fluid Resuscitation and Diagnosis

The SCCM guideline emphasizes that sepsis and septic shock are medical emergencies; treatment and resuscitation should begin immediately upon recognition [165]. Intravenous fluid resuscitation of a patient with sepsis-induced shock (defined as tissue hypoperfusion) should be initiated as soon as the hypoperfusion is recognized (i.e., not delayed pending admission to an ICU).

The principal recommendations for fluid resuscitation are [165]:

- Intravenous fluid resuscitation should be started immediately, beginning with crystalloids (grade weak [downgraded from strong], suggested).
- In the setting of sepsis-induced hypoperfusion, at least 30 mL/kg of intravenous crystalloid fluid should be given within the first three hours (grade weak [downgraded from strong], suggested).
- It is suggested that albumin be added when patients require substantial amounts of crystalloids (grade weak, suggested).
- Fluid resuscitation should initially target a mean arterial pressure (MAP) of 65 mm Hg in patients with septic shock requiring vasopressors (grade strong, recommended).

It is recommended that, following initial fluid resuscitation, additional fluid administration be guided by frequent reassessment of hemodynamic status. A reasonable set of treatment goals suggested for the first six hours of resuscitation are [163; 164; 165]:

- Central venous pressure of at least 8 mm Hg (12 mm Hg in mechanically ventilated patients)
- MAP of 65 mm Hg or greater
- Urine output of 0.5 mL/kg/hour or greater
- Central venous or mixed venous oxygen saturation of at least 70% or 65%, respectively

Antibiotic Therapy and Source Control

The SCCM recommends obtaining appropriate cultures before beginning antimicrobial therapy, but the process of doing so should not delay antibiotic administration. Whenever possible, this should be completed within three hours of presentation [165]. At least two sets (aerobic and anaerobic) of blood cultures should be obtained, including one drawn through any indwelling vascular catheter or device in place prior to onset of infection. Cultures from other suspected sites should be obtained as well. The guideline committee also recommends that imaging studies be performed to confirm the source of

infection, assuming the patient's condition allows it [162; 163; 164; 165].

Intravenous antimicrobial therapy should be started as early as possible, ideally within the first hour of recognition of sepsis or septic shock (grade strong). Early administration of appropriate antimicrobials is one of the most effective interventions to reduce mortality in patients with sepsis. However, this must be balanced against the potential harms (e.g., allergic or hypersensitivity reactions, kidney injury, *C. difficile* infection, antimicrobial resistance) associated with administering unnecessary antimicrobial agents. The mortality reduction associated with early antimicrobial therapy appears strongest in patients with septic shock versus those without septic shock [165]. Clinical studies have shown that delay in antimicrobial therapy for serious infection and sepsis prolongs morbidity, lengthens hospital stay, and increases mortality [167]. A retrospective cohort study involving 2,731 patients with sepsis showed that initiation of antimicrobial therapy within the first hour of documented hypotension was associated with increased survival to discharge. Moreover, each hour of delay conferred an approximately 12% decreased probability of survival [168].

The initial choice of antibiotics will depend on the most likely pathogens associated with the source of infection as well as the prevalent micro-organisms in the local community and hospitals. The clinician should assess risk factors for multidrug-resistant pathogens, including prior hospitalization, health facility residence, recent antimicrobial use, and evidence of prior infection with resistant organism. The anticipated susceptibility profile of prevalent local pathogens and the ability of the antibiotic to penetrate to the source of the infection must also be considered. A combination of drugs with activity against all likely pathogens should be administered initially, but the regimen should be reassessed in light of culture results, the goal being to identify a single, narrow-spectrum antibiotic that will best control the infection [169; 170]. It has been found that combining an extended-spectrum beta-lactam antibiotic (e.g., penicillins, cephalosporins) with an aminoglycoside (e.g., gentamicin) was no more effective in reducing mortality than using the beta-lactam agent alone. In addition, the combination carries an increased risk of renal damage [169; 170]. A common approach is to initiate empiric therapy with a carbapenem or extended-spectrum penicillin/beta-lactamase inhibitor (e.g., ticarcillin/tazobactam) to cover gram-negative enteric bacilli and *Pseudomonas*, often in combination with vancomycin to cover *S. aureus* pending culture results.

The empirical antimicrobial regimen should be narrowed as soon as the pathogen has been identified and sensitivities are known. The duration of therapy will depend on the nature of the infection and other considerations specific to a given case. As a general rule, a 7- to 10-day course of bactericidal antimicrobial therapy is considered adequate for most serious infections associated with sepsis [164; 165]. For adults with an initial diagnosis of sepsis or septic shock and adequate source control where optimal duration of therapy is unclear, the SCCM suggests using procalcitonin in conjunction with clinical evaluation to decide when to discontinue antimicrobials over clinical evaluation alone [165]. In the event that the syndrome is due to something other than an infectious cause, such as trauma, antibiotics should be discontinued as soon as possible.

Source control requires that a specific anatomic diagnosis of infection (e.g., skin/soft tissue infection, pyelonephritis, cholangitis, peritonitis) be identified, or excluded, as soon as possible and preferably within the first six hours after presentation [165]. Small studies suggest that source control within 6 to 12 hours is advantageous [166; 171; 172]. Studies generally show reduced survival beyond that point [165]. Radiographic imaging is often necessary and should be undertaken promptly as soon as the patient's condition permits and antimicrobial therapy has been administered. Source control may be achieved by percutaneous drainage of an infected cyst or abscess, debridement of infected tissue, or removal of an infected device or catheter (removal should be prompt after other vascular access has been established) [164; 165; 169]. Surgical exploration also may be indicated when diagnostic uncertainty persists despite radiologic evaluation, when the probability of success with a percutaneous procedure is uncertain, or when the desirable effects of a failed procedure are high [165].

Vasopressors and Inotropic Therapy

If hypotension persists after intravascular volume repletion, then vasopressors may be required to restore and maintain adequate blood pressure and tissue perfusion (goal MAP 65 mg Hg) [165]. Such patients are considered to have the combination of vasodilation and reduced cardiac contractility, a condition best managed with a combined inotrope-vasopressor agent. In order to monitor arterial pressure accurately, it is suggested that all patients requiring vasopressors have an arterial catheter placed as soon as practical, if resources are available [164].

Historically, norepinephrine, dopamine, and epinephrine were three inotrope-vasopressors used to correct hypotension in septic shock [169]. Based on comparison studies and a meta-analysis of six randomized trials, norepinephrine is considered superior to dopamine and is now the recommended first choice for vasopressor therapy in septic shock (grade strong) [163; 164; 165; 173]. If a second agent is needed to maintain blood pressure, consider adding vasopressin (grade weak). If cardiac dysfunction with persistent hypoperfusion is present, despite adequate volume status and blood pressure, consider adding dobutamine or switching to epinephrine (grade weak) [165]. If dopamine is used, special attention should be given to patients at risk for arrhythmias [165]. For patient safety and effectiveness, intravenous vasopressor therapy should be administered via a central venous catheter.

As an alternative second drug, or to decrease the required effective dose of norepinephrine, vasopressin (up to 0.03 units/minute) may be added to norepinephrine. Vasopressin is usually started when the dose of norepinephrine is in the range of 0.25 – 0.5 mcg/kg/min [165]. Vasopressin should not be administered as the initial agent in septic shock.

Phenylephrine is a pure vasopressor that may be used in very select cases of septic shock [162; 163]. It reduces cardiac stroke volume, which can have deleterious effects in the patient with low cardiac output, and thus is not recommended as initial or additive therapy. Phenylephrine is reserved for the unusual case in which tachyarrhythmia limits norepinephrine use or the patient has known high cardiac output. Intravenous phenylephrine should be administered only by properly trained individuals familiar with its use [169; 174; 175].

Inotropic therapy may involve the use of dobutamine if the cardiac output remains low. If dobutamine is used, it should be combined with the vasopressors. All patients requiring vasopressors should have an arterial line placed for monitoring blood pressure [169; 174].

Monitoring Serum Lactate

If elevated, serum lactate provides a marker of tissue hypoperfusion, and serial measurements (of lactate clearance) can be used to monitor progress in resuscitation of the patient with sepsis or early septic shock. In cases in which elevated lactate levels are used as a marker of tissue hypoperfusion, it is recommended that resuscitation efforts target serum lactate with the goal to achieve normalization as rapidly as possible (grade weak) [162; 163; 164; 165].

Corticosteroids

Prior to the 1990s, there was evidence that the overall 28-day mortality was not impacted by the use of corticosteroids; consequently, their use was not advised. A review of studies conducted between 1992 and 2003 concluded that corticosteroids did not change the 28-day mortality in patients with sepsis and septic shock, but that the use of low-dose corticosteroids did reduce the all-cause mortality [176]. An update to this review found moderate-certainty evidence that corticosteroids reduce 28-day and hospital mortality in children and adults with sepsis and that the agents result in large reductions in ICU and hospital length of stay [177]. Corticosteroids are not recommended in adult patients with sepsis if hemodynamic stability has been achieved with fluid resuscitation and vasopressor therapy [164].

The patient with persistent hypotension despite fluids and vasopressors should be assessed for adrenal responsiveness and may benefit from corticosteroid therapy [165]. If corticosteroids are to be given, the 2021 SCCM guideline suggests IV hydrocortisone at a dose of 200 mg per day, in divided doses or by continuous infusion (grade weak, D) [165]. In 2017, a multispecialty task force of 16 international experts in critical care medicine, endocrinology, and guideline methods, all members of the SCCM and/or the European Society of Intensive Care Medicine, published a guideline for the management of corticosteroid insufficiency in critically ill patients. This group suggests using IV hydrocortisone <400 mg/day for three or more days at full dose in patients with septic shock that is not responsive to fluid and moderate- to high-dose vasopressor therapy. They suggest not using corticosteroids in adult patients with sepsis without shock [178].

Recombinant Human Activated Protein C

Drotrecogin alpha (activated), or recombinant human activated protein C (rhAPC), has been studied in patients with sepsis due to its antithrombotic, anti-inflammatory, and profibrinolytic properties. It was voluntarily withdrawn from the market in 2011 due to studies showing no improvement in mortality with treatment [179].

Blood Product Administration

In some cases, blood product administration may be required. The 2021 guideline recommends using a restrictive (over liberal) transfusion strategy (grade strong). A restrictive transfusion strategy typically includes a hemoglobin concentrations transfusion trigger of 70 g/L; however, RBC transfusion should not be guided by hemoglobin concentration alone. Assessment of the patient's overall clinical status and consideration of extenuating circumstances (e.g., acute myocardial ischemia) is required [165]. The routine use of erythropoietin is not recommended for treatment of anemia in patients with sepsis unless other conditions are present, such as the compromise of red blood cell production induced by renal failure. Prophylactic platelet transfusion is suggested when the platelet count is <10,000/mm^3 (10×10^9/L) in the absence of apparent bleeding and when counts are <20,000/mm^3 (20×10^9/L) if the patient has a significant risk of bleeding [164].

Patients who require invasive procedures or surgery typically require a platelet count that is in excess of 50,000/mm^3 [169]. The routine use of fresh frozen plasma is not recommended unless there is active bleeding or planned surgery. Direct administration of antithrombin agents for the treatment of sepsis or septic shock is not advised [164; 169].

Supportive Therapy for Sepsis and Septic Shock

Mechanical Ventilation

Patients who develop sepsis-induced acute lung injury (ALI) or acute respiratory distress syndrome (ARDS) may require assisted ventilation. The routine use of pulmonary artery catheters for patients with ALI/ARDS is not recommended, and it is important to remember to avoid high pressures and volumes.

The SCCM guideline committee recommends a target goal for maximum end-inspiratory plateau pressures of 30 cm H_2O and a target tidal volume of 6 mL/kg predicted body weight in adult patients with sepsis-induced ARDS (grade strong, A). In addition, the use of lower tidal volumes over higher tidal volumes is suggested for adult patients with sepsis-induced respiratory failure without ARDS [165].

Unless contraindicated, it is recommended that mechanically ventilated patients be kept with the head of the bed elevated (30 – 45 degrees is suggested) to limit aspiration and prevent the development of ventilator-associated pneumonia. In hospitals with advanced experience and equipment, it may be advantageous to treat patients with ARDS in a prone position if higher pressures are required and the patient's condition allows for the positional change [164; 169]. For adults with sepsis-induced

moderate-to-severe ARDS, the SCCM recommends using prone ventilation for more than 12 hours daily [165].

A protocol for weaning patients from the ventilator should be developed for use following a successful spontaneous breathing trial. Extubation should be considered if the breathing trial is successful. A successful breathing trial is characterized by the following criteria [169]:

- Patient is arousable.
- Patient is hemodynamically stable (without vasopressor agents).
- Patient has developed no new potentially serious conditions.
- Ventilatory and end-expiratory pressure requirements are low.
- Fraction of inspired oxygen requirements are able to be safely delivered with a face mask or nasal cannula.

The SCCM recommends a conservative fluid strategy for patients with established ARDS and no evidence of tissue hypoperfusion in order to minimize fluid retention and weight gain (which have been shown to prolong mechanical ventilation and lengthen ICU stay) [164].

Sedation, Analgesia, and Neuromuscular Blockade

Sedation, whether intermittent or by continuous infusion, may be required for patients who are mechanically ventilated. In such cases, the practice of daily interruption or lightening of the sedation, preferably by established protocol, will serve to maintain the minimum degree of necessary sedation.

Neuromuscular blockade agents (NMBA) are sometimes used in the ICU to improve chest compliance, reduce airway pressures, and facilitate mechanical ventilation. Neuromuscular blockade agents should be used with caution in the patient with sepsis and only for brief periods, so as to avoid the risk of prolonged blockade when the drug is discontinued. The SCCM 2016 guideline issued a weak recommendation for using NMBA for 48 hours or less in adult patients with sepsis-induced ARDS and a PaO_2/FiO_2 ratio <150 mm Hg (grade weak, B) [164]. A review of randomized controlled trials published since 2016 produced conflicting results about important outcomes (e.g., mortality). This uncertainty about the outcomes and the balance between the benefits and potential harms of using NMBA led the 2021 guideline panel to issue a weak recommendation favoring intermittent NMBA boluses over a continuous infusion. Clinicians are reminded to ensure adequate patient sedation and analgesia if NMBA are used [165].

Glucose Control

Glucose control includes a regimen of appropriate nutrition, beginning with IV glucose and enteral feeding within 72 hours (grade weak, suggested) in critically ill patients with sepsis [165]. Following initial stabilization, patients with hyperglycemia should receive IV insulin therapy to reduce blood glucose levels. The 2016 version of the SCCM guideline recommended that blood glucose management be done by protocol: insulin dosing to commence when two consecutive blood glucose levels are greater than 180 mg/dL, and targeting an upper blood glucose of ≤180 mg/dL rather than an upper blood glucose ≤110 mg/dL [164]. In the 2021 guideline, the panel sought to identify what level of glucose (>180 mg/dL **or** >150 mg/dL) should trigger commencement of IV insulin [165]. After reviewing a network meta-analysis of 35 randomized controlled trials, the panel concluded that the balance of effects (e.g., hospital mortality, hypoglycemia) favored initiation of insulin therapy at a glucose level of >180 mg/dL and provided a strong recommendation to that effect [165]. Following initiation, a typical target blood glucose range is 144–180 mg/dL [165]. Note: The meta-analysis that the 2021 guideline panel reviewed compared four different blood glucose targets: <110 mg/dL; 110–144 mg/dL; 144–180 mg/dL; and >180 mg/dL. No significant difference in risk of hospital mortality was observed among the four targets. Concentrations of <110 mg/dL and 110–144 mg/dL were associated with a four- to nine-fold increase in the risk of hypoglycemia compared with the 144–180 mg/dL and the >180 mg/dL ranges. No significant difference in the risk of hypoglycemia was observed when the target range of 144–180 mg/dL was compared with the target range of >180 mg/dL [165].

Bicarbonate Therapy and Deep Vein Thrombosis Prophylaxis

Bicarbonate therapy to improve hemodynamics or reduce vasopressor requirements in patients with sepsis-induced lactic acidemia is not recommended for those patients with a pH equal to or greater than 7.15 [165]. While the 2016 recommendation is essentially unchanged, for patients with severe metabolic acidemia (pH ≤7.2 and acute kidney injury (AKI) [AKIN score 2 or 3]), the 2021 panel suggests (weak recommendation) using sodium bicarbonate therapy [165].

The use of anticoagulants to prevent deep vein thrombosis (DVT) has been well studied. For patients with sepsis, the SCCM guideline committee recommends the administration of low-dose unfractionated heparin (UFH), two to three times per day, or low-molecular-weight heparin (LMWH), once daily, unless there are contraindications, such as active bleeding, thrombocytopenia, or severe coagulopathy. LMWH has been found to be superior to UFH and is preferred in high-risk patients if there are no contraindications [165; 169].

When contraindications exist, other preventive measures, such as graduated compression stockings or an intermittent compression device, are recommended. In very high-risk patients, such as those who have sepsis and a history of DVT, trauma, or orthopedic surgery, a combination of both therapies is suggested [169; 174].

Stress Ulcer Prophylaxis

The SCCM guideline recommends stress ulcer prophylaxis for patients with sepsis who have risk factors for gastrointestinal bleeding, using either a proton pump inhibitor or a histamine-2 antagonist. It is recommended that stress ulcer prophylaxis not

be used for patients without risk factors for gastrointestinal bleeding [165].

Patient Education

History-taking and examination are important aspects in the assessment of patients with suspected sepsis. All patients should be told of the importance of providing accurate and relevant information.

Also included in the supportive therapy points of care is the SCCM recommendation that advance care planning, including the communication of likely outcomes and realistic goals of treatment, be discussed with patients and families [165; 169]. 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 communication with patients and families is considered an essential aspect of care, it is each practitioner's responsibility to ensure that information regarding goals and potential outcomes 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.

All patients should be given comprehensive education on their condition and instructions regarding when to seek help. Infection prevention strategies (e.g., appropriate handwashing, wound care, vaccination) are essential. Patients at high risk for sepsis should be informed of risk factors and warning signs/symptoms of the disease. These patients should be told to seek immediate care for worsening infections and sign/symptoms of sepsis.

Sepsis Bundle

Reducing mortality due to sepsis requires an organized process that guarantees early recognition and consistent application of evidence-based practice. To this end, carefully designed protocols and measurable quality indicators should be incorporated into hospital practice. Beginning in 2005 the Surviving Sepsis Campaign converted its guideline into protocols, with sets of quality indicators that could be implemented by hospitals working to improve outcomes. The Sepsis Bundles are a series of therapies that, when implemented together, have been proven to achieve better outcomes than when implemented individually [162]. In conjunction with the 2013 guideline, two bundles (resuscitation and management) were released.

In order to reflect the changes in the 2016 guideline, in 2018 the Surviving Sepsis Campaign published the Hour-1 Bundle, taking the place of the previously separate resuscitation and management bundles [162]. This new bundle emphasizes the importance of beginning resuscitation and management immediately, then escalating care seamlessly (e.g., by adding vasopressor therapy) on the basis of ongoing clinical parameters rather than waiting or extending resuscitation measures over a longer period. The Hour-1 Bundle consists of five elements that are intended to be initiated within the first hour after the time of triage in the emergency department or, if referred from another care location, from the earliest chart annotation consistent with all elements of sepsis or septic shock. The five elements are [162]:

- Measure lactate level. Re-measure if initial lactate is >2 mmol/L.
- Obtain blood cultures prior to administration of antibiotics.
- Administer broad-spectrum antibiotics.
- Rapidly administer 30 mL/kg crystalloid for hypotension or lactate ≥4 mmol/L.
- Apply vasopressors if patient is hypotensive during or after fluid resuscitation to maintain MAP ≥65 mm Hg.

More than one hour may be required for resuscitation to be completed, but initiation of resuscitation and treatment should begin immediately [162]. The Hour-1 Bundle, based on the 2018 guideline, is evidence-based and intended for use by emergency department, hospital, and ICU staff as a tool for improving the care of patients with sepsis and septic shock. The Bundle is supported in the 2021 guidelines [165].

CONCLUSION

An effective infection control team is critical to reducing the incidence of HAIs in a healthcare facility. All departments within a healthcare facility should be represented on this team to ensure widespread adherence to prevention measures. The responsibilities of an infection control team are to conduct surveillance of infections; ensure compliance with infection control guidelines, including those for management of drug-resistant organisms; and establish response and control plans for outbreaks and epidemics. Most important is the development of an organizational culture that fosters a focus on patient safety and that emphasizes education on HAIs and infection control for healthcare professionals and patients and their families.

Customer Information/Answer Sheet/Evaluation insert located between pages 16–17.

COURSE TEST
#98643 INFECTION CONTROL: THE NEW YORK 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.

In accordance with the AMA PRA Category 1 Credit™ system,
physicians must complete and pass a post-test to receive credit.

This 5 credit activity must be completed by March 31, 2026.

1. Which of the following categories of healthcare-associated infections (HAIs) does the Centers for Medicare & Medicaid Services consider to be reasonably preventable?
- A) *HIV infection*
- B) *Ventilator-associated pneumonia*
- C) *Catheter-related urinary tract infection*
- D) *Methicillin-resistant Staphylococcus aureus (MRSA) infection*

2. Which of the following statements regarding prevention of HAIs is TRUE?
- A) *An estimated 70% of HAIs are preventable.*
- B) *Adherence to prevention guidelines is generally low.*
- C) *Most professionals comply with hand hygiene guidelines.*
- D) *There are few evidence-based guidelines for the prevention of infection in healthcare facilities.*

3. For which of the following pathogens is the skin not an effective barrier?
- A) *Candida spp.*
- B) *Human papillomavirus*
- C) *Haemophilus influenzae*
- D) *Mycobacterium tuberculosis*

4. Which of the following statements about the pathogenesis of infection is TRUE?
- A) *Commensal bacteria are always a source of infection.*
- B) *Infection with parasites is as common as infection with bacteria.*
- C) *Viral nosocomial infections are more common in adults than in children.*
- D) *Fungal infections frequently occur during prolonged treatment with antibiotics.*

5. The greatest risk of morbidity and mortality is associated with infection with
- A) *fungi.*
- B) *viruses.*
- C) *bacteria.*
- D) *parasites.*

6. Percutaneous exposure to a bloodborne pathogen may occur during
- A) *blood splashes.*
- B) *handling contaminated needles.*
- C) *infusion of contaminated fluids.*
- D) *sharing of blood monitoring devices.*

7. Airborne Precautions should be used for a patient with
- A) *pertussis.*
- B) *diphtheria.*
- C) *meningitis.*
- D) *tuberculosis.*

8. When adhering to Droplet Precautions, healthcare professionals should
- A) *wear a mask when working within 3 feet of the patient.*
- B) *wear an N95 respirator when entering the room of the patient.*
- C) *ensure that the patient's room has 6 to 12 air changes per hour.*
- D) *not enter the room of the patient if they are susceptible to the disease.*

9. Hands should be washed after
- A) *removing gloves*
- B) *contact with a patient's skin.*
- C) *contact with body fluids or excretions, nonintact skin, or wound dressings.*
- D) *All of the above*

Test questions continue on next page ➞

10. With regard to hand hygiene,
- A) *compliance is usually more than 80%.*
- B) *antibacterial soap is more effective than alcohol-based handrub solutions.*
- C) *reasons given for noncompliance include inconveniences, understaffing, and skin damage.*
- D) *the impact as an individual strategy in reducing healthcare-associated infections is well documented.*

11. Intermediate-level disinfection is defined as
- A) *use of a 0.5% chlorine solution to reduce the number of pathogenic organisms on the device.*
- B) *use of disinfectant to destroy pathogenic organisms (eliminates most bacteria, viruses, and fungi).*
- C) *use of high-pressure steam (autoclave), dry heat (oven), chemical sterilants, or radiation to eliminate all forms of viable micro-organisms.*
- D) *a multistep procedure that consists of meticulous cleaning, high-level disinfection with a liquid chemical sterilant or disinfectant, and proper drying.*

12. According to Spaulding classification, a device that enters the vascular system is
- A) *critical.*
- B) *noncritical.*
- C) *less critical.*
- D) *semicritical.*

13. According to World Health Organization classification, an isolation unit in a healthcare facility should be cleaned
- A) *using normal cleaning procedures.*
- B) *using procedures that do not raise dust.*
- C) *after disinfection of any areas with visible contamination with blood or body fluids.*
- D) *using a detergent/disinfectant solution, with separate cleaning equipment for each room.*

14. Which of the following is NOT an aspect of safe injection practices?
- A) *Using aseptic technique*
- B) *Keeping multidose vials in the immediate patient treatment area*
- C) *Using a sterile needle and syringe when a multidose vial is used*
- D) *Using single-dose vials for parenteral medications whenever possible*

15. After an occupational exposure to an infectious agent, which of the following should be recorded in the exposed person's confidential medical record?
- A) *Date and time of exposure*
- B) *Details about the exposure source*
- C) *Details about necessary follow-up*
- D) *All of the above*

16. Healthcare professionals experiencing all of the following symptoms require immediate evaluation by a licensed medical professional, EXCEPT:
- A) *Rash*
- B) *Vomiting*
- C) *Vesicular lesions*
- D) *Nasal congestion*

17. Healthcare professionals exposed to hepatitis viruses
- A) *may safely donate semen.*
- B) *should be administered ribavirin and interferon.*
- C) *should refrain from patient-care responsibilities.*
- D) *should consider receiving hepatitis B immune globulin (HBIG).*

18. Susceptible personnel who are exposed to mumps should not work
- A) *until proven noninfectious.*
- B) *until 3 days after parotitis develops.*
- C) *from the 12th day through the 26th day after last exposure or, if symptoms develop, until five days after onset of parotitis.*
- D) *from the 4th day through the 28th day after last exposure, unless symptoms develop.*

19. According to the New York Department of Health policy regarding HIV testing,
- A) *rapid testing is not mandated for occupational exposures.*
- B) *specific informed consent for HIV testing is not required.*
- C) *if a rapid test result is positive, the test must be confirmed by an ELISA test.*
- D) *rules regarding confidentiality and consent for testing in the occupational setting are identical to those for other HIV tests.*

20. In hospitalized adult patients, sepsis is primarily the result of infection with
- A) *fungal organisms.*
- B) *gram-positive bacteria.*
- C) *gram-negative bacteria.*
- D) *group B streptococcus.*

Be sure to transfer your answers to the Answer Sheet insert located between pages 16–17.
PLEASE NOTE: Your postmark or facsimile date will be used as your test completion date.

Substance Use Disorders and Pain Management: DEA MATE Act Training

This course meets the Federal DEA requirement for 8 hours of opioid or other substance use disorder training.

This course meets the New York requirement for 3 hours of pain management, palliative care, and addiction education for those physicians who prescribe controlled substances.

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.

Course Objective

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.

Learning Objectives

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

1. Outline substance use disorder risk factors, screening, and diagnosis.
2. Describe the role of psychosocial therapies in the management of substance use disorders.
3. Compare and contrast available pharmacotherapeutic options for the treatment of alcohol, tobacco, and opioid use disorders.
4. Discuss the impact of polysubstance use and co-occurring mental disorders and substance use disorder presentation and treatment.
5. Review legal and ethical issues related to substance use disorder treatment.
6. Create comprehensive treatment plans for patients with pain that address patient needs as well as drug diversion prevention.
7. Evaluate behaviors that may indicate drug seeking or diverting as well as approaches for patients suspected of misusing opioids.
8. Identify state and federal laws governing the proper prescription and monitoring of controlled substances.

Faculty

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Faculty Disclosure

Contributing faculty, Mark Rose, BS, MA, LP, has disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

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INTRODUCTION

Substance use disorders continue to be an important health issue in the United States. The fifth edition (text revision) of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5-TR) includes criteria for substance use disorder involving alcohol; cannabis; hallucinogens; inhalants; opioids; sedatives, hypnotics, or anxiolytics; stimulants; tobacco (nicotine); and other (or unknown) substances [1]. Excluding tobacco use disorder, the most common substance use disorders in the United States are [2]:

- Alcohol use disorder (29.5 million)
- Cannabis use disorder (16.3 million)
- Prescription opioid use disorder (5.0 million)
- Methamphetamine use disorder (1.6 million)

Substance use disorders can lead to significant problems in all aspects of a person's life, and appropriate assessment and management of substance use is a priority in patient care.

The presence of substance use disorders can complicate the treatment or management of comorbid medical conditions. Given the ongoing prescription opioid (and illicitly manufactured fentanyl) use and overdose epidemic in the United States and the widespread incidence of chronic pain, opioid prescribing and optimum safe pain management is a public health concern. All clinicians should have good knowledge of the available options for substance use disorder treatment and for safe opioid prescribing and dispensing.

Coordinated care is critical to achieve positive outcomes. Coordinating treatment for comorbidities, including mental health conditions, is an important part of treating substance use disorders and pain alike.

SUBSTANCE USE DISORDER SCREENING AND DIAGNOSIS

According to the 2021 National Survey on Drug Use and Health, 46.3 million Americans 12 years of age or older had a substance use disorder in the past year [2]. Substance use disorders are treatable, chronic diseases characterized by a problematic pattern of use of a substance or substances leading to impairments in health, social function, and control over substance use. It is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite harmful consequences. These disorders range in severity and can affect people of any race, gender, income level, or social class.

RISK FACTORS

Researchers who study risk factors have developed models of how known risk factors may interact to create pathways that lead to substance use disorders. Of course, not all persons who use drugs regarded as having a high liability of misuse end up becoming addicted to the drug.

Genetic Predisposition

Research has shown that genetic factors play a strong role in whether a person develops a substance use disorder, accounting for 40% to 60% of the risk [3; 4; 5]. In fact, family transmission of substance use disorder, particularly alcohol use disorder, has been well established. Individuals who have relatives with substance use disorder are at three- to five-times greater risk of developing substance use disorder than the general population. The presence of substance use disorder in one or both biologic parents is more important than the presence of substance use disorder in one or both adoptive parents. The genetic risk increases with the number of relatives with substance use disorder and the closeness of the genetic relationship [5]. However, most children of parents with substance use disorder do not develop disorders, and some children from families where substance use is not a problem develop disorders when they get older.

Children with Conduct Problems

One model focuses on children who have temperaments that make it difficult for them to regulate their emotions and control their impulses. Clearly, these children are difficult to parent, and if one or both of their parents have a substance use disorder, it is likely that they will be poorly socialized and have trouble getting along in school [6; 7]. Poor academic performance and rejection by more mainstream peers at school may make it more likely for these children to join peer groups where drinking and other risky behaviors are encouraged. Parents with substance use disorders will likely not monitor their children closely and will lose control over them at an early age. These children will begin using substances early, often before 15 years of age [8]. If such a child is genetically predisposed to substance use disorders, these environmental factors may further increase the tendency [9].

Stress and Distress

Another model of risk factors leading to substance use disorder focuses on substance use to regulate inner distress [10]. Some children have temperaments that make them highly reactive to stress and disruption. Regardless of the child's family environment, he or she maintains higher levels of inner distress (anxious and depressed feelings) than other children. When they first drink or use a substance, the inner distress dissipates for a while. This leads to more substance use and may lead to substance use disorder. More research is required before the role of stress as a risk factor in alcohol use disorders is understood.

SCREENING AND ASSESSMENT TOOLS CHART						
Tool	**Substance Type**		**Patient Age**		**Administration Method**	
	Alcohol	**Drugs**	**Adults**	**Adolescents**	**Self-Administered**	**Clinician-Administered**
Screening Tools						
Screening to Brief Intervention (S2BI)	X	X		X	X	X
Brief Screener for Alcohol, Tobacco, and other Drugs (BSTAD)	X	X		X	X	X
Tobacco, Alcohol, Prescription medication, and other Substance use (TAPS)	X	X	X		X	X
Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide (NIAAA)	X			X		X
Opioid Risk Tool – OUD (ORT-OUD) Chart		X	X		X	
Assessment Tools						
Tobacco, Alcohol, Prescription medication, and other Substance use (TAPS)	X	X	X		X	X
CRAFFT	X	X		X	X	X
Drug Abuse Screen Test (DAST-10)[a]		X	X		X	X
Drug Abuse Screen Test (DAST-20: Adolescent version)[a]		X		X	X	X
Alcohol Screening and Brief Intervention for Youth: A Practitioner's Guide (NIAAA)	X			X		X
[a]Tools with associated fees						
Source: [14]						*Table 1*

Adverse childhood experiences, particularly sexual abuse, family rejection, and parental neglect, are independent risk factors for substance use disorders [11]. Adverse childhood experiences are linked with depression in adulthood, which itself is a risk factor for substance use disorder. This correlation can be modulated by resilience, which can also be a result of adverse childhood experiences.

Other Mental Disorders

Mental disorders can contribute to substance use and substance use disorders. Certain psychiatric disorders, including anxiety, depression, or post-traumatic stress disorder, have been linked to substance misuse, likely a form of self-medication. Additionally, brain changes in people with mental disorders may enhance the rewarding effects of substances, making it more likely they will continue to use the substance [12].

Environmental Stimuli

The expected drug effect and the setting of use (context of administration) play important roles in the social learning of drug use. Opioids and other drugs that increase dopamine turnover lead to conditional responses, and use may become conditioned to the activities of daily living. As a result, environmental stimuli can become powerfully associated with substance use, which can trigger cravings for the drug [13]. The visibility of pharmaceutical marketing and advertising of medications may also play a role by changing the attitudes toward ingestion of these agents [13]. For youth, a social learning aspect to drug use is likely, based on the modeling of drug use by adults in their families and social networks [13].

SCREENING

A variety of screening and assessment tools are available, with applicability for various substances, patient populations, and screening environments (***Table 1***).

The Tobacco, Alcohol, Prescription medication, and other Substance Use (TAPS) Tool is validated for use with adults to generate a risk level for each substance class. It can be self-administered or conducted via clinician interview and combines screening and brief assessment of past 90-day problematic use into one tool [14]. The TAPS Tool has two components. The first component (TAPS-1) is a four-item screen for tobacco, alcohol, illicit drugs, and non-medical use of prescription drugs. If an individual screens positive on TAPS-1 (i.e., reports other than "never"), the tool will automatically begin the second component (TAPS-2), which consists of brief substance-specific assessment questions to arrive at a risk level for that substance. Clinicians are encouraged to provide positive feedback to patients who screen negative and support their choice to abstain from substances. The tool can be accessed online at https://nida.nih.gov/taps2/#/.

DIAGNOSIS

As noted, the DSM-5-TR defines substance use disorder as a problematic pattern of substance use, leading to clinically significant impairment or distress. While criteria are outlined for specific substances in the DSM-5-TR, the components are generally the same regardless of substance used. The diagnosis of substance use disorder is made by meeting two or more criteria in a one-year period [1]:

- Substance taken in larger amounts or over a longer period than was intended
- A persistent desire or unsuccessful efforts to cut down or control use
- Excessive time spent to obtain, use, or recover from using the substance
- Craving, an intense urge to use
- Substance use interferes with obligations
- Continued use despite life disruption
- Reduction or elimination of important activities due to use
- Recurrent use in physically hazardous situations
- Continued use despite physical or psychologic problems
- Tolerance
  - Need for increased doses of the substance for the desired effect
  - A markedly diminished effect with continued use of the same amount
- Withdrawal

In the case of opioid use disorder, the criteria for tolerance and withdrawal are not considered to be met for those taking opioids solely under appropriate medical supervision.

SUBSTANCE USE DISORDER TREATMENT

All substance use disorder treatment plans should reflect the patient's most important goals and establish measurable and achievable steps toward achieving those goals. As such, all treatment plans will be individualized and created in collaboration with the patient. This recovery roadmap also requires that clinicians communicate with clear, nonstigmatizing language regarding the patient's condition and options.

TREATMENT PLANNING

Assessing Readiness to Change

Readiness to Change is Dimension 4 of the American Society of Addiction Medicine's (ASAM's) Six Dimensions of Multidimensional Assessment (also known as the ASAM Criteria) that is the standard for placement, continued stay, transfer, or discharge of patients with substance use disorder and co-occurring conditions [15]. Several factors influence a person's readiness and ability to change behaviors. It is useful to help patients to weigh the risks of continued substance use and benefits of decreasing or eliminating substance use. Healthcare professionals can help motivate the patient to become ready for treatment if the patient appears ready to change.

Is the patient ready to change? The role of motivation is an important part of changing behavior.

Motivational Interviewing

Motivational interviewing is a method of counseling designed to enhance patients' motivation to change by helping them explore and resolve their ambivalence about making the change [16]. It is a collaborative, non-confrontational, "guiding" approach. In substance use disorder, motivational interviewing utilizes active listening to understand how the patient feels about his or her substance use in an effort to uncover any ambivalence [17]. The healthcare provider elicits the patient's own views regarding consequences of continuing to use and benefits of quitting and asks permission to share additional information on risks when necessary. Goals are developed collaboratively, based on the patient's current readiness to change. Originally developed as an intervention for alcohol use disorder, it has shown promise as a successful strategy for other substances as well.

PSYCHOSOCIAL THERAPY

Treatment of substance use and dependence with psychosocial or behavioral therapy is based on the assumption that addictive behavior is developed and maintained by specific mechanisms [18]:

- Expectancies and modeling
- Reinforcing properties of the drug
- Secondary social reinforcement

The goal of these types of treatments is to modify drug-seeking and other behavioral aspects of drug dependency [19]. Psychosocial therapy and pharmacotherapy are not mutually exclusive; in fact, some drug therapies for substance abuse are considered useless without a psychosocial/behavioral component [18; 19].

Psychosocial therapies for substance use disorders can be divided into two broad categories. The first category consists of therapies that were originally developed for patients with anxiety and depression and modified for use with patients with substance use disorders. This group of therapeutic approaches includes cognitive-behavioral therapy (CBT), the behavioral therapies, and interpersonal therapy. The second group of psychosocial therapies was developed explicitly for patients with substance use disorders and includes motivational interviewing and motivation enhancement therapy [19; 20]. All psychotherapies are intended to be delivered in a supportive, empathic manner that minimizes confrontation.

EVIDENCE-BASED PRACTICE RECOMMENDATION

For patients with alcohol use disorder, the Department of Veterans Affairs Work Group recommends offering one or more of the following interventions, considering patient preference and provider training/competence:

- Behavioral couples therapy for alcohol use disorder
- Cognitive-behavioral therapy for substance use disorders
- Community reinforcement approach
- Motivational enhancement therapy
- 12-step facilitation

(https://www.healthquality.va.gov/guidelines/MH/sud/VADoDSUDCPG.pdf. Last accessed April 27, 2023.)

Strength of Recommendation: Strong for

Drug counseling is a widely used therapy approach with patients with substance use disorders. It consists of a focus on abstinence, problem solving, and 12-step orientation and involvement. Drug counseling is usually provided by counselors who have a certificate in addiction counseling. A fair number of addiction counselors are themselves recovering from alcohol and/or substance use disorders [20].

Contingency Management

There is considerable evidence that substance use is sensitive to the application of contingencies. Contingencies occur on a spectrum from contrived to naturalistic. Contingency management and vouchers are examples of contrived interventions, while 12-step programs are examples of naturalistic interventions [21]. Contrived contingencies may be effective in initially engaging patients in abstinence, but relapse to drug use may occur following removal of the reinforcer. In contrast, naturalistic contingencies are more likely to maintain the initial gains made by the patient and to facilitate the sustained change of behavior over time [22].

The goal of contingency management interventions is to increase the opportunity cost of substance use by arranging an environment where drug use results in the forfeiture of a predetermined item or privilege, referred to as an alternate reinforcer [23]. Treatment with a contingency management component was first used with cocaine-abusing methadone patients, a highly suitable population for two reasons: cocaine abuse is prevalent among patients with opioid use disorder receiving methadone maintenance, and methadone patients are required to report to the clinic daily to receive their medication under staff supervision. Daily clinic appointments are often considered a significant constraint on employment, travel, and other activities. Patients who are able to abstain from drugs of abuse, as measured by a urine drug screen, may be allowed several days of take-home methadone doses, which can act as a behavioral contingent [24]. Several studies have shown that this contingent condition has led to greater treatment retention and reductions in cocaine use than those found in comparison treatment conditions, although this effect dissipates with longer-term follow-up [22; 25; 26; 27].

Community Reinforcement

Community reinforcement approaches are biopsychosocial interventions designed to engage and change the lifestyle of the drug abuser by addressing the role of environmental cues and alternative reinforcers in influencing behavior. The theoretical basis of the community reinforcement approach is that substance abuse is maintained by substance-related reinforcers as well as by the absence of competing alternative reinforcers. The primary goal of the community reinforcement approach is to build and strengthen relationships, recognize appropriate leisure activities, and identify vocational interests of the patient to provide competing reinforcement with substance use and the drug-using lifestyle [28]. The community reinforcement approach aims to increase abstinence by increasing or highlighting the opportunity cost of relationships and social support the patient stands to lose through drug use [22]. In addition to integrating cognitive-behavioral and, in some cases, pharmacologic approaches, community reinforcement approaches may also include the use of vouchers, whereby tokens are given to the patient for producing substance-free urine samples, which are then used to purchase goods and services desired by the patient.

A review of four studies utilizing a community reinforcement approach with patients with substance use disorder found evidence that a community reinforcement approach employing abstinence-contingent incentives in the form of vouchers was more effective in promoting abstinence than community reinforcement approaches using noncontingent incentives and usual care. Patients assigned to community reinforcement incorporating abstinence-contingent incentives experienced a greater reduction in disease severity as measured by the Addiction Severity Index than comparison groups [28]. Despite early, promising reports of community reinforcement with patients with alcohol use disorder and evidence that patients receiving community reinforcement approaches have demonstrated

more favorable drug use outcomes than patients receiving standard outpatient counseling, a community reinforcement approach is seldom used because of the relatively high cost and labor intensity [19; 29].

Motivational Interventions

Motivational interventions for substance use disorders stem from the theory that targeting and enhancing motivation to quit drugs will increase positive outcome; positive outcome is increased when motivation comes internally rather than when it is externally imposed. Specifically, motivational enhancement therapy is based on the Transtheoretical Stages of Change Theory, which postulates that patients pass through a series of stages of thought, planning, and action in the process of behavior change [30]. Motivational enhancement therapy is intended to enhance motivation and commitment to change, activate patient resources, and facilitate movement along the readiness-to-change spectrum [31]. Motivational enhancement therapy helps patients build internal motivation through the resolution of issues related to ambivalence. The therapeutic approach is characterized by nonconfrontive, nonjudgmental interviewing that helps the patient consider the pros and cons of change. Motivational enhancement therapy also strives to enhance patient self-efficacy [30]. Motivational enhancement therapy seems to be more effective in patients with low initial levels of motivation when used for patients with substance use disorder. It tends to result in less relapse to use and fewer total days of use [32].

Coping and Social Skill Training

Coping and social skill training (CSST) evolved from social learning theory and is used to improve the inadequate coping skills found in many persons with substance use disorders, including deficits in regulation of emotion and in effectively coping with social situations. CSST addresses four primary areas [33]:

- Interpersonal skills
- Cognitive and affective regulation
- Coping skills to manage stressful life events
- Coping skills when substances or substance-related cues are encountered

An added emphasis on drug-related cues is used when CSST is employed with patients with certain substance use disorders (e.g., cocaine, opioids) [33].

CSST has incorporated these findings into the treatment approach used with patients with substance use disorders. Preliminary results indicate some benefit of substance-specific CSST in reducing frequency of substance use and increasing duration of abstinence, although these results have not been replicated in subsequent research [32; 33].

Drug Counseling

CBT is among the most frequently evaluated approaches used to treat substance use disorders [34; 35]. CBTs have been shown to be effective in several clinical trials of substance users [36]. Characteristics of CBTs include:

- Social learning and behavioral theories of drug abuse
- An approach summarized as "recognize, avoid, and cope"
- Organization built around a functional analysis of substance use (i.e., understanding substance use with respect to its antecedents and consequences)

Skill training focused on strategies for coping with craving, fostering motivation to change, managing thoughts about drugs, developing problem-solving skills, planning for and managing high-risk situations, and cultivating drug refusal skills

Basic principles of CBTs are that [37; 38]:

- Basic skills should be mastered before more complex ones are given.
- Material presented by the therapist should be matched to patient needs.
- Repetition fosters the development of skills.
- Practice is needed for mastery of skills.
- The patient is an active participant in treatment.
- Skills taught are general enough to be applied to a variety of problem areas.

Structured behavior therapy techniques can be effective components of substance use disorder treatment. Contingent incentive procedures are designed to enhance a patient's motivation to meet treatment goals by offering concrete rewards for specific performance outcomes.

Behavioral therapy techniques are often part of CBT. In this approach, substance use is believed to develop from changes in behavior and a reduction in opportunities for reinforcement of positive experience. The goal is to increase the person's engagement in positive or socially reinforcing activities. Techniques such as having patients complete a schedule of weekly activities, engaging in homework to learn new skills, role-playing, and behavior modification are used. Activity, exercise, and scheduling are major components of this approach based on the following:

- Patients with substance use disorders require motivation and skills to succeed in stopping drug use.
- Research has shown that drug abuse behavior can be reduced by offering contingent incentives for abstinence.
- The most striking successes have come from positive reinforcement programs that provide contingent incentives for abstinence using money-based vouchers as rewards.

- Research provides examples, but treatment providers may need to be creative in discovering reinforcers that can be used for contingency management in their own clinical settings.

Family therapy is a highly effective treatment for alcohol use disorder, especially in adolescents. While most treatments emphasize the individual as the target of intervention, the defining characteristic of family therapy is the transformation of family interactions. Repetitive patterns of family interactions are the focus of treatment. Changing these patterns results in diminished antisocial behavior including alcohol abuse. Family therapy can work with a broad range of family and social network populations. Family therapy approaches have developed specific interventions for engaging and keeping reluctant, unmotivated adolescents and family members in treatment.

PHARMACOTHERAPY FOR DETOXIFICATION AND ABSTINENCE

A variety of medications have been approved to assist in cessation of the use of opioids, alcohol, and nicotine (***Table 2***). Any time pharmacotherapy is initiated, is important that a collaborative, patient-centered approach is undertaken, with all members of the care team working together to best meet the needs of the specific patient. Unique, individual physiology and metabolism can impact medication pharmacodynamics; this should be considered in each treatment plan.

Alcohol Use Disorder

Several medications are available to help treat alcohol use disorder [40; 41]. Some are used for detoxification and others are used to prevent relapse. Research has shown that medications are most effective when used in conjunction with other therapies.

Disulfiram

Disulfiram, commonly known as Antabuse, was the first drug to be made available for the treatment of alcohol use disorder. It was approved for treatment of alcohol use disorder by the U.S. Food and Drug Administration (FDA) in 1951 and has been used safely and effectively for decades. It works by blocking an enzyme, aldehyde dehydrogenase, that helps metabolize alcohol. Taking even one drink while on disulfiram causes the alcohol at the acetaldehyde stage to accumulate in the blood. This produces nausea, vomiting, sweating, and even difficulty breathing. More alcohol in the patient's system produces more severe reactions (e.g., respiratory depression, cardiovascular collapse, unconsciousness, convulsions, death) [41; 42]. Patients must also be mindful of consuming even minute amounts of alcohol in foods, over-the-counter medications, mouthwash, and even topical lotions. Disulfiram can be effective for people who have completed alcohol withdrawal, are committed to staying sober, and are willing to take the medication under the supervision of a family member or treatment program [41]. Due to more modern and improved medication modalities, many clinicians prescribe disulfiram as a last-resort intervention. Although widely used, it is less clearly supported by clinical trial evidence [43; 44; 45].

The recommended dose for disulfiram is 250 mg/day, which can be increased to 500 mg based upon whether a patient experiences the disulfiram-ethanol reaction [46]. Doses may need to be reduced in patients older than 60 years of age [41]. Labeling for disulfiram includes several precautions regarding drug-drug interactions; therefore, caution should be used when prescribing it to older adults at risk for polypharmacy [41]. Due to the physiologic changes that occur with use, use of disulfiram is not recommended in patients with diabetes, cardiovascular or cerebrovascular disease, or kidney or liver failure. It also is contraindicated in the presence of psychoses and pregnancy and in those with high levels of impulsivity and suicidality [41].

Naltrexone

Naltrexone (ReVia) is an opioid antagonist that interferes with the rewarding or pleasurable effects of alcohol and reduces alcohol craving [47; 48; 49]. The exact mechanisms by which naltrexone induces the reduction in alcohol consumption observed in patients with alcohol use disorder is not entirely understood, but preclinical data suggest involvement of the endogenous opioid system [41]. Naltrexone has been shown to reduce alcohol relapses, decrease the likelihood that a slip becomes a relapse, and decrease the total amount of drinking [41]. The FDA approved the use of oral naltrexone in alcohol use disorder in December 1994 [41; 49]. In 2006, the FDA approved an extended-release injectable formulation, which is indicated for use only in patients who can refrain from drinking for several days prior to beginning treatment [41]. In 2010, the FDA approved the injectable naltrexone for the prevention of relapse to opioid dependence following opioid detoxification [41].

After a complete history, physical exam, and laboratory testing, most patients are started on 50 mg orally per day [39]. For most patients, this is the safe and effective dose of naltrexone. However, in a four-month study period, the COMBINE study demonstrated efficacy of naltrexone at a dose of 100 mg daily [50]. Some treatment providers give patients a naltrexone identification card or ask them to order a MedicAlert bracelet that clearly indicates that they are maintained on an opioid antagonist, so if they need an opiate drug or medication for pain relief, the dose of the pain medication can be adjusted higher. Meta-analyses have revealed that approximately 70% of previous clinical trials that measured reductions in "heavy or excessive drinking" demonstrated an advantage for prescribing naltrexone over placebo [51]. In another trial, naltrexone was determined to have the greatest impact on reducing daily drinking when craving for alcohol was highest [52]. The approved dose of the extended-release formulation is 380 mg IM once per month. Pretreatment with oral naltrexone is not required before induction onto extended-release injectable naltrexone [41].

MEDICATIONS USED IN THE TREATMENT OF SUBSTANCE USE DISORDERS					
Drug	**Dose Range**	**Typical Starting Dose**	**Potential Adverse Effects**	**Route(s)**	**DEA Schedule**
Opioid Use Disorder					
Buprenorphine/ naloxone (Bunavail, Suboxone, Zubsolv)	Buprenorphine: 0.7–24 mg/day Naloxone: 0.18–6 mg/day	4/1 mg/day	Pain, headache, nausea, diaphoresis	Buccal film, sublingual film, sublingual tablet	CIII
Methadone (Dolophine, Methadose, DISKETS)	20–120 mg/day	20–30 mg/day	Pruritus, constipation, cardiac abnormalities	PO, IV	CII
Naltrexone (Vivitrol)	PO: 25-50 mg/day IM: 380 mg/week	PO: 25 mg/day IM: 380 mg/week	Injection site reactions, anxiety, syncope	PO, IM	Not scheduled
Buprenorphine (Belbuca, Buprenex, Butrans, Probuphine, Sublocade)	SQ: 100–300 mg/ month SL: 2–24 mg/day	SQ: 300 mg/month Implant: 4 implants SL: 2–4 mg/day	Few	Sublingual tablet, subdermal implant, SQ injection	CIII
Alcohol Use Disorder					
Acamprosate (Campral)	666 mg TID	666 mg TID	Diarrhea	PO	Not scheduled
Naltrexone (Vivitrol)	PO: 25–100 mg/day IM: 380 mg/month	PO: 50 mg/day IM: 380 mg/month	Injection site reactions, anxiety, syncope	PO, IM	Not scheduled
Disulfiram	125–500 mg/day	250 mg/day	Bitter taste, impotence, drowsiness	PO	Not scheduled
Tobacco Use Disorder					
Bupropion, sustained-release (Zyban)	150 mg daily or BID	150 mg/day	Weight loss, constipation, agitation, xerostomia, nausea	PO	Not scheduled
Nicotine	Gum: Up to a maximum 30 pieces/day Inhaler: 6–16 cartridges/day Lozenge: Titrate to 1 lozenge every 4 to 8 hours Nasal spray: Maximum 80 sprays/day Patch: One patch/day for 8 weeks	Gum: 1 to 2 pieces/ hour (2 mg/piece) Inhaler: 6 cartridges/ day Lozenge: One lozenge every 1 to 2 hours Nasal spray: 1 spray in each nostril once or twice per hour Patch: One patch/day	Oral irritation, headache, dyspepsia, nasal discomfort, cough, rhinitis	PO, intranasal, transdermal	Not scheduled
Varenicline (Chantix)	1 mg BID up to 12 weeks	0.5 mg/day	Nausea, abnormal dreams, headache	PO	Not scheduled

BID = two times per day, DEA = Drug Enforcement Administration, IM = intramuscular, IV = intravenous, PO = oral, SL = sublingual, SQ = subcutaneous, TID = three times per day.

Source: [39] *Table 2*

The most common side effects of naltrexone are light-headedness, diarrhea, dizziness, and nausea. Pain or tenderness at the injection site is a side effect unique to the extended-release injectable formulation [41]. Most side effects tend to disappear quickly in most patients. Naltrexone is not recommended for patients with acute hepatitis or liver failure, for adolescents, or for pregnant or breastfeeding women [41; 50]. Weight loss and increased interest in sex have been reported by some patients. In general, patients maintained on opioid antagonists should be treated with nonopioid cough, antidiarrheal, headache, and pain medications. The patient's family or physician should call the treating physician if questions arise about opioid blockade or analgesia. It is important to realize that naltrexone is not disulfiram; drinking while maintained on naltrexone does not produce side effects or symptoms.

Naltrexone works best when it is used in the context of a full spectrum of treatment services, possibly including traditional 12-step fellowship-based treatments. Studies show also that naltrexone is effective when coupled with CBT. Patients receiving medical management with naltrexone, CBT, or both fared better on drinking outcomes [50].

Acamprosate

Acamprosate (Campral) is a synthetic compound that has a chemical structure similar to that of the naturally occurring amino acid neurotransmitters taurine and gamma-aminobutyric acid (GABA) [39]. Because chronic alcohol use is associated with decreased GABA and glutamate activity, a hyperexcitable glutamate system is one possible alcohol withdrawal mechanism. Glutamate systems may become unstable for 12 months after a person stops drinking. In a review of published, double-blind, placebo-controlled clinical trials evaluating the safety and efficacy of acamprosate in the treatment of alcohol use disorder, Mason reported that acamprosate appeared to improve treatment completion rate, abstinence rate and/or cumulative abstinence during treatment, and time to first drink, than placebo [53]. The effect on abstinence, combined with an excellent safety profile, lend support to the use of acamprosate across a broad range of patients with alcohol use disorder [54]. It is important to note that medication in combination with therapies can improve outcomes.

In July 2004, after many years of safe use in Europe and around the world, the FDA approved the use of acamprosate for the maintenance of alcohol abstinence [49]. As in the case of naltrexone, acamprosate reduces the reinforcing (pleasurable) effects of alcohol to reduce craving. Oral dosing is two 333-mg delayed-release tablets three times daily [39; 41]. Common side effects include diarrhea, anxiety, insomnia, nausea, dizziness, and weakness. Some research indicates that acamprosate may worsen depression and/or suicidal ideation; so, patients with a history of major depression should be monitored closely or prescribed a different medication [39]. Acamprosate is contraindicated in patients with severe renal impairment [39; 41]. Due to risk of diminished renal function in patients 65 years of age and older, baseline and frequent renal function tests should be performed in this population. Dose reductions also may be necessary [41].

Baclofen

Baclofen is a GABA agonist that may prove to be a unique therapeutic alternative to reduce alcohol craving and consumption. In a small, 12-week trial, patients with alcohol use disorder were given 10 mg of baclofen three times daily paired with motivational enhancement therapy. Patients experienced a reduction in number of drinks, drinking days, anxiety, and craving [55]. In a study of patients with alcohol use disorder and liver cirrhosis, baclofen was also found to work favorably in maintenance of alcohol abstinence. Seventy-one percent of baclofen-treated patients maintained abstinence as compared with 29% of the placebo group [56]. A 2018 meta-analysis of 12 randomized controlled trials that compared the efficacy of baclofen to placebo found that baclofen was associated with higher rates of abstinence than placebo but that its effects were not superior to placebo in increasing the number of abstinent days or in decreasing heavy drinking, craving, depression, or anxiety [57].

Anticonvulsants

Research has demonstrated that topiramate is efficacious in decreasing heavy drinking among individuals with alcohol use disorder [58]. In a controlled study, topiramate produced significant and meaningful improvement in a wide variety of drinking outcomes [59]. Topiramate may suppress the craving and rewarding effects of alcohol [60]. In a double-blind, controlled trial, 150 patients with alcohol use disorder were randomized to escalating doses of topiramate (25–300 mg/day) or placebo. Those on topiramate had a reduction in self-reported drinking (number of drinks and drinking days), alcohol craving, and plasma gamma-glutamyl transferase (an indicator of alcohol consumption) [61]. Side effects of topiramate include numbness in the extremities, fatigue, confusion, paresthesia, depression, change in taste, and weight loss. Use of topiramate for alcohol use disorder is off-label [39].

Carbamazepine has proven effective for treating acute alcohol withdrawal [62]. Its side effects include nausea, vomiting, drowsiness, dizziness, chest pain, headache, trouble urinating, numbness in extremities, liver damage, and allergic reaction [39]. In a 12-month, double-blind, placebo-controlled trial, 29 patients were assigned to carbamazepine three times daily (to reach an average blood level of 6 mg/liter) or placebo. Those treated with carbamazepine showed a delay in time to first drink and a decrease in number of drinks and drinking days [63].

Oxcarbazepine is a carbamazepine derivative, with fewer side effects and contraindications, used to prevent relapse in patients with alcohol use disorder by blocking alcohol withdrawal [62]. A group of 84 patients with alcohol use disorder following detoxification were randomized to 50 mg naltrexone, 1,500–1,800 mg oxcarbazepine, or 600–900 mg oxcarbazepine for 90 days. Approximately 58.6% of the high-dose oxcarbazepine patients remained alcohol-free, a significantly larger number as compared to the low-dose (42.8%) and naltrexone groups (40.7%) [64].

Opioid Use Disorder

Any treatment for opioid use disorder must take into consideration the chronic relapsing nature of opioid dependence, characterized by a variable course of relapse and remission in many patients. Treatments should emphasize patient motivation, psychoeducation, continuity of care, integration of pharmacotherapy and psychosocial support, and improved liaison between the treatment staff and the judicial system. Pharmacotherapy must be offered in a comprehensive healthcare context that also addresses the psychosocial aspects of dependence [65]. Patients with opioid use disorder frequently suffer from physical and psychiatric disorders, and targeted interventions of psychiatric comorbidity are essential in improving treatment outcome for these patients [65]. Polysubstance abuse is the rule rather than the exception in opioid use disorder, and concurrent use of other substances should be carefully monitored and treated when necessary [65]. Incarceration should never automatically result in discontinuation of an existing treatment; imprisonment offers a window of opportunity to initiate or restart treatment with a necessary continuation after release [65].

Crisis Intervention

In response to acute overdose, the short-acting opioid antagonist naloxone is considered the criterion standard. Naloxone is effective in reversing respiratory depression and coma in patients who have overdosed. There is no evidence that subcutaneous or intramuscular use is inferior to intravenous naloxone. This prompted discussion of making naloxone available to the general public for administration outside the healthcare setting to treat acute opioid overdose, and in 2014, the FDA approved naloxone as an autoinjector dosage form for home use by family members or caregivers [66]. The autoinjector delivers 0.4 mg naloxone intramuscularly or subcutaneously. The autoinjector comes with visual and voice instruction, including directions to seek emergency medical care after use [66]. In 2015, the FDA approved intranasal naloxone after a fast-track designation and priority review. Intranasal naloxone is indicated for the emergency treatment of known or suspected opioid overdose, as manifested by respiratory and/or central nervous system depression. It is available in a ready-to-use 2-mg, 4-mg, or 8-mg single-dose sprayer [67; 68; 69]. In 2023, the FDA approved 4-mg nasal spray naloxone for over-the-counter use [173].

EVIDENCE-BASED PRACTICE RECOMMENDATION

According to the World Health Organization, people likely to witness an opioid overdose should have access to naloxone and be instructed in its administration to enable them to use it for the emergency management of suspected opioid overdose.

(https://www.who.int/publications/i/item/9789241548816. Last accessed April 27, 2023.)

Strength of Recommendation/Level of Evidence: Strong/very low

Harm Reduction

Harm reduction measures are primarily employed to minimize the morbidity and mortality from opioid abuse and to reduce public nuisance [2; 70]. As a part of this effort, measures to prevent and minimize the frequency and severity of overdoses have been identified. Enrollment in opioid substitution therapy, with agents such as methadone and buprenorphine, substantially reduces the risk of overdose as well as the risk for infection and other sequelae of illicit opioid use [2; 70].

Detoxification

The three primary treatment modalities used for detoxification are opioid agonists, non-opioid medications, and rapid and ultra-rapid opioid detoxification [71]. The most frequently employed method of opioid withdrawal is a slow, supervised detoxification during which an opioid agonist, usually methadone, is substituted for the abused opioid [72]. Methadone is the most frequently used opioid agonist due to the convenience of its once-a-day dosing [71]. Methadone is highly bound to plasma proteins and accumulates more readily than heroin in all body tissues. Methadone also has a longer half-life, approximately 22 hours, which makes withdrawal more difficult than from heroin. Substitution therapy with methadone has a high initial dropout rate (30% to 90%) and an early relapse rate. Alternative pharmacologic detoxification choices include clonidine (with or without methadone), midazolam, trazodone, or buprenorphine [72].

Many opioid withdrawal symptoms, such as restlessness, rhinorrhea, lacrimation, diaphoresis, myosis, piloerection, and cardiovascular changes, are mediated through increased sympathetic activation, the result of increased neuron activity in the locus coeruleus. Non-opioid agents (such as clonidine), which inhibit hyperactivation of noradrenergic pathways stemming from the locus coeruleus nucleus, have been used to manage acute withdrawal [72; 73]. The first non-opioid treatment approved for the management of opioid withdrawal symptoms is lofexidine [74]. In studies, patients treated with lofexidine reported less severe withdrawal symptoms and were more likely to complete treatment.

However, some withdrawal symptoms, including anxiety and myalgias, are resistant to clonidine; benzodiazepines and non-steroidal anti-inflammatory drugs (NSAIDs) may be necessary to treat these symptoms. To mitigate withdrawal symptoms and assist in detoxification, alpha2-agonists, opioid agonist-antagonists, benzodiazepines, and antidepressants have been used [72].

Agonist Replacement Therapy

The goal of opioid replacement therapy is to reduce illicit drug use and associated health risks, with secondary goals of reducing unsafe sexual practices, improving vocational and psychosocial functioning, and enhancing quality of life [71]. The theoretical basis of opioid replacement stems from the finding that chronic opioid use results in an endogenous opioid deficiency as a result of the down-regulation of opioid production. This creates overwhelming cravings and necessitates interventions that shift the dependent patient's attention and drive from obsessive preoccupation with the next use of opioids to more adaptive areas of focus, such as work, relationships, and non-drug leisure activities [71].

EVIDENCE-BASED PRACTICE RECOMMENDATION

For patients with opioid use disorder, the Department of Veterans Affairs Work Group recommends offering one of the following medications, considering patient preferences: buprenorphine/naloxone or methadone (in an opioid treatment program).

(https://www.healthquality.va.gov/guidelines/MH/sud/VADoDSUDCPG.pdf. Last accessed April 27, 2023.)

Strength of Recommendation: Strong for

Methadone is now the most inexpensive and empirically validated agent available for use in opioid replacement therapy. Studies have shown one-year treatment retention rates of 80%, with significant reductions in illicit opioid use [71].

Treatment is initiated with a dose of 25–30 mg and is gradually titrated in 5- to 10-mg increments per day to a desired range of 60–120 mg. Low-dose treatment is associated with less positive outcomes than doses of 60–120 mg/day or greater [71; 75]. One published review of efficacy literature concluded that high doses of methadone (>50 mg daily) are more effective than low doses (<50 mg daily) in reducing illicit opioid use. This may be due to the increased availability of highly pure heroin [75]. Additionally, high doses of methadone are more effective than low doses of buprenorphine (<8 mg daily). High dosages of methadone are comparable to high dosages of buprenorphine (>8 mg daily) on measures of treatment retention and reduction of illicit opioid use [65]. Methadone is contraindicated for the following patients [73]:

- Those with known hypersensitivity to methadone hydrochloride
- Those experiencing respiratory depression
- Those with acute bronchial asthma or hypercapnia
- Those with known or suspected paralytic ileus

EVIDENCE-BASED PRACTICE RECOMMENDATION

When considering initiation of methadone, the American Pain Society recommends that clinicians perform an individualized medical and behavioral risk evaluation to assess risks and benefits of methadone, given methadone's specific pharmacologic properties and adverse effect profile.

(https://www.jpain.org/article/S1526-5900(14)00522-7/fulltext. Last accessed April 27, 2023.)

Strength of Recommendation/Level of Evidence: Strong/low

Buprenorphine offers several advantages over methadone, including lower cost, milder withdrawal symptoms following abrupt cessation, lower risk of overdose, and longer duration of action, allowing alternate-day dosing [71; 76]. Identifying subpopulations of opioid addicts who differentially respond to buprenorphine versus methadone has not been clearly established. However, patients with less chronic and less severe heroin dependence benefit more fully from buprenorphine than from a pure opioid agonist like methadone [71].

The transition to buprenorphine from long-acting opioids is difficult [77]. The ASAM warns that diversion and misuse are possible with buprenorphine, as is physical dependence. Respiratory depression may occur if buprenorphine is used with central nervous system depressants including alcohol, other opioids, and illicit drugs. Neonatal withdrawal has also been reported after use of buprenorphine during pregnancy. Buprenorphine is not recommended for patients with severe hepatic impairment [73].

Higher doses of buprenorphine (12 mg or greater) are more effective than lower doses in reducing illicit opioid use, with some studies reporting similar efficacy to methadone on major treatment-outcome measures. The primary advantage of buprenorphine over methadone is its superior safety profile [77].

Slow-release formulations of morphine that are effective with once-daily dosing are a viable alternative in the treatment of opioid dependence. These formulations considerably delay time to peak concentration after oral administration, resulting in delayed onset of action and making the reinforcing effects very weak when it is administered orally. Several trials have suggested that slow-release morphine has approximately

equal efficacy with methadone; however, there is no definitive evidence of this effect [77; 78; 79]. Slow-release oral morphine may be a viable alternative for patients who are intolerant to methadone [80].

Tobacco Use Disorder

The first-line pharmacologic interventions for smoking cessation are nicotine-replacement therapy (NRT), bupropion, and varenicline [81; 82]. However, no pharmacotherapy has been approved for use among pregnant or nursing women.

Bupropion

Bupropion is an atypical antidepressant that has both dopaminergic and adrenergic actions [83]. In 1998, the slow-release preparation of bupropion became available as a prescription item specifically for smoking cessation, with the trade name Zyban. This treatment could be appropriate for smokers who do not wish to use an NRT or for those whose treatment with NRT has failed. Unlike NRT, smokers begin bupropion treatment one week prior to cessation. The suggested dosage is 300 mg/day, and the duration of treatment is 7 to 12 weeks [84]. A double-blind, placebo-controlled trial randomized patients to placebo or sustained-released bupropion (50 mg twice a day, 150 mg once a day, or 150 mg twice a day) and treated them for six weeks. Smokers with active depression were excluded, though smokers with a history of depression were not. The cessation rates at the end of therapy were 10.5%, 13.7%, 18.3%, and 24.4%, respectively. Follow-up at one year suggested a continued benefit of bupropion therapy [85]. Data from a study of bupropion combined with transdermal nicotine showed high long-term quit rates with the combination therapy [86]. Discontinuation of treatment may be appropriate for individuals unable to achieve significant progress after seven weeks, as success after this point is unlikely [39].

Varenicline Tartrate

Another effective non-nicotine therapy for smoking cessation is varenicline tartrate, a partial agonist selective for nicotine acetylcholine receptor subtypes. Released in 2006, varenicline is available in monthly dose packs (0.5 mg and 1 mg tablets) and is approved for a 12-week course of treatment [82]. Patients able to quit smoking may continue the therapy for an additional 12 weeks for increased likelihood of long-term cessation and even up to a year in certain cases, to prevent relapse; however, medication should be stopped and patients should be reassessed if the intervention has not led to smoking cessation within the initial 12 week timeframe [39; 87; 88]. Clinical trials reveal that varenicline may be favorable to bupropion for abstinence (44% versus 30%); the medication has also been shown to help at least 20% of patients remain smoke-free for up to one year [89; 90]. Recognizing that cessation success rates increase when pharmacologic and behavioral therapies are combined, the manufacturer urges patients to combine use of varenicline with a behavioral support plan. Co-administration of varenicline and transdermal nicotine may exacerbate incidence of nausea, headache, vomiting, dizziness, dyspepsia, and fatigue. One study found varenicline alone to be more effective than other treatment options, while a meta-analysis study found that combination therapy (varenicline and NRT) was more effective than varenicline alone [91; 92]. In 2021, the manufacturer of Chantix, a brand of varenicline, halted production of varenicline due to unacceptably high levels of nitrosamines; however, this issue was considered resolved by May 2022 [93]. In addition, all lots of 0.5-mg and 1-mg tablets of Chantix were subject to a voluntary recall. However, the FDA does not recommend that patients halt use of varenicline, and generic formulations and other brands remained available.

Other Options

The two second-line drugs for smoking cessation are clonidine and nortriptyline [81]. Clonidine is an antihypertensive medication that is administered orally or transdermally. It appears to increase the smoking cessation rate by approximately 11%; however, clonidine is known to produce such side effects as dry mouth, dizziness, sedation, and orthostatic hypotension [39; 94]. Clonidine has not been approved by the FDA for smoking cessation but has been used with individuals who have failed NRT or bupropion [39]. Nortriptyline is a tricyclic antidepressant that has been used to assist smoking cessation, although this is an unlabeled use [39]. A 12% improvement in cessation over controls has been reported, but the limited number of trials, combined with the adverse side effects (e.g., dry mouth, weight gain, constipation, drowsiness, sexual problems), makes nortriptyline a second-line intervention [81]. Several controlled trials have failed to show any benefit for either agent [39].

POLYSUBSTANCE USE

Despite the increased prevalence of individuals using multiple substances at the same time, limited research exists on evidence-based treatment practices that have demonstrated improved outcomes for individuals who use more than one substance [95]. Therefore, there is a need to identify and assess the effectiveness of treatment practices so that clinicians and organizations have the necessary resources and evidence-based practices to assist this population.

The Substance Abuse and Mental Health Services Administration (SAMHSA) has identified three evidence-based practices that engage and improve outcomes for individuals with concurrent substance use and concurrent substance use disorders [95]:

- FDA-approved pharmacotherapy together with counseling to treat:
  - Alcohol and cocaine dependence
  - Cocaine and opioid dependence
- Contingency management together with FDA-approved pharmacotherapy and counseling to treat:
  - Cocaine and opioid use and dependence
  - Cocaine dependence and alcohol and opioid use

- Twelve-step facilitation therapy together with FDA-approved pharmacotherapy and counseling to treat:
  - Cocaine and opioid dependence
  - Opioid and other substance dependence

CO-OCCURRING MENTAL DISORDERS

In the United States, 7.7 million adults have co-occurring mental and substance use disorders. Of the 20.3 million adults with substance use disorders, 37.9% also had mental illnesses. Among the 42.1 million adults with mental illness, 18.2% also had substance use disorders [96]. No specific combinations of mental and substance use disorders are defined uniquely as co-occurring disorders, but the most common mental disorders seen in substance use disorder treatment include [96]:

- Anxiety and mood disorders
- Schizophrenia
- Bipolar disorder
- Major depressive disorder
- Conduct disorders
- Post-traumatic stress disorder
- Attention deficit hyperactivity disorder (ADHD)

Patients with comorbid disorders demonstrate poorer treatment adherence and higher rates of treatment dropout than those without mental illness, which negatively affects outcomes [97]. Integrated treatment for comorbid drug use disorder and mental illness has been found to be consistently superior compared with separate treatment of each diagnosis. Integrated treatment of co-occurring disorders often involves using CBT strategies to boost interpersonal and coping skills and using approaches that support motivation and functional recovery.

Assessment

It is important to assess patients with substance use disorder for other psychiatric and substance use disorders. For example, alcohol and cocaine use disorders are frequent comorbidities in patients with opioid use disorder and can aggravate depressive symptoms [73; 99]. Bipolar illness is rare but has substantial treatment implications. Anxiety disorders frequently co-occur with depression, and traumatic experiences and post-traumatic stress disorder are common and should be thoroughly evaluated and treated [98; 99]. Independent disorders are psychiatric conditions occurring during periods of sustained abstinence or having an onset before the substance use disorder. A positive family history can aid in identifying an independent psychiatric disorder.

Comprehensive assessment tools can reduce the chance of a missed or incorrect diagnosis. Patients with psychiatric comorbidities often exhibit symptoms that are more persistent, severe, and resistant to treatment compared to patients who have either disorder alone [100; 101; 102; 103]. Assessment is critical to identify concomitant medical and psychiatric conditions that may need immediate attention and require transfer to a higher level of care [73]. The ASAM recommends that clinicians also assess social and environmental factors to identify facilitators and barriers to treatment, specifically to pharmacotherapy [73].

Treatment Approach

Treatment should initially focus on stabilization of the patient's substance use disorder, with an initial goal of two to four weeks abstinence before addressing comorbidities. Patients who persistently display symptoms of a psychiatric disorder during abstinence should be considered as having an independent disorder and should receive prompt psychiatric treatment [104].

Although depressive symptoms often improve following treatment admission, significant symptoms will persist in some patients [98]. Antidepressant medications can be effective in patients dually diagnosed with substance use disorder and depression when used at adequate doses for at least six weeks [105]. Factors emphasizing prompt antidepressant treatment include greater severity of depression, suicide risk, and co-occurring anxiety disorders [98].

Selective serotonin reuptake inhibitors (SSRIs) are generally safe and well-tolerated, but clinical trials with these agents in methadone patients have been negative [98]. Therefore, SSRIs may be considered first-line treatment based on their safety profile, but if the patient does not respond, then tricyclic antidepressants or newer generation agents should be considered. SSRIs in combination with CBT have been found to be highly effective for treating clients with comorbid depression [106]. More stimulating antidepressants, such as venlafaxine and bupropion, may be suitable in patients with prominent low energy or past or current symptoms consistent with ADHD [98].

The utility of nonpharmacologic treatments should be emphasized. Psychosocial therapies are as effective as pharmacotherapy in the treatment of mild-to-moderate depressive and anxiety symptoms. Treatment of personality disorders is nonpharmacologic [104]. If depression persists, psychosocial modalities, such as CBT, supportive therapy, or contingency management, have some evidence to support their efficacy in patients with substance use disorders [98; 106].

FACTORS IMPACTING RECOVERY

Stigma

Although substance use disorders affect millions of persons in the United States every year, stigma and shame surrounding these disorders remains. Although it is clear that substance use disorders are complex mental disorders, many continue to view it as a result of moral weakness and flawed character [107]. Experiences of this stigma, especially if expressed by a healthcare professional, can impede patients from seeking help or adhering to treatment.

Trauma

Various studies have found a disproportionately higher number of abuse, neglect, or trauma histories in patients with substance use disorders than in the general population [108; 109; 110; 111; 112]. Furthermore, substance abuse increases the likelihood of victimization, which can further promulgate the cycle of coping with trauma-related stress and self-medicating with addictive substances [113; 114; 115; 116; 117].

Some experts have asserted that traditional models of addiction recovery and relapse prevention do not consider the significant role that unresolved trauma can play in an addicted individual's attempt at recovery [118]. It is possible that traditional approaches tend to marginalize women more than their male counterparts and fail to sufficiently address the role that trauma has played in the development and maintenance of substance use disorder. An integrated, more holistic approach is needed to promote long-term recovery and prevent relapse [119].

Social Determinants of Health

Social determinants of health are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. They can have a major impact on substance use disorder treatment and recovery. Examples of social determinants of health include [120]:

- Safe housing, transportation, and neighborhoods
- Racism, discrimination, and violence
- Education, job opportunities, and income
- Access to nutritious foods and physical activity opportunities
- Polluted air and water
- Language and literacy skills

Social determinants of health also contribute to wide health disparities and inequities. For example, people who lack reliable transportation are less likely to attend follow-up appointments or 12-step meetings, which raises the risk of relapse and treatment nonadherence [120].

LEGAL AND ETHICAL ISSUES IN THE TREATMENT OF SUBSTANCE USE DISORDERS

Federal statutes, regulations, and guidelines govern medications for opioid addiction. The SAMHSA's Division of Pharmacologic Therapies, part of SAMHSA's Center for Substance Abuse Treatment, manages the day-to-day oversight activities required to implement federal regulations surrounding the use medications approved by the FDA, such as methadone and buprenorphine for the treatment of opioid use disorder for practitioners and opioid treatment programs [121]. Some medications used to treat substance use disorder are controlled substances governed by the Controlled Substances Act.

Section 1262 of the Consolidated Appropriations Act of 2023 (also known as Omnibus bill), removes the federal requirement for practitioners to submit a Notice of Intent (i.e., have a DATA or X-waiver) to prescribe medications, like buprenorphine, for the treatment of opioid use disorder. All practitioners who have a current Drug Enforcement Administration (DEA) registration that includes Schedule III authority may now prescribe buprenorphine for opioid use disorder in their practice if permitted by applicable state law. This section also removes other federal requirements associated with the waiver, such as discipline restrictions, patient limits, and certification related to provision of counseling. Separately, section 1263 of the Consolidated Appropriations Act requires new or renewing DEA registrants, starting June 27, 2023, upon submission of their application, to have at least one of the following [122]:

- A total of eight hours of training from certain organizations on opioid or other substance use disorders for practitioners renewing or newly applying for a registration from the DEA to prescribe any Schedule II-V controlled medications
- Board certification in addiction medicine or addiction psychiatry from the American Board of Medical Specialties, American Board of Addiction Medicine, or the American Osteopathic Association
- Graduation within five years and status in good standing from medical, dental medicine, advanced practice nursing, or physician assistant school in the United States that included successful completion of an opioid or other substance use disorder curriculum of at least eight hours
- For dentists, the training may also include the safe pharmacologic management of dental pain and screening, brief intervention, and referral for appropriate treatment of patients with or at risk of developing opioid and other substance use disorders

Key ethical issues to consider when caring for patients with substance use disorders include informed consent, confidentiality, autonomy, competence, access to services, and explicit and implicit bias.

PAIN MANAGEMENT AND SUBSTANCE MISUSE

Persistent pain has been reported to affect one in three adults in the United States [123]. As such, a significant portion of persons with substance use disorders will have comorbid and sometimes chronic pain. There is no adequately validated instrument to differentiate pain patients who are at risk of dependence from those who are not. Research suggests that patients, even those with alcohol use disorder, with no history of opioid dependence are not at heightened risk of becoming

addicted with short-term opioid exposure. However, those with a positive history of dependence would benefit from active recovery efforts while receiving such medications.

Despite the rise in prescription opioid analgesic use and misuse, definitive data on the rate of dependence among patients administered opioids for acute pain does not yet exist. There is, however, agreement on how to minimize the risk of iatrogenic dependence. These steps include screening for risk potential based on a family history of substance abuse and the exploration of different delivery systems that adequately treat pain but minimize abuse potential. Although a pattern of aberrant behavior may be grounds for caution, a history of opioid misuse does not necessarily preclude a patient from successful treatment with an opioid. Screening for psychologic disorders is also advisable, including psychosomatic causes of pain.

PAIN MANAGEMENT APPROACHES

Healthcare professionals should know the best clinical practices in opioid prescribing, including the associated risks of opioids, approaches to the assessment of pain and function, and pain management modalities. Pharmacologic and nonpharmacologic approaches should be used on the basis of current knowledge in the evidence base or best clinical practices. Patients with moderate-to-severe chronic pain who have been assessed and treated, over a period of time, with non-opioid therapy or nonpharmacologic pain therapy without adequate pain relief, are considered to be candidates for a trial of opioid therapy [124; 125; 127]. Initial treatment should always be considered individually determined and as a trial of therapy, not a definitive course of treatment [126].

The Centers for Disease Control and Prevention (CDC) originally published *Guideline for Prescribing Opioids for Chronic Pain—United States, 2016* in an effort to address an ongoing crisis of prescription opioid misuse, abuse, and overdose [125]. While these guidelines were based on the best available evidence at the time, there was some criticism that they were too focused on limiting opioid prescriptions—to the point of patients and prescribers complaining of stigma and reduced access to needed opioid analgesics. In response to this and to the availability of new evidence, the CDC published updates to the guideline in 2022 [127]. The updated clinical practice guideline is intended to achieve improved communication between clinicians and patients about the risks and benefits of pain treatment, including opioid therapy for pain; improved safety and effectiveness for pain treatment, resulting in improved function and quality of life for patients experiencing pain; and a reduction in the risks associated with long-term opioid therapy, including opioid use disorder, overdose, and death [127].

The 2022 clinical practice guideline includes 12 recommendations for clinicians who are prescribing opioids for outpatients 18 years of age or older with acute (duration <1 month) pain, subacute (duration of 1 to 3 months) pain, or chronic (duration of >3 months) pain outside of sickle cell disease related pain management, cancer pain treatment, palliative care, and end-of-life care. These recommendations are graded according to applicability and strength of the supporting evidence [127].

Acute Pain

Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids in a quantity no greater than that needed for the expected duration of severe pain. In most cases, three days or less will be sufficient; more than seven days will rarely be needed [125; 127]. However, it may be necessary to prescribe for longer periods in patients with acute severe pain. Approximately half of all states have passed legislation limiting initial opioid prescriptions for acute pain to a seven-day supply or less, and many insurers, pharmacy benefit managers, and pharmacies have enacted similar policies [127].

With postoperative, acute, or intermittent pain, analgesia often requires frequent titration, and the two- to four-hour analgesic duration with short-acting hydrocodone, morphine, and oxycodone is more effective than extended-release formulations. Short-acting opioids are also recommended in patients who are medically unstable or with highly variable pain intensity [128; 129; 130].

Chronic Pain

Nonpharmacologic therapy and non-opioid pharmacologic therapy are the preferred first-line therapies for chronic pain. Several nonpharmacologic approaches are therapeutic complements to pain-relieving medication, lessening the need for higher doses and perhaps minimizing side effects. These interventions can help decrease pain or distress that may be contributing to the pain sensation. Approaches include palliative radiotherapy, complementary/alternative methods, manipulative and body-based methods, and cognitive/behavioral techniques. The choice of a specific nonpharmacologic intervention is based on the patient's preference, which, in turn, is usually based on a successful experience in the past.

Implantable intrathecal opioid infusion and/or spinal cord stimulation may be options for severe, intractable pain. Both options require that devices or ports be implanted, with associated risks. With intrathecal opioid infusion, the ability to deliver the drug directly into the spine provides pain relief with significantly smaller opioid doses, which can help to minimize side effects (e.g., drowsiness, dizziness, dry mouth, nausea, vomiting, and constipation) that can accompany systemic pain medications that might be delivered orally, transdermally, or through an IV [131]. However, use of opioid infusion has traditionally been limited to cancer pain. With spinal cord stimulation therapy, the most challenging aspect is patient selection. In order for patients to be considered for spinal cord stimulation, other options should have been ineffective or be contraindicated. Spinal cord stimulation is indicated for severe neuropathic pain persisting at least six months.

If opioids are used, they should be combined with nonpharmacologic therapy and non-opioid pharmacologic therapy, as appropriate. Clinicians should consider opioid therapy only if expected benefits for pain and function are anticipated to outweigh risks to the patient [125; 127].

Opioid therapy for chronic pain should be presented as a trial for a pre-defined period (e.g., ≤30 days). The goals of treatment should be established with all patients prior to the initiation of opioid therapy, including reasonable improvements in pain, function, depression, anxiety, and avoidance of unnecessary or excessive medication use [125; 127; 132]. The treatment plan should describe therapy selection, measures of progress, and other diagnostic evaluations, consultations, referrals, and therapies.

In patients who are opioid-naïve, start at the lowest possible dose and titrate to effect. Dosages for patients who are opioid-tolerant should always be individualized and titrated by efficacy and tolerability [125; 127; 132]. When starting opioid therapy for chronic pain, clinicians should prescribe short-acting instead of extended-release/long-acting opioid formulations [125; 127].

The need for frequent progress and benefit/risk assessments during the trial should be included in patient education. Patients should also have full knowledge of the warning signs and symptoms of respiratory depression. Prescribers should carefully reassess evidence of benefits and risks when increasing the dosage to ≥50 mg morphine milligram equivalents (MME) per day. In its 2016 guideline, the CDC recommended that decisions to titrate dosage to ≥90 mg MME/day should be avoided or carefully justified [125; 133]. This recommendation does not appear in the 2022 revision [127].

Prescribers should be knowledgeable of federal and state opioid prescribing regulations. Issues of equianalgesic dosing, close patient monitoring during all dose changes, and cross-tolerance with opioid conversion should be considered. If necessary, treatment may be augmented, with preference for nonopioid and immediate-release opioids over long-acting/extended-release opioids. Taper opioid dose when no longer needed [134].

Palliative Care and Pain at the End of Life

Unrelieved pain is the greatest fear among people with a life-limiting disease, and the need for an increased understanding of effective pain management is well-documented [135]. Although experts have noted that 75% to 90% of end-of-life pain can be managed effectively, rates of pain are high, even among people receiving palliative care [135; 136; 137; 138].

The inadequate management of pain is the result of several factors related to both patients and clinicians. In a survey of oncologists, patient reluctance to take opioids or to report pain were two of the most important barriers to effective pain relief [139]. This reluctance is related to a variety of attitudes and beliefs [135; 139]:

- Fear of addiction to opioids
- Worry that if pain is treated early, there will be no options for treatment of future pain
- Anxiety about unpleasant side effects from pain medications
- Fear that increasing pain means that the disease is getting worse
- Desire to be a "good" patient
- Concern about the high cost of medications

Education and open communication are the keys to overcoming these barriers. Every member of the healthcare team should reinforce accurate information about pain management with patients and families. The clinician should initiate conversations about pain management, especially regarding the use of opioids, as few patients will raise the issue themselves or even express their concerns unless they are specifically asked [140]. It is important to acknowledge patients' fears individually and provide information to help them differentiate fact from fiction. For example, when discussing opioids with a patient who fears addiction, the clinician should explain that the risk of addiction is low [135]. It is also helpful to note the difference between addiction and physical dependence.

There are several other ways clinicians can allay patients' fears about pain medication:

- Assure patients that the availability of pain relievers cannot be exhausted; there will always be medications if pain becomes more severe.
- Acknowledge that side effects may occur but emphasize that they can be managed promptly and safely and that some side effects will abate over time.
- Explain that pain and severity of disease are not necessarily related.

Encouraging patients to be honest about pain and other symptoms is also vital. Clinicians should ensure that patients understand that pain is multidimensional and emphasize the importance of talking to a member of the healthcare team about possible causes of pain, such as emotional or spiritual distress. The healthcare team and patient should explore psychosocial and cultural factors that may affect self-reporting of pain, such as concern about the cost of medication.

Clinicians' attitudes, beliefs, and experiences also influence pain management, with addiction, tolerance, side effects, and regulations being the most important concerns [135; 137; 139; 141]. A lack of appropriate education and training in the assessment and management of pain has been noted to be a substantial contributor to ineffective pain management [139; 141]. As a result, many clinicians, especially primary care physicians, do not feel confident about their ability to manage pain in their patients [139; 141].

Clinicians require a clear understanding of available medications to relieve pain, including appropriate dosing, safety profiles, and side effects. If necessary, clinicians should consult with pain specialists to develop an effective approach.

Strong opioids are used for severe pain at the end of life [136; 137]. Morphine, buprenorphine, oxycodone, hydromorphone, fentanyl, and methadone are the most widely used in the United States [142]. Unlike nonopioids, opioids do not have a ceiling effect, and the dose can be titrated until pain is relieved or side effects become unmanageable. Patients who are opioid-naïve or who have been receiving low doses of a weak opioid, the initial dose should be low, and, if pain persists, the dose may be titrated up daily until pain is controlled.

More than one route of opioid administration will be needed by many patients during end-of-life care, but in general, opioids should be given orally, as this route is the most convenient and least expensive. The transdermal route is preferred to the parenteral route, although dosing with a transdermal patch is less flexible and so may not be appropriate for patients with unstable pain [137]. Intramuscular injections should be avoided because injections are painful, drug absorption is unreliable, and the time to peak concentration is long [137].

CREATING A TREATMENT PLAN AND ASSESSMENT OF ADDICTION RISK

Information obtained by patient history, physical examination, and interview, from family members, a spouse, or state prescription drug monitoring program (PDMP), and from the use of screening and assessment tools can help the clinician to stratify the patient according to level of risk for developing problematic opioid behavioral responses (***Table 3***) [143; 144]. Low-risk patients receive the standard level of monitoring, vigilance, and care. Moderate-risk patients should be considered for an additional level of monitoring and provider contact, and high-risk patients are likely to require intensive and structured monitoring and follow-up contact, additional consultation with psychiatric and addiction medicine specialists, and limited supplies of short-acting opioid formulations [125; 127; 145].

Before deciding to prescribe an opioid analgesic, clinicians should perform and document a detailed patient assessment that includes [132]:

- Pain indications for opioid therapy
- Nature and intensity of pain
- Past and current pain treatments and patient response
- Comorbid conditions
- Pain impact on physical and psychologic function
- Social support, housing, and employment
- Home environment (i.e., stressful or supportive)
- Pain impact on sleep, mood, work, relationships, leisure, and substance use
- Patient history of physical, emotional, or sexual abuse

If substance abuse is active, in remission, or in the patient's history, consult an addiction specialist before starting opioids [132]. In active substance abuse, do not prescribe opioids until the patient is engaged in treatment/recovery program or other arrangement made, such as addiction professional co-management and additional monitoring. When considering an opioid analgesic (particularly those that are extended-release or long-acting), one must always weigh the benefits against the risks of overdose, abuse, addiction, physical dependence and tolerance, adverse drug interactions, and accidental exposure by children [125; 127; 134].

Screening and assessment tools can help guide patient stratification according to risk level and inform the appropriate degree of structure and monitoring in the treatment plan. It should be noted that despite widespread endorsement of screening tools used to help determine patient risk level, most tools have not been extensively evaluated, validated, or compared to each other, and evidence of their reliability is poor [143; 144].

Risk Assessment Tools

Opioid Risk Tool (ORT)

The Opioid Risk Tool (ORT) is a five-item, patient-administered assessment to help predict aberrant drug-related behavior. The ORT is also used to establish patient risk level through categorization into low, medium, or high levels of risk for aberrant drug-related behaviors based on responses to questions of previous alcohol/drug abuse, psychologic disorders, and other risk factors [146].

Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R)

The Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R) is a patient-administered, 24-item screen with questions addressing history of alcohol/substance use, psychologic status, mood, cravings, and stress. Like the ORT, the SOAPP-R helps assess risk level of aberrant drug-related behaviors and the appropriate extent of monitoring [146; 147].

Screening Instrument or Substance Abuse Potential (SISAP)

The Screening Instrument or Substance Abuse Potential (SISAP) tool is a self-administered, five-item questionnaire addressing history developed used to predict the risk of opioid misuse. The SISAP is used to identify patients with a history of alcohol/substance abuse and improve pain management by facilitating focus on the appropriate use of opioid analgesics and therapeutic outcomes in the majority of patients who are not at risk of opioid abuse, while carefully monitoring those who may be at greater risk [146].

CAGE and CAGE-AID

The original CAGE (Cut down, Annoyed, Guilty, and Eye-opener) Questionnaire consisted of four questions designed to help clinicians determine the likelihood that a patient was misusing or abusing alcohol. These same four questions

RISK STRATIFICATION FOR PATIENTS PRESCRIBED OPIOIDS
Low Risk
Definable physical pathology with objective signs and reliable symptoms
Clinical correlation with diagnostic testing, including MRI, physical examination, and interventional diagnostic techniques
With or without mild psychologic comorbidity
With or without minor medical comorbidity
No or well-defined and controlled personal or family history of alcoholism or substance abuse
Age 45 years or older
High levels of pain acceptance and active coping strategies
High motivation and willingness to participate in multimodal therapy and attempting to function at normal levels
Medium Risk
Significant pain problems with objective signs and symptoms confirmed by radiologic evaluation, physical examination, or diagnostic interventions
Moderate psychologic problems, well controlled by therapy
Moderate coexisting medical disorders that are well controlled by medical therapy and are not affected by chronic opioid therapy (e.g., central sleep apnea)
Develops mild tolerance but not hyperalgesia without physical dependence or addiction
History of personal or family history of alcoholism or substance abuse
Pain involving more than three regions of the body
Defined pathology with moderate levels of pain acceptance and coping strategies
Willing to participate in multimodal therapy, attempting to function in normal daily life
High Risk
Widespread pain without objective signs and symptoms
Pain involving more than three regions of the body
Aberrant drug-related behavior
History of alcoholism or drug misuse, abuse, addiction, diversion, dependency, tolerance, or hyperalgesia
Major psychologic disorders
Age younger than 45 years
HIV-related pain
High levels of pain exacerbation and low levels of coping strategies
Unwilling to participate in multimodal therapy, not functioning close to a near normal lifestyle
HIV = human immunodeficiency syndrome, MRI = magnetic resonance imaging.
Source: [143; 144] *Table 3*

were modified to create the CAGE-AID (adapted to include drugs), revised to assess the likelihood of current substance abuse [148].

Diagnosis, Intractability, Risk, and Efficacy (DIRE) Score

The Diagnosis, Intractability, Risk, and Efficacy (DIRE) risk assessment score is a clinician-rated questionnaire that is used to predict patient compliance with long-term opioid therapy [146; 149]. Patients scoring lower on the DIRE tool are poor candidates for long-term opioid analgesia.

Considerations for Pain Management in Patients with Comorbid Opioid Use Disorder

Although identification of an opioid use disorder can alter the expected benefits and risks of opioid therapy for pain, patients with co-occurring pain and substance use disorder require ongoing pain management that maximizes benefits relative to risks. Clinicians should use nonpharmacologic and nonopioid pharmacologic pain treatments as appropriate to provide optimal pain management [150]. For patients with pain who have an active opioid use disorder but are not in treatment, clinicians should consider buprenorphine or methadone treat-

ment for opioid use disorder, which can also help with concurrent management of pain [150]. For patients who are treated with buprenorphine for opioid use disorder and experience acute pain, clinicians can consider temporarily increasing the buprenorphine dosing frequency (e.g., to twice a day) to help manage pain, given the duration of effects of buprenorphine is shorter for pain than for suppression of withdrawal [150; 151]. For severe acute pain (e.g., from trauma or unplanned major surgery) in patients receiving buprenorphine for opioid use disorder, clinicians can consider additional as-needed doses of buprenorphine. In supervised settings, adding a short-acting full agonist opioid to the patient's regular dosage of buprenorphine can be considered without discontinuing the patient's regular buprenorphine dosage; however, if a decision is made to discontinue buprenorphine to allow for more mu-opioid receptor availability, patients should be monitored closely because high doses of a full agonist opioid might be required, potentially leading to oversedation and respiratory depression as buprenorphine's partial agonist effect lessens. For patients receiving naltrexone for opioid use disorder, short-term use of higher-potency nonopioid analgesics (e.g., NSAIDs) can be considered to manage severe acute pain. Patients receiving methadone for opioid use disorder who require additional opioids as treatment for severe acute pain management should be carefully monitored, and when feasible should optimally be treated by a clinician experienced in the treatment of pain in consultation with their opioid treatment program [150]. The *ASAM National Practice Guideline for the Treatment of Opioid Use Disorder (2020 Focused Update)* provides additional recommendations for the management of patients receiving medications for opioid use disorder who have planned surgeries for which nonopioid therapies are not anticipated to provide sufficient pain relief [150].

Informed Consent and Treatment Agreements

The initial opioid prescription is preceded by a written informed consent or "treatment agreement" [132]. This agreement should address potential side effects, tolerance and/or physical dependence, drug interactions, motor skill impairment, limited evidence of long-term benefit, misuse, dependence, addiction, and overdose. Informed consent documents should include information regarding the risk/benefit profile for the drug(s) being prescribed. The prescribing policies should be clearly delineated, including the number/frequency of refills, early refills, and procedures for lost or stolen medications.

The treatment agreement also outlines joint physician and patient responsibilities. The patient agrees to using medications safely, refraining from "doctor shopping," and consenting to routine urine drug testing (UDT). The prescriber's responsibility is to address unforeseen problems and prescribe scheduled refills. Reasons for opioid therapy change or discontinuation should be listed. Agreements can also include sections related to follow-up visits, monitoring, and safe storage and disposal of unused drugs.

Periodic Review and Monitoring

When implementing a chronic pain treatment plan that involves the use of opioids, the patient should be frequently reassessed for changes in pain origin, health, and function [132]. This can include input from family members and/or the state PDMP. During the initiation phase and during any changes to the dosage or agent used, patient contact should be increased. At every visit, chronic opioid response may be monitored according to the "5 A's" [132; 152]:

- Analgesia
- Activities of daily living
- Adverse or side effects
- Aberrant drug-related behaviors
- Affect (i.e., patient mood)

Signs and symptoms that, if present, may suggest a problematic response to the opioid and interference with the goal of functional improvement include [153; 154]:

- Excessive sleeping or days and nights turned around
- Diminished appetite
- Short attention span or inability to concentrate
- Mood volatility, especially irritability
- Lack of involvement with others
- Impaired functioning due to drug effects
- Use of the opioid to regress instead of re-engaging in life
- Lack of attention to hygiene and appearance

The decision to continue, change, or terminate opioid therapy is based on progress toward treatment objectives and absence of adverse effects and risks of overdose or diversion [132]. Satisfactory therapy is indicated by improvements in pain, function, and quality of life. Brief assessment tools to assess pain and function may be useful, as may UDTs. Treatment plans may include periodic pill counts to confirm adherence and minimize diversion.

Involvement of Family

Family members of the patient can provide the clinician with valuable information that better informs decision making regarding continuing opioid therapy. Family members can observe whether a patient is losing control of his or her life or becoming less functional or more depressed during the course of opioid therapy. They can also provide input regarding positive or negative changes in patient function, attitude, and level of comfort. The following questions can be asked of family members or a spouse to help clarify whether the patient's response to opioid therapy is favorable or unfavorable [153; 154]:

- Is the person's day centered around taking the opioid medication? Response can help clarify long-term risks and benefits of the medication and identify other treatment options.

- Does the person take pain medication only on occasion, perhaps three or four times per week? If yes, the likelihood of addiction is low.
- Have there been any other substance (alcohol or drug) abuse problems in the person's life? An affirmative response should be taken into consideration when prescribing.
- Does the person in pain spend most of the day resting, avoiding activity, or feeling depressed? If so, this suggests the pain medication is failing to promote rehabilitation. Daily activity is essential, and the patient may be considered for enrollment in a graduated exercise program.
- Is the person in pain able to function (e.g., work, do household chores, play) with pain medication in a way that is clearly better than without? If yes, this suggests the pain medication is contributing to wellness.

Assessment Tools

VIGIL is the acronym for a five-step risk management strategy designed to empower clinicians to appropriately prescribe opioids for pain by reducing regulatory concerns and to give pharmacists a framework for resolving ambiguous opioid analgesic prescriptions in a manner that preserves legitimate patient need while potentially deterring diverters. The components of VIGIL are:

- Verification: Is this a responsible opioid user?
- Identification: Is the identity of this patient verifiable?
- Generalization: Do we agree on mutual responsibilities and expectations?
- Interpretation: Do I feel comfortable allowing this person to have controlled substances?
- Legalization: Am I acting legally and responsibly?

The foundation of VIGIL is a collaborative physician/pharmacist relationship [155].

The Current Opioid Misuse Measure (COMM) is a 17-item patient self-report assessment designed to help clinicians identify misuse or abuse in patients being treated for chronic pain. Unlike the ORT and the SOAPP-R, the COMM identifies aberrant behaviors associated with opioid misuse in patients already receiving long-term opioid therapy [145]. Sample questions include: In the past 30 days, how often have you had to take more of your medication than prescribed? In the past 30 days, how much of your time was spent thinking about opioid medications (e.g., having enough, taking them, dosing schedule)?

Guidelines by the CDC, the Federation of State Medical Boards (FSMB), and the Joint Commission stress the importance of documentation from both a healthcare quality and medicolegal perspective. Research has found widespread deficits in chart notes and progress documentation with patients with chronic pain receiving opioid therapy, and the Pain Assessment and Documentation Tool (PADT) was designed to address these shortcomings [156]. The PADT is a clinician-directed interview, with most sections (e.g., analgesia, activities of daily living, adverse events) consisting of questions asked of the patient. However, the potential aberrant drug-related behavior section must be completed by the physician based on his or her observations of the patient.

The Brief Intervention Tool is a 26-item, "yes-no," patient-administered questionnaire used to identify early signs of opioid abuse or addiction. The items assess the extent of problems related to drug use in several areas, including drug use-related functional impairment [157].

Urine Drug Tests

UDTs may be used to monitor adherence to the prescribed treatment plan and to detect unsanctioned drug use. They should be used more often in patients receiving addiction therapy, but clinical judgment is the ultimate guide to testing frequency (***Table 4***) [158]. The CDC recommends clinicians should use UDT before starting opioid therapy and consider UDT at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs [125; 127]. However, this recommendation was based on low-quality evidence that indicates little confidence in the effect estimate.

Initially, testing involves the use of class-specific immunoassay drug panels [132]. If necessary, this may be followed with gas chromatography/mass spectrometry for specific drug or metabolite detection. It is important that testing identifies the specific drug rather than the drug class, and the prescribed opioid should be included in the screen. Any abnormalities should be confirmed with a laboratory toxicologist or clinical pathologist. Immunoassay may be used point-of-care for "on-the-spot" therapy changes, but the high error rate prevents its use in major clinical decisions except with liquid chromatography coupled to tandem mass spectrometry confirmation.

Urine test results suggesting opioid misuse should be discussed with the patient using a positive, supportive approach. The test results and the patient discussion should be documented.

Concurrent Use of Benzodiazepines

In 2019, 16% of persons who died of an opioid overdose also tested positive for benzodiazepines, a class of sedative medication commonly prescribed for anxiety, insomnia, panic attack, and muscle spasm [159]. Benzodiazepines work by raising the level of GABA in the brain. Common formulations include diazepam, alprazolam, and clonazepam. Combining benzodiazepines with opioids is unsafe because both classes of drug cause central nervous system depression and sedation and can decrease respiratory drive—the usual cause of overdose fatality. Both classes have the potential for drug dependence and addiction.

PATIENT RISK LEVEL AND FREQUENCY OF MONITORING			
Monitoring Tool	**Patient Risk Level**		
	Low	**Medium**	**High**
Urine drug test	Every 1 to 2 years	Every 6 to 12 months	Every 3 to 6 months
State prescription drug monitoring program	Twice per year	Three times per year	Four times per year

Source: [158] *Table 4*

The CDC recommends that healthcare providers use particular caution prescribing benzodiazepines concurrently with opioids [125; 127]. If a benzodiazepine is to be discontinued, the clinician should taper the medication gradually, because abrupt withdrawal can lead to rebound anxiety and complications such as hallucinations, seizures, delirium tremens, and, in rare instances, death. A commonly used tapering schedule is a reduction of the benzodiazepine dose by 25% every one to two weeks [125; 127].

Consultation and Referral

It is important to seek consultation or patient referral when input or care from a pain, psychiatry, addiction, or mental health specialist is necessary. Clinicians who prescribe opioids should become familiar with opioid addiction treatment options (including licensed opioid treatment programs for methadone and office-based opioid treatment for buprenorphine) if referral is needed [132].

Ideally, providers should be able to refer patients with active substance abuse who require pain treatment to an addiction professional or specialized program. In reality, these specialized resources are scarce or non-existent in many areas [132]. Therefore, each provider will need to decide whether the risks of continuing opioid treatment while a patient is using illicit drugs outweigh the benefits to the patient in terms of pain control and improved function [160].

Medical Records

As noted, documentation is a necessary aspect of all patient care, but it is of particular importance when opioid prescribing is involved. All clinicians should maintain accurate, complete, and up-to-date medical records, including all written or telephoned prescription orders for opioid analgesics and other controlled substances, all written instructions to the patient for medication use, and the name, telephone number, and address of the patient's pharmacy [132]. Good medical records demonstrate that a service was provided to the patient and that the service was medically necessary. Regardless of the treatment outcome, thorough medical records protect the prescriber.

Patient Education on the Use and Disposal of Opioids

Patients and caregivers should be counseled regarding the safe use and disposal of opioids. As part of its mandatory Risk Evaluation and Mitigation Strategy (REMS) for extended-release/long-acting opioids, the FDA has developed a patient counseling document with information on the patient's specific medications, instructions for emergency situations and incomplete pain control, and warnings not to share medications or take them unprescribed [134]. A copy of this form may be accessed online at https://www.fda.gov/media/114694/download.

When prescribing opioids, clinicians should provide patients with the following information [134]:

- Product-specific information
- Taking the opioid as prescribed
- Importance of dosing regimen adherence, managing missed doses, and prescriber contact if pain is not controlled
- Warning and rationale to never break or chew/crush tablets or cut or tear patches prior to use
- Warning and rationale to avoid other central nervous system depressants, such as sedative-hypnotics, anxiolytics, alcohol, or illicit drugs
- Warning not to abruptly halt or reduce the opioid without physician oversight of safe tapering when discontinuing
- The potential of serious side effects or death
- Risk factors, signs, and symptoms of overdose and opioid-induced respiratory depression, gastrointestinal obstruction, and allergic reactions
- The risks of falls, using heavy machinery, and driving
- Warning and rationale to never share an opioid analgesic
- Rationale for secure opioid storage
- Warning to protect opioids from theft
- Instructions for disposal of unneeded opioids, based on product-specific disposal information

There are no universal recommendations for the proper disposal of unused opioids, and patients are rarely advised of what to do with unused or expired medications [161]. According to the FDA, most medications that are no longer necessary or have expired should be removed from their containers, mixed with undesirable substances (e.g., cat litter, used coffee grounds), and put into an impermeable, nondescript container (e.g., disposable container with a lid or a sealed bag) before

throwing in the trash [162]. Any personal information should be obscured or destroyed. The FDA recommends that certain medications, including oxycodone/acetaminophen (Percocet), oxycodone (OxyContin tablets), and transdermal fentanyl (Duragesic Transdermal System), be flushed down the toilet instead of thrown in the trash [162; 163]. The FDA provides a free toolkit of materials (e.g., social media images, fact sheets, posters) to raise awareness of the serious dangers of keeping unused opioid pain medicines in the home and with information about safe disposal of these medicines. The Remove the Risk Outreach toolkit is updated regularly and can be found at https://www.fda.gov/drugs/ensuring-safe-use-medicine/safe-opioid-disposal-remove-risk-outreach-toolkit [163]. Patients should be advised to flush prescription drugs down the toilet only if the label or accompanying patient information specifically instructs doing so.

The American College of Preventive Medicine has established best practices to avoid diversion of unused drugs and educate patients regarding drug disposal [161]:

- Consider writing prescriptions in smaller amounts.
- Educate patients about safe storing and disposal practices.
- Give drug-specific information to patients about the temperature at which they should store their medications. Generally, the bathroom is not the best storage place. It is damp and moist, potentially resulting in potency decrements, and accessible to many people, including children and teens, resulting in potential theft or safety issues.
- Ask patients not to advertise that they are taking these types of medications and to keep their medications secure.
- Refer patients to community "take back" services overseen by law enforcement that collect controlled substances, seal them in plastic bags, and store them in a secure location until they can be incinerated. Contact your state law enforcement agency or visit https://www.dea.gov to determine if a program is available in your area.

Discontinuing Opioid Therapy

The decision to continue or end opioid prescribing should be based on a physician-patient discussion of the anticipated benefits and risks. An opioid should be discontinued with resolution of the pain condition, intolerable side effects, inadequate analgesia, lack of improvement in quality of life despite dose titration, deteriorating function, or significant aberrant medication use [125; 127; 132].

Clinicians should provide patients physically dependent on opioids with a safely structured tapering protocol. Withdrawal is managed by the prescribing physician or referral to an addiction specialist. Patients should be reassured that opioid discontinuation is not the end of treatment; continuation of pain management will be undertaken with other modalities through direct care or referral.

As a side note, cannabis use by patients with chronic pain receiving opioid therapy has traditionally been viewed as a treatment agreement violation that is grounds for termination of opioid therapy. However, some now argue against cannabis use as a rationale for termination or substantial treatment and monitoring changes, especially considering the increasing legalization of medical use at the state level [160].

Considerations for Non-English-Proficient Patients

For patients who are not proficient in English, it is important that information regarding the risks associated with the use of opioids and available resources be provided in their native language, if possible. 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 can be a valuable resource to help bridge the communication and cultural gap between patients and practitioners. Interpreters are more than passive agents who translate and transmit information back and forth from party to party. 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 treatment options and medication/treatment measures are being provided, the use of an interpreter should be considered. Print materials are also available in many languages, and these should be offered whenever necessary.

IDENTIFICATION OF DRUG DIVERSION/SEEKING BEHAVIORS

Research has more closely defined the location of prescribed opioid diversion into illicit use in the supply chain from the manufacturer to the distributor, retailer, and the end user (the pain patient). This information carries with it substantial public policy and regulatory implications. The 2021 National Survey on Drug Use and Health asked non-medical users of prescription opioids how they obtained their most recently used drugs [2]. Among persons 12 years of age or older, 39.3% obtained their prescription opioids through a prescription from one doctor (vs. 34.7% in 2019), 33.9% got them from a friend or relative for free, 7.9% bought from a drug dealer or other stranger, and 7.3% bought them from a friend or relative [2]. Less frequent sources included stealing from a friend or relative (3.7%); multiple doctors (3.2%); and theft from a doctor's office, clinic, hospital, or pharmacy (0.7%) (vs. 0.2% in 2009–2010) [2].

As discussed, UDTs can give insight into patients who are misusing opioids. A random sample of UDT results from 800 patients treated for pain at a Veterans Affairs facility found that 25.2% were negative for the prescribed opioid while 19.5% were positive for an illicit drug/unreported opioid [164]. Nega-

tive UDT results for the prescribed opioid do not necessarily indicate diversion, but may indicate the patient halted his/her use due to side effects, lack of efficacy, or pain remission. The concern arises over the increasingly stringent climate surrounding clinical decision-making regarding aberrant UDT results and that a negative result for the prescribed opioid or a positive UDT may serve as the pretense to terminate a patient rather than guide him/her into addiction treatment or an alternative pain management program [165].

In addition to aberrant urine screens, there are certain behaviors that are suggestive of an emerging opioid use disorder. The most suggestive behaviors are [160; 166; 167]:

- Selling medications
- Prescription forgery or alteration
- Injecting medications meant for oral use
- Obtaining medications from nonmedical sources
- Resisting medication change despite worsening function or significant negative effects
- Loss of control over alcohol use
- Using illegal drugs or non-prescribed controlled substances
- Recurrent episodes of:
  - Prescription loss or theft
  - Obtaining opioids from other providers in violation of a treatment agreement
  - Unsanctioned dose escalation
  - Running out of medication and requesting early refills

Behaviors with a lower level of evidence for their association with opioid misuse include [160; 166; 167]:

- Aggressive demands for more drug
- Asking for specific medications
- Stockpiling medications during times when pain is less severe
- Using pain medications to treat other symptoms
- Reluctance to decrease opioid dosing once stable
- In the earlier stages of treatment:
  - Increasing medication dosing without provider permission
  - Obtaining prescriptions from sources other than the pain provider
  - Sharing or borrowing similar medications from friends/family

The Institute for Clinical Systems Improvement recommends considering screening patients for substance use disorders when there is an unclear etiology of pain.

(https://www.icsi.org/wp-content/uploads/2019/10/Pain-Interactive-7th-V2-Ed-8.17.pdf. Last accessed April 27, 2023.)

Level of Evidence: Expert Opinion/Consensus Statement

INTERVENTIONS FOR SUSPECTED OR KNOWN ADDICTION OR DRUG DIVERSION

There are a number of actions that prescribers and dispensers can take to prevent or intervene in cases of drug diversion. These actions can be generally categorized based on the various mechanisms of drug diversion.

Prevention is the best approach to addressing drug diversion. As noted, the most common source of nonmedical use of prescribed opioids is from a family member or friend, through sharing, buying, or stealing. To avoid drug sharing among patients, healthcare professionals should educate patients on the dangers of sharing opioids and stress that "doing prescription drugs" is the same as "using street drugs" [161]. In addition, patients should be aware of the many options available to treat chronic pain aside from opioids. To prevent theft, patients should be advised to keep medications in a private place and to refrain from telling others about the medications being used.

Communication among providers and pharmacies can help to avoid inappropriate attainment of prescription drugs through "doctor shopping." Prescribers should keep complete and up-to-date records for all controlled substance prescribing. When possible, electronic medical records should be integrated between pharmacies, hospitals, and managed care organizations [161]. If available, it is also best practice to periodically request a report from the state's prescription reporting program to evaluate the prescribing of opioids to your patients by other providers [161].

When dealing with patients suspected of drug seeking/diversion, first inquire about prescription, over-the-counter, and illicit drug use and perform a thorough examination [161]. Pill counting and/or UDT may be necessary to investigate possible drug misuse. Photo identification or other form of identification and social security number may be required prior to dispensing the drug, with proof of identity documented fully. If a patient is displaying suspicious behaviors, consider prescribing for limited quantities.

If a patient is found to be abusing prescribed opioids, this is considered a violation of the treatment agreement and the clinician must make the decision whether or not to continue the therapeutic relationship. If the relationship is terminated, it must be done ethically and legally. The most significant issue is the risk of patient abandonment, which is defined as ending a relationship with a patient without consideration of continuity of care and without providing notice to the patient. The American Medical Association Code of Ethics states that physicians have an obligation to support continuity of care for their patients. While physicians have the option of withdrawing from a case, they should notify the patient (or authorized decision maker) long enough in advance to permit the patient to secure another physician and facilitate transfer of care when appropriate [168]. Patients may also be given resources and/or recommendations to help them locate a new clinician.

Patients with chronic pain found to have an ongoing substance abuse problem or addiction should be referred to a pain specialist for continued treatment. Theft or loss of controlled substances is reported to the DEA. If drug diversion has occurred, the activity should be documented and a report to law enforcement should be made [169].

COMPLIANCE WITH STATE AND FEDERAL LAWS

In response to the rising incidence in prescription opioid abuse, addiction, diversion, and overdose since the late 1990s, the FDA has mandated opioid-specific REMS to reduce the potential negative patient and societal effects of prescribed opioids. Other elements of opioid risk mitigation include FDA partnering with other governmental agencies, state professional licensing boards, and societies of healthcare professionals to help improve prescriber knowledge of appropriate and safe opioid prescribing and safe home storage and disposal of unused medication [153].

Several regulations and programs at the state level have been enacted in an effort to reduce prescription opioid abuse, diversion, and overdose, including [170]:

- Physical examination required prior to prescribing
- Tamper-resistant prescription forms
- Pain clinic regulatory oversight
- Prescription limits
- Prohibition from obtaining controlled substance prescriptions from multiple providers
- Patient identification required before dispensing
- Immunity from prosecution or mitigation at sentencing for individuals seeking assistance during an overdose

Controlled Substances Laws/Rules

The DEA is responsible for formulating federal standards for the handling of controlled substances. In 2011, the DEA began requiring every state to implement electronic databases that track prescribing habits, referred to as PDMPs. Specific policies regarding controlled substances are administered at the state level [171].

According to the DEA, drugs, substances, and certain chemicals used to make drugs are classified into five distinct categories or schedules depending upon the drug's acceptable medical use and the drug's abuse or dependency potential [172]. The abuse rate is a determinate factor in the scheduling of the drug; for example, Schedule I drugs are considered the most dangerous class of drugs with a high potential for abuse and potentially severe psychologic and/or physical dependence.

State-Specific Laws and Rules

Most states have established laws and rules governing the prescribing and dispensing of opioid analgesics. It is each prescriber's responsibility to have knowledge of and adhere to the laws and rules of the state in which he or she prescribes.

CONCLUSION

Substance use disorders are associated with serious morbidity and mortality, and advances in the understanding of these disorders have led to the development of effective treatments. More recently, the abuse of prescription opioids has become considerably more widespread, fueled in part by the availability of such drugs over the Internet. Medical, mental health, and other healthcare professionals in a variety of settings may encounter patients with comorbid substance use disorders and pain. The knowledge gained from the contents of this course can greatly assist the healthcare professional in identifying, treating, and providing an appropriate referral to patients with substance use disorders while also addressing pain management needs.

Customer Information/Answer Sheet/Evaluation insert located between pages 16–17.

COURSE TEST
#95300 SUBSTANCE USE DISORDERS AND PAIN MANAGEMENT: DEA MATE ACT TRAINING

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.

In accordance with the AMA PRA Category 1 Credit™ system,
physicians must complete and pass a post-test to receive credit.

This 8 credit activity must be completed by April 30, 2026.

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1. Which of the following is a risk factor for the development of a substance use disorder?
- *A) Genetic predisposition*
- *B) Adverse childhood experiences*
- *C) Children with conduct problems*
- *D) All of the above*

2. All of the following are diagnostic criteria for substance use disorders, EXCEPT:
- *A) Tolerance*
- *B) Withdrawal*
- *C) Recreational use*
- *D) Persistent desire or unsuccessful efforts to cut down or control use*

3. Which of the following statements regarding contingency management interventions is TRUE?
- *A) There is little evidence that substance use is sensitive to the application of contingencies.*
- *B) Contrived contingencies are less likely to result in relapse to drug use following removal of the reinforcer.*
- *C) Naturalistic contingencies are less likely to maintain the initial gains made by the patient and to facilitate the sustained change of behavior over time.*
- *D) The goal is to increase the opportunity cost of substance use by arranging an environment where drug use results in the forfeiture of a predetermined item or privilege.*

4. Which of the following is NOT a primary area addressed by coping and social skill training (CSST)?
- *A) Solitude training*
- *B) Cognitive and affective regulation*
- *C) Coping skills to manage stressful life events*
- *D) Coping skills when substances or substance-related cues are encountered*

5. Which of the following is a common side effect associated with naltrexone?
- *A) Dizziness*
- *B) Weight gain*
- *C) Difficulty breathing*
- *D) Decreased interest in sex*

6. For the treatment of alcohol use disorder, the oral dosage of acamprosate is
- *A) one 333-mg delayed-release tablet twice daily.*
- *B) three 50-mg immediate-release tablets twice daily.*
- *C) two 333-mg delayed-release tablets three times daily.*
- *D) two 100-mg delayed-release tablets three times daily.*

7. Which of the following drugs is considered the criterion standard in reversing respiratory depression and coma in acute opioid overdose?
- *A) LAAM*
- *B) Naloxone*
- *C) Methadone*
- *D) Buprenorphine*

8. The opioid agonist most frequently used in opioid withdrawal is
- *A) LAAM.*
- *B) naloxone.*
- *C) methadone.*
- *D) buprenorphine.*

9. Studies have shown one-year treatment retention rates in methadone programs of
- *A) 25%.*
- *B) 50%.*
- *C) 80%.*
- *D) 100%.*

10. Methadone maintenance is initiated at a dose of
- A) *5–10 mg.*
- B) *25–30 mg.*
- C) *60–120 mg.*
- D) *120–240 mg.*

11. Compared with methadone, buprenorphine has a
- A) *lower risk of overdose.*
- B) *shorter duration of action.*
- C) *more severe withdrawal syndrome following cessation.*
- D) *All of the above*

12. Buprenorphine is most effective at a dose of
- A) *2 mg.*
- B) *5 mg.*
- C) *10 mg.*
- D) *12 mg or greater.*

13. Duration of treatment with varenicline tartrate is
- A) *4 weeks.*
- B) *8 weeks.*
- C) *12 weeks.*
- D) *24 weeks.*

14. Which of the following treatment approaches is recommended by SAMHSA for the management of patients with comorbid opioid and alcohol dependence?
- A) *FDA-approved pharmacotherapy and counseling*
- B) *Contingency management together with FDA-approved pharmacotherapy and counseling*
- C) *Twelve-step facilitation therapy together with FDA-approved pharmacotherapy and counseling*
- D) *None of the above*

15. Which of the following statements regarding comorbid mental and substance use disorders is FALSE?
- A) *In the United States, 1 million adults have cooccurring mental and substance use disorders.*
- B) *No specific combinations of mental and substance use disorders are defined uniquely as co-occurring disorders.*
- C) *Patients with comorbid disorders demonstrate poorer treatment adherence and higher rates of treatment dropout than those without mental illness.*
- D) *Integrated treatment for comorbid drug use disorder and mental illness has been found to be consistently superior compared with separate treatment of each diagnosis.*

16. Treatment of comorbid mental and substance use disorders should initially focus on
- A) *stabilization of the patient's substance use disorder.*
- B) *stabilization of the patient's mental health disorder.*
- C) *a goal of six to nine weeks abstinence before addressing comorbidities.*
- D) *any mental disorder symptoms that appear to resolve during abstinence.*

17. Which of the following ethical issue should be considered when caring for patients with substance use disorders?
- A) *Confidentiality*
- B) *Access to services*
- C) *Informed consent*
- D) *All of the above*

18. When opioids are used for acute pain, clinicians should prescribe
- A) *the highest safe dose.*
- B) *extended-release opioids.*
- C) *a quantity no greater than that needed for the expected duration of severe pain.*
- D) *All of the above*

19. In a survey of oncologists regarding end-of-life pain management, what were two of the most important barriers to effective pain relief?
- A) *Patient reluctance to take opioids or to report pain*
- B) *Clinician reluctance to prescribe opioids or believe pain reports*
- C) *Desire to be a "good" patient and concern about the high cost of medications*
- D) *Anxiety about disease progression and unpleasant side effects from pain medications*

20. A patient prescribed opioids for chronic pain who is 65 years of age and displays high levels of pain acceptance and active coping strategies is considered at what level of risk for developing problematic opioid behavioral responses?
- A) *Low*
- B) *Medium*
- C) *High*
- D) *Severe*

21. The Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R)
- A) *consists of 5 items.*
- B) *is patient administered.*
- C) *diagnoses depression in the past month.*
- D) *assesses the likelihood of current substance abuse.*

Test questions continue on next page ➞

22. Certain questions are useful in screening to determine presence of substance use disorder. One such set of questions is known as the CAGE questionnaire. The CAGE acronym stands for

A) *Confusion, Agitation, S3 Gallop, Edema.*
B) *Cut down, Annoyed, Guilty, Eye-opener.*
C) *Chloral hydrate, Alcohol, Glutethimide, Ethchlorvynol.*
D) *un-Controllable urge to drink, un-Able to limit intake, un-Grateful for help to stop drinking, un-Excited about treatment.*

23. Which of the following statements regarding pain management in patients with comorbid opioid use disorder is TRUE?

A) *Identification of an opioid use disorder does not alter the expected benefits and risks of opioid therapy for pain.*
B) *Patients with co-occurring pain and substance use disorder should not receive pain management until their substance use disorder is controlled.*
C) *Clinicians should use nonpharmacologic and nonopioid pharmacologic pain treatments as appropriate to provide optimal pain management for these patients.*
D) *For patients who are treated with buprenorphine for opioid use disorder and experience acute pain, clinicians should not increase the buprenorphine dosing frequency.*

24. Which of the following is NOT one of the 5 A's of monitoring chronic opioid response?

A) *Analgesia*
B) *Acceptance*
C) *Affect (i.e., patient mood)*
D) *Aberrant drug-related behaviors*

25. For patients considered at medium risk for misuse of prescription opioids, urine drug testing should be completed every

A) *6 to 12 weeks.*
B) *3 to 6 months.*
C) *6 to 12 months.*
D) *1 to 2 years.*

26. All of the following statements regarding the Concurrent Use of benzodiazepines in patients prescribed opioids is true, EXCEPT:

A) *Opioids have the potential for drug dependence and addiction, but benzodiazepines do not.*
B) *If a benzodiazepine is to be discontinued, the clinician should taper the medication gradually.*
C) *In 2019, 16% of persons who died of an opioid overdose also tested positive for benzodiazepines.*
D) *Combining benzodiazepines with opioids is unsafe because both classes of drug cause central nervous system depression and sedation and can decrease respiratory drive.*

27. Which of the following statements regarding the disposal of opioids is TRUE?

A) *Patients are almost always advised of what to do with unused or expired medications.*
B) *There are no universal recommendations for the proper disposal of unused opioids.*
C) *According to the FDA, most medications should be flushed down the toilet instead of thrown in the trash.*
D) *All of the above*

28. The most common source of nonmedical use of prescribed opioids is from

A) *a friend or relative for free.*
B) *a prescription from one doctor.*
C) *purchase from a drug dealer or other stranger.*
D) *theft from a doctor's office, clinic, hospital, or pharmacy.*

29. Which of the following behaviors is the most suggestive of an emerging opioid use disorder?

A) *Asking for specific medications*
B) *Injecting medications meant for oral use*
C) *Reluctance to decrease opioid dosing once stable*
D) *Stockpiling medications during times when pain is less severe*

30. Which government agency is responsible for formulating federal standards for the handling of controlled substances?

A) *Institutes of Medicine*
B) *U.S. Drug Enforcement Administration*
C) *Office of National Drug Control Policy*
D) *U.S. Department of Health and Human Services*

Be sure to transfer your answers to the Answer Sheet insert located between pages 16–17.
PLEASE NOTE: Your postmark or facsimile date will be used as your test completion date.

Full Course Availability List

✓	Course #	Course Title/Credits	Price

ALTERNATIVE MEDICINE

☐	98010	Cannabinoid Overview/3	$29
☐	98020	Commonly Abused Supplements/2	$23
☐	98030	Getting to the Point: Acupuncture and Acupoint Therapies/4	$36
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COMMUNITY HEALTH

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☐	93884	Prostate Cancer/5	$43

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PHARMACOLOGY

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☐	95001	Expanding the Options: The Drug-Approval Process in the U.S./5	$43
☐	95010	Managing Drug Interactions with Direct Oral Anticoagulants/1	$23
☐	95074	Antibiotics Review/5	$43
☐	95082	Antidepressant-Associated Sexual Dysfunction/1	$23
☐	95103	An Introduction to Pharmacogenetic Testing/1	$23
☐	95131	Prescription Opioids & Pain Mgmt: The Tennessee Guidelines/2	$23
☐	95142	Optimizing Opioid Safety and Efficacy/15	$113
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☐	96182	Anxiety Disorders/15	$113
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☐	93032	Female Sexual Dysfunction/5	$43
☐	93113	Contraception/5	$43
☐	93253	Bleeding During Pregnancy/10	$78
☐	93504	Meanings of Menopause: Cultural Considerations/5	$43
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MODERATE SEDATION
#40953 • 5 Credits
Book By Mail – $43 • ONLINE – $35
Mandate: VA
Purpose: The purpose of the course is to provide physicians with the information necessary to perform moderate sedation safely and according to existing guidelines in order to facilitate better patient care.
Audience: This course is designed for physicians in a variety of settings, including private practice, emergency department, radiology department, cardiac catheterization lab, and ambulatory surgery centers. The course is also of benefit to private practice physicians in family medicine and virtually all specialty areas.
Additional Approvals: ABIM, ABS, ABA, ABP
Special Approvals: This course meets the Virginia requirement for 4 hours of anesthesia education.

PROFESSIONAL BOUNDARIES AND SEXUAL MISCONDUCT IN MEDICINE
#41170 • 3 Credits
Book By Mail – $29 • ONLINE – $21
Mandate: GA
Purpose: The purpose of this course is to provide physicians and physician assistants with the knowledge and skills necessary to ethically and appropriately avoid boundary violations.
Audience: This course is designed for all physicians and physician assistants in all practice settings.
Additional Approvals: ABIM, ABS, ABA, ABP, ABPath
Special Approvals: This course meets the Georgia requirement for 2 hours of professional boundaries and sexual misconduct education.

MEDICAL ETHICS FOR PHYSICIANS
#47174 • 5 Credits
Book By Mail – $43 • ONLINE – $35
Mandate: CT, MA, MI, NV, PA, RI, TX
Purpose: The purpose of this course is to briefly review the history, theory, and practical application of ethical principles to issues that arise in clinical practice. The goals of the course are to heighten awareness and promote self-reflection, address knowledge gaps, improve communication and decision-making skills, and promote reasonable, humane care for patients and families.
Audience: This course is designed for physicians and interested healthcare professionals.
Additional Approvals: ABIM, ABS, ABA, ABP, ABPath
Special Approvals: This course meets the Michigan, Nevada, and Texas requirements for ethics/professional responsibility education and meets the Connecticut, Massachusetts, Pennsylvania, and Rhode Island requirements for risk management education.

PULMONARY EMBOLISM
NEW!
#90120 • 2 Credits
Book By Mail – $23 • ONLINE – $15
Purpose: The purpose of this course is to provide healthcare professionals with the knowledge and clinical strategies necessary to optimally triage and treatment patients with pulmonary embolism.
Audience: This course is designed for physicians, PAs, and nurses involved in assessing, triaging, and managing patients with suspected pulmonary embolism.
Additional Approvals: ABIM, ABS, ABA, ABPath

AGITATION, SEDATION, AND DELIRIUM IN ADULT ICU PATIENTS
NEW!
#90180 • 5 Credits
Book By Mail – $43 • ONLINE – $35
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.
Audience: This course is designed for physicians, physician assistants, and nurses involved in the care of patients in intensive care units.
Additional Approvals: ABIM, ABA

ISCHEMIC STROKE
UPDATE
#90284 • 10 Credits
Book By Mail – $78 • ONLINE – $70
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.
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: ABIM, ABS, ABA

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Selected Course Availability List *(Cont'd)*

SAFE CLINICAL USE OF FLUOROSCOPY

#90471 • 10 Credits

By Mail – $78 • ONLINE – $70

Mandate: CA, MA (PAs)

Purpose: The purpose of this course is to provide healthcare providers with an understanding of the challenges encountered when using fluoroscopy in clinical practice and the tenets of safe fluoroscopy use in clinical practice.
Audience: This course is designed for physicians, nurses, radiology technicians, surgical technicians, and all healthcare staff involved in ensuring safe clinical use of fluoroscopy.
Additional Approvals: ABIM, ABS, ABA, ABP
Special Approvals: This course meets the California requirement for 4 hours of education in radiation safety for the clinical uses of fluoroscopy and 10 hours of education on the application of x-ray to the human body. This course meets the Massachusetts physician assistant requirement for 4 hours of fluoroscopic imaging education.

PRESCRIBING OPIOIDS, PROVIDING NALOXONE, AND PREVENTING DRUG DIVERSION: THE WEST VIRGINIA REQUIREMENT

#91603 • 3 Credits

Book By Mail – $29 • ONLINE – $21

Mandate: WV

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.
Audience: This course is designed for all physicians, physician assistants, and nurses in West Virginia who may alter prescribing practices or intervene to prevent drug diversion and inappropriate opioid use.
Additional Approvals: ABIM, ABS, ABA
Special Approvals: This program has been approved by the WV Board of Medicine and will satisfy the required 3 hours of CME for Drug Diversion Training and Best Practice Prescribing of Controlled Substances Training for MDs and their licensed Physician Assistants.

MATERNAL HEALTH DISPARITIES

#93010 • 4 Credits

Book By Mail – $36 • ONLINE – $28

Mandate: IL, NJ

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.
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: ABIM, ABS, ABP
Special Approvals: This course meets the New Jersey requirement for 1 hour of implicit and explicit bias education for those who provide perinatal care and treatment to pregnant persons. This course meets the Illinois requirement for 1 hour of cultural competency education.

PRESCRIPTION OPIOIDS AND PAIN MANAGEMENT: THE TENNESSEE GUIDELINES

#95131 • 2 Credits

By Mail – $23 • ONLINE – $15

Mandate: TN

Purpose: The purpose of this course is to provide clinicians who prescribe or distribute opioids with clinical guidance for management of chronic pain and opioid prescription drug use that conforms with Tennessee Department of Health guidelines and with clinical tools designed to assess the risk of drug-seeking and diverting behaviors. The goal is to promote best practice patient care and prevent the growing public health problem of drug misuse, diversion, and overdose.
Audience: This course is designed for all clinicians who may alter prescribing practices or intervene to prevent drug diversion and inappropriate opioid use.
Additional Approvals: ABIM, ABS, ABA, ABP
Special Approvals: This course is designed to meet the Tennessee requirement for 2 hours of education on the prescribing of controlled substances, including instruction in the Tennessee Chronic Pain Guidelines.

ALZHEIMER DISEASE

#96154 • 15 Credits

Book By Mail – $113 • ONLINE – $105

Mandate: CA, IL, MA

Purpose: In order to increase and maintain a reasonable quality of life for patients with Alzheimer disease throughout the course of the disease, caregivers must have a thorough knowledge and understanding of the disease. The purpose of this course is to provide clinicians with the skills to care for patients with Alzheimer disease in any setting as part of the interdisciplinary team.
Audience: This course is designed for clinicians who come in contact with patients with Alzheimer disease in hospitals, long-term care facilities, home health care, and the office.
Additional Approvals: ABIM, ABS, ABPath
Special Approvals: This course meets the Massachusetts requirement for cognitive impairment education and the Illinois requirement for 1 hour of Alzheimer's education. This course meets the California requirement for geriatrics education.

HUMAN TRAFFICKING AND EXPLOITATION

#96313 • 5 Credits

Book By Mail – $43 • ONLINE – $35

Mandate: VA

Purpose: As human trafficking becomes an increasingly more common problem in the United States, healthcare and mental health professionals will require knowledge of human trafficking patterns, the health and mental health needs of human trafficking victims, and successful interventions for victims. The purpose of this course is to increase the level of awareness and knowledge about human trafficking and exploitation so health and mental health professionals can identify and intervene in cases of exploitation.
Audience: This course is designed for physicians, nurses, social workers, pharmacy professionals, therapists, mental health counselors, and other members of the interdisciplinary team who may intervene in suspected cases of human trafficking and/or exploitation.
Additional Approvals: ABIM, ABP, ABPath
Special Approvals: This course meets the Virginia requirement for 1 hour of human trafficking education.

Selected Course Availability List *(Cont'd)*

SUICIDE ASSESSMENT AND PREVENTION

#96442 • 6 Credits

By Mail – $50 • ONLINE – $42

Mandate: CT, NV, TX, WA

Purpose: The purpose of this course is to provide health and mental health professionals with an appreciation of the impact of depression and suicide on patient health as well as the skills necessary to identify and intervene for patients at risk for suicide.

Audience: This course is designed for healthcare professionals who may identify persons at risk for suicide and intervene to prevent or manage suicidality.

Additional Approvals: ABIM, ABS, ABP

Special Approvals: This course meets the Connecticut requirement for 2 hours of behavioral health education. This course is approved by the Nevada State Board of Medical Examiners to fulfill 2 hours of Suicide Prevention and Awareness education. This course meets the Texas requirement for medical ethics/professional responsibility education. This course is approved by the State of Washington Department of Health to fulfill the requirement for Suicide Prevention training for healthcare professionals. Approval number TRNG.TG.60715375-SUIC.

CANNABIS AND CANNABIS USE DISORDERS

#96974 • 5 Credits

Book By Mail – $43 • ONLINE – $35

Mandate: NM, OR

Purpose: The purpose of this course is to allow healthcare professionals to effectively identify, diagnose, treat, and provide appropriate referrals for patients with cannabis use disorders.

Audience: This course is designed for health and mental health professionals who are involved in the evaluation or treatment of persons who use cannabis, either illicitly or as an adjunct to medical treatment.

Additional Approvals: ABIM, ABS, ABP

Special Approvals: This course meets the New Mexico requirement for 2 hours of cannabis education and the Oregon requirement for 3 hours of medical marijuana education. This course meets 5 hours of addiction education.

IMPLICIT BIAS IN HEALTH CARE

#97000 • 3 Credits

Book By Mail – $29 • ONLINE – $21

Mandate: IL, MA

Purpose: The purpose of this course is to provide healthcare professionals an overview of the impact of implicit biases on clinical interactions and decision making.

Audience: This course is designed for the interprofessional healthcare team and professions working in all practice settings.

Additional Approvals: ABIM, ABS, ABA, ABP, ABPath

Special Approvals: This course meets the Illinois and Massachusetts requirements for implicit bias training.

SEXUAL ASSAULT

#97023 • 3 Credits

By Mail – $29 • ONLINE – $21

Mandate: CT, SC, TX

Purpose: The purpose of this course is to address knowledge gaps, enhance clinical examination and management skills, and improve treatment outcomes for victims of sexual assault.

Audience: This course is intended for physicians and other healthcare professionals who may be called upon to provide care to victims of sexual assault.

Additional Approvals: ABIM, ABS, ABP, ABPath

Special Approvals: This course meets the Connecticut requirement for sexual assault education, the South Carolina requirement for encouraged education in domestic violence, and the Texas requirement for forensic evidence education for those who perform examinations on sexual assault survivors.

SEXUAL HARASSMENT PREVENTION: THE ILLINOIS REQUIREMENT

#97081 • 1 Credit

By Mail – $23 • ONLINE – $15

Mandate: IL

Purpose: The purpose of this course is to provide health and mental health professionals with clear knowledge of the consequences of sexual harassment and the skills to help combat harassment in the workplace.

Audience: This course is designed for members of the interprofessional healthcare team who may act to prevent sexual harassment.

Additional Approvals: ABIM, ABS, ABA, ABP

Special Approvals: This course is designed to fulfill the Illinois requirement for sexual harassment education.

PALLIATIVE CARE AND PAIN MANAGEMENT AT THE END OF LIFE

#97383 • 15 Credits

Book By Mail – $113 • ONLINE – $105

Mandate: CA, IA, MA, NJ, VT

Purpose: The purpose of this course is to bridge the gap in knowledge of palliative care by providing an overview of the concept of palliative care and a discussion of the benefits and barriers to optimum palliative care at the end of life.

Audience: This course is designed for all members of the interdisciplinary team, including physicians, physician assistants, nurse practitioners, nurses, social workers, marriage and family therapists, and other members seeking to enhance their knowledge of palliative care.

Additional Approvals: ABIM, ABS, ABA

Special Approvals: This course fulfills 11 hours of education on the appropriate care of the terminally ill for California-licensed physicians who must complete 12 hours of pain management and the appropriate care of the terminally ill. This course meets the Iowa, Massachusetts, New Jersey, and Vermont requirements for end-of-life education.

Selected Course Availability List *(Cont'd)*

IMPLICIT BIAS: THE MICHIGAN REQUIREMENT

NEW!

#97440 • 2 Credits

ONLINE ONLY – $30

Mandate: MI

Purpose: The purpose of this course is to provide healthcare professionals with an overview of the impact of implicit biases on clinical interactions and decision making.

Audience: This course is designed for the interprofessional healthcare team and professions working in all practice settings in Michigan.

Additional Approvals: ABIM, ABS, ABA, ABP, ABPath

Special Approvals: This course meets 2 of the 3 hours of implicit bias education required for physicians and 2 hours required for physician assistants.

HUMAN TRAFFICKING AND EXPLOITATION: THE TEXAS REQUIREMENT

#97471 • 5 Credits

By Mail – $43 • ONLINE – $35

Mandate: TX

Purpose: The purpose of this course is to increase the level of awareness and knowledge about human trafficking and exploitation so health and mental health professionals can identify and intervene in cases of exploitation.

Audience: This course is designed for Texas physicians, nurses, social workers, pharmacy professionals, therapists, mental health counselors, and other members of the interdisciplinary team who may intervene in suspected cases of human trafficking and/or exploitation.

Additional Approvals: ABIM, ABS, ABA, ABP

Special Approvals: This course has been approved by the Texas Health and Human Services Commission (HHSC) to meet the requirement for human trafficking training.

PARKINSON DISEASE

#98772 • 10 Credits

Book By Mail – $78 • ONLINE – $70

Purpose: The purpose of this course is to provide physicians, nurses, and other members of the interprofessional healthcare team a review of pathogenesis, disease progression, diagnosis, and management of Parkinson disease, in order to improve patient care and quality of life.

Audience: This course is designed for all healthcare providers in the primary care setting who may encounter patients with Parkinson disease.

Additional Approvals: ABIM, ABS, ABPath

SLEEP DISORDERS

#98883 • 10 Credits

Book By Mail – $78 • ONLINE – $70

Purpose: Many of the complications associated with sleep disorders are preventable, making early diagnosis and appropriate treatment vital. The purpose of this course is to provide healthcare professionals with the information necessary to identify and effectively treat sleep disorders, thereby improving patients' quality of life and preventing possible complications.

Audience: This course is designed for all healthcare professionals, including physicians, nurses, pharmacists, and mental health practitioners, who are involved in the care of patients experiencing a sleep-related disorder.

Additional Approvals: ABIM, ABS, ABA, ABP

ABIM CME MOC ACCREDITED

Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit. Completion of a course constitutes permission to share the completion data with ACCME.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to earn credit toward the CME and Self-Assessment requirements of the American Board of Surgery's Continuous Certification program. It is the CME activity provider's responsibility to submit learner completion information to ACCME for the purpose of granting ABS credit.

PART 2 MOC THE AMERICAN BOARD of PEDIATRICS

Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity in the American Board of Pediatrics' (ABP) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABP MOC credit.

MOCA

Designated activities contribute to the patient safety CME requirement for Part II: Lifelong Learning and Self-Assessment of the American Board of Anesthesiology's (ABA) redesigned Maintenance of Certification in Anesthesiology Program® (MOCA®), known as MOCA 2.0®. Please consult the ABA website, www.theABA.org, for a list of all MOCA 2.0 requirements.

Participants will earn CC points equivalent to the amount of CME credits claimed for the activity in the American Board of Pathology area of Lifelong Learning (Part II).

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Through an agreement between the Accreditation Council for Continuing Medical Education and the Royal College of Physicians and Surgeons of Canada, medical practitioners participating in the Royal College MOC Program may record completion of accredited activities registered under the ACCME's "CME in Support of MOC" program in Section 3 of the Royal College's MOC Program.

All Faculty and Division Planners have disclosed no relevant financial relationship with any product manufacturer or service provider mentioned.

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☐	41170	Prof. Boundaries & Sexual Misconduct in Medicine / 3	$29	☐	96442	Suicide Assessment and Prevention / 6	$50
☐	47174	Medical Ethics for Physicians / 5	$43	☐	96974	Cannabis and Cannabis Use Disorders / 5	$43
☐	90120	Pulmonary Embolism / 2	$23	☐	97000	Implicit Bias in Health Care / 3	$29
☐	90180	Agitation, Sedation, and Delirium in Adult ICU Pts / 5	$43	☐	97023	Sexual Assault / 3	$29
☐	90284	Ischemic Stroke / 10	$78	☐	97081	Sexual Harassment Prevention: The IL Req. / 1	$23
☐	90471	Safe Clinical Use of Fluoroscopy / 10	$78	☐	97383	Palliative Care and Pain Mgmt at the End of Life / 15	$113
☐	91603	Prescribing Opioids: The WV Requirement / 3	$29	☐	97440	Implicit Bias: The MI Requirement (Online Only) / 2	$30
☐	93010	Maternal Health Disparities / 4	$36	☐	97471	Human Trafficking and Exploitation: The TX Req. / 5	$43
☐	95131	Prescription Opioids & Pain Mgmt: TN Guidelines / 2	$23	☐	98772	Parkinson Disease / 10	$78
☐	96154	Alzheimer Disease / 15	$113	☐	98883	Sleep Disorders / 10	$78

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Answer Sheet

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Please note the following:

- In accordance with the *AMA PRA Category 1 Credit™* system, physicians must complete and pass a post-test to receive credit.
- 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.
- Use pen or pencil; please refrain from using markers.
- **Information on the Customer Information form must be completed**.
- **Include the completed and signed mandatory Evaluation**. Your postmark or facsimile date will be used as your completion date.

#97534 CHILD ABUSE IDENTIFICATION AND REPORTING: AN UPDATE FOR NEW YORK—2 CREDITS

Please refer to pages 19–20.

Expiration Date: 09/30/26

May be taken individually for $15

	A	B	C	D		A	B	C	D		A	B	C	D
1.	❍	❍	❍	❍	6.	❍	❍	❍	❍	11.	❍	❍	❍	❍
2.	❍	❍	❍	❍	7.	❍	❍	❍	❍	12.	❍	❍	❍	❍
3.	❍	❍	❍	❍	8.	❍	❍	❍	❍					
4.	❍	❍	❍	❍	9.	❍	❍	❍	❍					
5.	❍	❍	❍	❍	10.	❍	❍	❍	❍					

#98643 INFECTION CONTROL: THE NEW YORK REQUIREMENT—5 CREDITS

Please refer to pages 45–46.

Expiration Date: 03/31/26

May be taken individually for $35

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1.	❍	❍	❍	❍	6.	❍	❍	❍	❍	11.	❍	❍	❍	❍	16.	❍	❍	❍	❍
2.	❍	❍	❍	❍	7.	❍	❍	❍	❍	12.	❍	❍	❍	❍	17.	❍	❍	❍	❍
3.	❍	❍	❍	❍	8.	❍	❍	❍	❍	13.	❍	❍	❍	❍	18.	❍	❍	❍	❍
4.	❍	❍	❍	❍	9.	❍	❍	❍	❍	14.	❍	❍	❍	❍	19.	❍	❍	❍	❍
5.	❍	❍	❍	❍	10.	❍	❍	❍	❍	15.	❍	❍	❍	❍	20.	❍	❍	❍	❍

#95300 SUBSTANCE USE DISORDERS AND PAIN MANAGEMENT: DEA MATE ACT TRAINING—8 CREDITS

Please refer to pages 72–74.

Expiration Date: 04/30/26

May be taken individually for $56

	A	B	C	D		A	B	C	D		A	B	C	D
1.	❍	❍	❍	❍	11.	❍	❍	❍	❍	21.	❍	❍	❍	❍
2.	❍	❍	❍	❍	12.	❍	❍	❍	❍	22.	❍	❍	❍	❍
3.	❍	❍	❍	❍	13.	❍	❍	❍	❍	23.	❍	❍	❍	❍
4.	❍	❍	❍	❍	14.	❍	❍	❍	❍	24.	❍	❍	❍	❍
5.	❍	❍	❍	❍	15.	❍	❍	❍	❍	25.	❍	❍	❍	❍
6.	❍	❍	❍	❍	16.	❍	❍	❍	❍	26.	❍	❍	❍	❍
7.	❍	❍	❍	❍	17.	❍	❍	❍	❍	27.	❍	❍	❍	❍
8.	❍	❍	❍	❍	18.	❍	❍	❍	❍	28.	❍	❍	❍	❍
9.	❍	❍	❍	❍	19.	❍	❍	❍	❍	29.	❍	❍	❍	❍
10.	❍	❍	❍	❍	20.	❍	❍	❍	❍	30.	❍	❍	❍	❍

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Evaluation

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Please read the following questions and choose the most appropriate answer for each course completed.

1. Was the course content new or review?
2. How much time did you spend on this activity, including the questions?
   (Physicians should only claim credit commensurate with the extent of their participation in the activity.)
3. Would you recommend this course to your peers?
4. Did the course content support the stated course objective?
5. Did the course content demonstrate the author's knowledge of the subject?
6. Was the course content free of bias?
7. Before completing this course, did you identify the necessity for education on the topic to improve your professional practice?
8. Have you achieved all of the stated learning objectives of this course?
9. Has what you think or feel about this topic changed?
10. Did evidence-based practice recommendations assist in determining the validity or relevance of the information?
11. Are you more confident in your ability to provide patient care after completing this course?
12. Do you plan to make changes in your practice as a result of this course content?
13. May we contact you later regarding planned changes in your practice and changes in treatment or health status of your patients as a result of this activity?

#97534
2 Credits

1. ☐ New ☐ Review
2. ____ Hours
3. ☐ Yes ☐ No
4. ☐ Yes ☐ No
5. ☐ Yes ☐ No
6. ☐ Yes ☐ No
7. ☐ Yes ☐ No
8. ☐ Yes ☐ No
9. ☐ Yes ☐ No
10. ☐ Yes ☐ No
11. ☐ Yes ☐ No
12. ☐ Yes ☐ No
13. ☐ Yes ☐ No

#98643
5 Credits

1. ☐ New ☐ Review
2. ____ Hours
3. ☐ Yes ☐ No
4. ☐ Yes ☐ No
5. ☐ Yes ☐ No
6. ☐ Yes ☐ No
7. ☐ Yes ☐ No
8. ☐ Yes ☐ No
9. ☐ Yes ☐ No
10. ☐ Yes ☐ No
11. ☐ Yes ☐ No
12. ☐ Yes ☐ No
13. ☐ Yes ☐ No

#95300
8 Credits

1. ☐ New ☐ Review
2. ____ Hours
3. ☐ Yes ☐ No
4. ☐ Yes ☐ No
5. ☐ Yes ☐ No
6. ☐ Yes ☐ No
7. ☐ Yes ☐ No
8. ☐ Yes ☐ No
9. ☐ Yes ☐ No
10. ☐ Yes ☐ No
11. ☐ Yes ☐ No
12. ☐ Yes ☐ No
13. ☐ Yes ☐ No

#97534 Child Abuse Identification and Reporting: An Update for New York — If you answered YES to question #12, how specifically will this activity enhance your role as a member of the interdisciplinary team? _____

#98643 Infection Control: The New York Requirement — If you answered YES to question #12, how specifically will this activity enhance your role as a member of the interdisciplinary team? _____

#95300 Substance Use Disorders and Pain Management: DEA MATE Act Training — If you answered YES to question #12, how specifically will this activity enhance your role as a member of the interdisciplinary team? _____

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