STANDARD PRECAUTIONS

- Follow established hand hygiene practices.
- Wear personnel protective equipment (PPE) whenever the possibility exists for exposure to blood, body fluids, or other potentially infectious materials.
- Wear a fluid-resistant surgical hood and shoe covers or boots when gross contamination can be anticipated.
- Remove PPE and clothing as soon as possible after exposure to blood, body fluids, or other potentially infectious materials.
- Place used PPE in a designated area or closed container for storage, washing, decontamination, or disposal.
- Perform hand hygiene after removing PPE.
- Use a mouth piece, resuscitation bag, or other ventilation device during cardiopulmonary resuscitation.
- Separate patients with respiratory symptoms from others as soon as possible (eg, during triage) at entry into the facility.
- Establish policies and procedures to screen visitors who have signs or symptoms of a communicable infection and limit patient visitation.
- Educate perioperative personnel, patients, and visitors on respiratory hygiene and cough etiquette, including instructing them to:
  - cover their mouth and nose with a tissue or a sleeve rather than the hand when coughing or sneezing
  - quickly dispose of used tissues into waste receptacles
  - perform hand hygiene after coming into contact with respiratory secretions
  - wear a mask if exhibiting signs of respiratory infection
- stay at least 3 ft away from others in common areas if exhibiting signs of respiratory symptoms
- Use safe injection practices (eg, aseptic technique, single-use syringe and needle, single-dose vials, sharps safety) when administering medication.
- Clean and disinfect or sterilize reusable medical equipment that has been used for one patient before use for another patient and when soiled.

Standard precautions apply to all patients across all health care settings (eg, hospitals, ambulatory surgery centers, free-standing specialty care sites, interventional suites) and to the handling of any blood, body fluids, or other potentially infectious materials. These practices protect perioperative personnel and prevent transmission of pathogens to patients.

GLOVES

- Wear gloves when contact of the hands with blood, body fluids, or other potentially infectious materials is anticipated, including when:
  - touching mucous membranes or nonintact skin
  - performing vascular access procedures
  - touching contaminated patient care items or environmental surfaces
- Wear gloves during care of a patient who requires contact precautions or for coming into contact with potentially contaminated surfaces in the patient's environment.
- Wear low-protein, powder-free natural rubber latex gloves or gloves labeled as “not made with natural rubber latex.”
GOWNS

- Wear a gown when contact of the arms or clothing with blood, body fluids, or other potentially infectious material is anticipated.
- Determine the type of gown needed (eg, isolation, surgical) by the task and degree of exposure anticipated and according to the barrier performance class as stated on the product label.
- Wear a gown that fully covers your torso from the neck to the knees and your arms to the end of the wrists and wraps around your back.

- Secure the gown at the neck and the waist.
- Cover the gown cuffs with gloves.
- Remove the gown and gloves in the following order:
  - Grasp the front of the gown with gloved hands.
  - Pull the gown away from the body so that the attachments break.
  - While removing the gown, roll the gown inside out into a bundle, touching only the outside of the gown with gloved hands.
  - Peel off the gloves as the gown is being removed, touching only the inside of the gloves and gown with bare hands.
  - Discard the gown and gloves into a waste container or soiled linen bin and perform hand hygiene.
- If you are unable to break the gown ties and there is no assistant available, remove your gloves first, perform hand hygiene, and unfasten the gown ties without contaminating skin or clothing with the soiled gown and by touching only the inside of the gown.

🌟 The level of protection provided by the gown may be stated on the product label, with higher barrier levels providing more protection to the wearer. The US Food and Drug Administration requires gown manufacturers to test and validate liquid barrier claims for surgical gowns and isolation gowns that provide moderate (ie, Level 3) and high (ie, Level 4) levels of protection.

EYE PROTECTION

- Wear eye protection when splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated.
- Wear eye protection during aerosol-generating procedures (eg, bronchoscopy, endotracheal intubation, open suctioning of the respiratory tract).
- Determine the type of eye protection needed by the task, degree of exposure anticipated, and personal vision needs.
- Wear goggles that fit snugly, are indirectly vented, and have anti-fog properties.
- Use a face shield when more coverage is needed to protect the face and eyes outside the area covered by the mask and goggles.
CONTACT PRECAUTIONS

• After use, remove protective eyewear with ungloved hands by handling only the ear or head pieces without touching the front, and then perform hand hygiene.
• Discard disposable eyewear after each use, and disinfect reusable eyewear after each use.
• **Personal eyeglasses do not provide the same level of protection as eye protective devices. Prescription eyeglasses with side protection are available but may not protect against splashes or droplets as well as goggles do.**

MASKS

• Wear a mask when splashes, spray, splatter, or droplets of blood, body fluids, or other potentially infectious materials may be generated and nose or mouth contamination can be reasonably anticipated.
• Wear a mask during aerosol-generating procedures.
• Select the type of mask needed by the task, degree of exposure anticipated, and according to the barrier level as stated on the product label.
• Ensure the mask completely covers the mouth, nose, and chin and fits snugly, preventing gaps at the sides of the mask.
• Don a clean mask before each procedure.
• Replace and discard the mask whenever it becomes wet or soiled.
• Remove the mask last when it is worn in combination with other PPE.
• Remove the mask by touching only the ties and without touching the front of the mask.
• Discard the mask in a waste receptacle and perform hand hygiene.
• Do not wear mask hanging around your neck.
• When respiratory protection is needed, wear a National Institute for Occupational Safety and Health (NIOSH)-approved, fit tested, surgical N95 respirator or higher-level respirator in accordance with your facility’s respiratory protection program.
• Wear respiratory protection as a secondary protection against surgical smoke when smoke is not evacuated or incompletely evacuated.
• Don the respirator in accordance with the manufacturers’ IFU and perform a user seal check (ie, fit check) for each use.
• Do not allow facial hair to cross under the seal of a fit-tested N95 respirator.
• Remove the respirator after leaving the patient’s room and closing the door.
• Remove the respirator last when it is worn in combination with other PPE (eg, gown, gloves, eye protection).
• Remove the surgical N95 respirator in accordance with the manufacturer’s written IFU by touching only the ties and without touching the front of the respirator.
• Discard the respirator in a waste receptacle and perform hand hygiene.
• In collaboration with an interdisciplinary team that includes an infection preventionist and an occupational health professional, determine whether powered, air-purifying respirators may be used for respiratory protection in accordance with state and federal regulations and the manufacturer’s IFU when a sterile field is present.

A mask protects the wearer’s nose, mouth, and face from contamination by contact with blood, body fluids, and other potentially infectious materials. Masks also are worn as part of sterile technique to protect patients from exposure to pathogens that may be carried in the mouths or noses of perioperative personnel.

CONTACT PRECAUTIONS

• Wear a gown and gloves when coming into contact with patients who are known to be colonized or infected with pathogens transmitted by contact (eg, multidrug-resistant organisms [MDROs], *Clostridium difficile*) or potentially contaminated equipment and environmental surfaces in close proximity to the patient.
• Wear a gown and gloves upon entry to the patient’s room and discard them upon exiting the room.
• Don gloves to clean and disinfect the bed rails and controls that will be touched by personnel during transport.
• When transporting a patient under contact precautions:
  - notify the receiving team members that the patient is coming and what precautions should be taken
  - perform hand hygiene
  - don a gown and gloves
  - contain and cover the infected or colonized areas of the patient’s body
  - remove and dispose of contaminated PPE
  - perform hand hygiene
DROPLET PRECAUTIONS

- In addition to standard precautions, use droplet precautions for patients who are known or suspected to have infections transmitted by respiratory droplets (eg, adenovirus, group A Streptococcus, influenza, Neisseria meningitides, Bordetella pertussis, rhinovirus).
- Don a surgical mask upon entering the room or cubicle of a patient with suspected or proven infections transmitted by respiratory droplets (ie, large particle droplets that are > 5 μm) that are generated by a patient who is coughing, sneezing, or talking.
- Don a NIOSH-approved, fit-tested, surgical N95 respirator or higher-level respirator before performing aerosol-generating procedures on patients with suspected or proven infections transmitted by respiratory aerosols (eg, severe acute respiratory syndrome, avian influenza, pandemic influenza, viral hemorrhagic fevers).
- When transporting a patient under droplet precautions:
  - notify the receiving team members that the patient is coming and to follow droplet precautions
  - if possible, place a mask on the patient and instruct the patient to follow respiratory and cough etiquette during transport
  - do not wear a mask during transport
- Place a patient who requires droplet precautions in a single-patient room before and after surgery.
- If single-patient placement is not possible, consult with an infection preventionist to establish optimal preoperative and postoperative placement for the patient.
- Place patients who require droplet precautions at least 3 ft away from other patients.
- Keep the door or curtain to the patient’s room closed.
- Instruct a patient’s visitors to wear masks in the patient’s room and to perform hand hygiene upon entering and exiting the room.

**Masks prevent the transmission of large droplets (ie, greater than 5 μm) and, worn correctly, protect perioperative personnel who are in close proximity to a patient who requires droplet precautions. Single-patient placement helps prevent the spread of infection from patient to patient. Special air handling and ventilation are not required as part of droplet precautions.**

AIRBORNE PRECAUTIONS

- Use airborne precautions when providing care to patients who are known or suspected to be infected with pathogens that are transmitted by the airborne route (ie, small particles or droplet nuclei < 5 μm in size).
Use engineering controls (eg, safety-engineered devices) and work practice controls (eg, neutral zone, hands-free technique) to prevent sharps injuries.

Establish a written exposure control plan, make it accessible to employees, and review and update it at least annually.

Wear PPE when exposure to blood, body fluids, or other potentially infectious materials is anticipated.

Wash hands and skin with soap and water or flush mucous membranes with water immediately or as soon as possible after coming into direct contact with blood, body fluids, or other potentially infectious materials.

Do not take food and drink into the semi-restricted or restricted areas of the perioperative suite.

Do not keep food and drink in refrigerators, freezers, or cabinets or on shelves, countertops, or work spaces where blood, body fluids, or other potentially infectious materials may be present.

Do not apply cosmetics, lip balm, or contact lenses in semi-restricted or restricted areas of the perioperative suite.

Don a NIOSH-approved, fit-tested, surgical N95 respirator or higher-level respirator before entering the room of a patient with suspected or proven infections transmitted by the airborne route (eg, *Mycobacterium tuberculosis*, rubella virus [measles], varicella-zoster virus [chickenpox], disseminated herpes zoster).

When transporting a patient under airborne precautions:
- notify the receiving team members that the patient is coming and to follow airborne precautions
- cover skin lesions associated with varicella or smallpox or draining skin lesions caused by tuberculosis before patient transport
- if possible, place a mask on the patient and have the patient follow respiratory hygiene and cough etiquette during transport
- transport the patient who is in an airborne infection isolation room (AIIR) directly to the OR, bypassing the preoperative area, and at the end of the procedure, transfer the patient directly to an AIIR in the postanesthesia care unit or other inpatient unit
- do not wear a mask or respiratory protection during transport if the patient is wearing a mask

Postpone elective surgery for a patient who has a suspected or confirmed airborne-transmissible disease (eg, tuberculosis [TB]) until the patient is determined to be noninfectious.

If surgery cannot be postponed, schedule the surgery at the end of the day and with the minimum number of perioperative personnel present.

Place a patient who requires airborne precautions in an AIIR if one is available, including during surgery and postoperative recovery.

Keep doors to the AIIR or OR closed and limit traffic.

If an AIIR is not available, consult with an infection preventionist to determine whether supplemental air-cleaning technologies (eg, portable high-efficiency particulate air filtration, ultraviolet germicidal irradiation) are necessary.

Use a single-use disposable bacterial filter on the patient’s endotracheal tube or exhalation breathing circuit.

Following cough-inducing procedures (eg, intubation, extubation, bronchoscopy) in the OR, restrict room access until 99% of airborne particles have been removed from the air (eg, 15 air exchanges per hour for 28 minutes).

Wear respiratory protection if entering a room before 99% of the airborne contaminants are removed.

Instruct visitors to wear masks while in the patient’s room and to perform hand hygiene upon entering and exiting the room.

Establish administrative controls to reduce the risk of TB exposure of patients and personnel, including:
- implementing work practices for managing patients with suspected or confirmed TB
- ensuring that potentially contaminated equipment is cleaned and sterilized or processed by high-level disinfection in accordance with the manufacturers’ IFU guidelines

- educating perioperative personnel about TB prevention, transmission, and symptoms
- establishing a TB screening program to evaluate perioperative personnel who are at risk for TB or who might be exposed to *M tuberculosis*
- implementing a respiratory protection program for personnel that requires fit testing and certification to use an N95 respirator

In addition to standard precautions, the CDC recommends airborne precautions to minimize transfer of pathogens that are spread by the airborne route. Airborne precautions include the use of PPE (eg, respiratory protection), placing a mask on the patient during transport, environmental controls, and administrative controls.
• Provide training for personnel before assignment to tasks where occupational exposure to blood, body fluids, and other potentially infectious materials may occur, at least annually thereafter, and when changes to procedures or tasks affect occupational exposure.

Engineering controls isolate or remove the risk of exposure, and work practice controls reduce the likelihood of exposure by changing the method of performing a task. Providing the basis for the prevention of bloodborne pathogen exposure may instill an understanding of the processes that need to be followed and thereby prevent disease transmission.

EMPLOYEE INFECTIONS
• In collaboration with an employee health nurse, infection preventionist, or physician, assess perioperative personnel who have infections, exudative lesions, or nonintact skin before they are allowed to return to work providing direct patient care or handling medical devices that are used in operative or other invasive procedures.
• Follow federal, state, and professional guidelines to determine the need for work restrictions for perioperative personnel with bloodborne infections.
• Report exposures as soon as they occur and infections as soon as the disease process is noted.
• Report exposure incidents (eg, needlesticks, blood exposures) according to health care organization policy and based on the Occupational Safety and Health Administration Bloodborne Pathogens Standard.
• Maintain a sharps injury log to document all percutaneous injuries from contaminated sharps, keeping the employee’s identification confidential; include:
  - the type and brand of device involved in the incident
  - the department or work area where the exposure incident occurred
  - an explanation of how the incident occurred
• Maintain the documentation related to exposure incidents for the employee’s duration of employment plus 30 years.
• Perform baseline TB screening upon hire, and perform follow-up testing in the case of exposure to TB.
• Maintain records and results of TB screening for each employee in the employee’s health record.

• If an employee has symptoms of TB, record this in the employee health record or medical record.

Restricting activities of personnel who have transmissible infections reduces transmission between providers and patients depending on the mode of transmission and epidemiology of the disease. Work restrictions for perioperative personnel with bloodborne infections who provide direct patient care may depend on several factors, including circulating viral burden and category of clinical activities.

IMMUNIZATIONS
• Provide the hepatitis B vaccination series to employees whose work involves a reasonable risk of exposure to blood, body fluids, or other potentially infection materials.
• Provide postexposure evaluation and follow-up to all employees who have an exposure incident.
• Repeat serologic testing after hepatitis B vaccination; if antibody levels are too low (< 10 mIU/mL), revaccinate and test again after completing the series.
• Evaluate for postexposure prophylaxis immediately after blood or body fluid exposure (ie, percutaneous, ocular, mucous membrane, nonintact skin) based on the hepatitis B surface antigen status of the source and the employee’s vaccination history and vaccine-response status.
• Provide annual influenza vaccinations, unless contraindicated.
• Ensure perioperative personnel have evidence of immunity to measles, mumps, and rubella and document this in the employee health record. Presumptive evidence includes:
  - written documentation of vaccination with two doses of measles-mumps-rubella vaccine administered at least 28 days apart
  - laboratory evidence of immunity
  - laboratory confirmation of disease
  - birth before 1957
• Use respiratory protection when a patient is suspected to have a measles infection, regardless of immunity status.
• Assign personnel with evidence of immunity to care for a patient who is suspected of having mumps or rubella.
• Provide a single dose of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) as soon as feasible upon hire if personnel have not been vaccinated previously.
• Assign perioperative personnel with evidence of immunity to care for a patient who is suspected of having pertussis.
• Ensure perioperative personnel receive a booster vaccination against tetanus and diphtheria every 10 years.
• Ensure that all perioperative personnel have evidence of immunity to varicella or receive the varicella vaccine.
• Place a patient with a confirmed or suspected varicella infection under both airborne and contact precautions, and assign care of the patient to perioperative personnel who have evidence of immunity.
• Establish and implement a comprehensive vaccination policy for all perioperative personnel and include a method to validate:
  - personnel are up to date with recommended vaccines
  - vaccination and immunity status is reviewed at the time of hire and at least annually thereafter
  - necessary vaccines are offered to employees in conjunction with routine annual disease prevention measures (eg, influenza vaccination, TB testing)
• Record an employee’s immunity status for vaccine-preventable diseases, including documented disease, vaccination history, and serology results.

The CDC Advisory Committee for Immunization Practices recommends that health care personnel receive immunizations if they come into contact with patients or infectious material from patients that may put them at risk for exposure and possible transmission of vaccine-preventable disease (ie, hepatitis B, seasonal influenza, measles, mumps, rubella, pertussis, varicella).