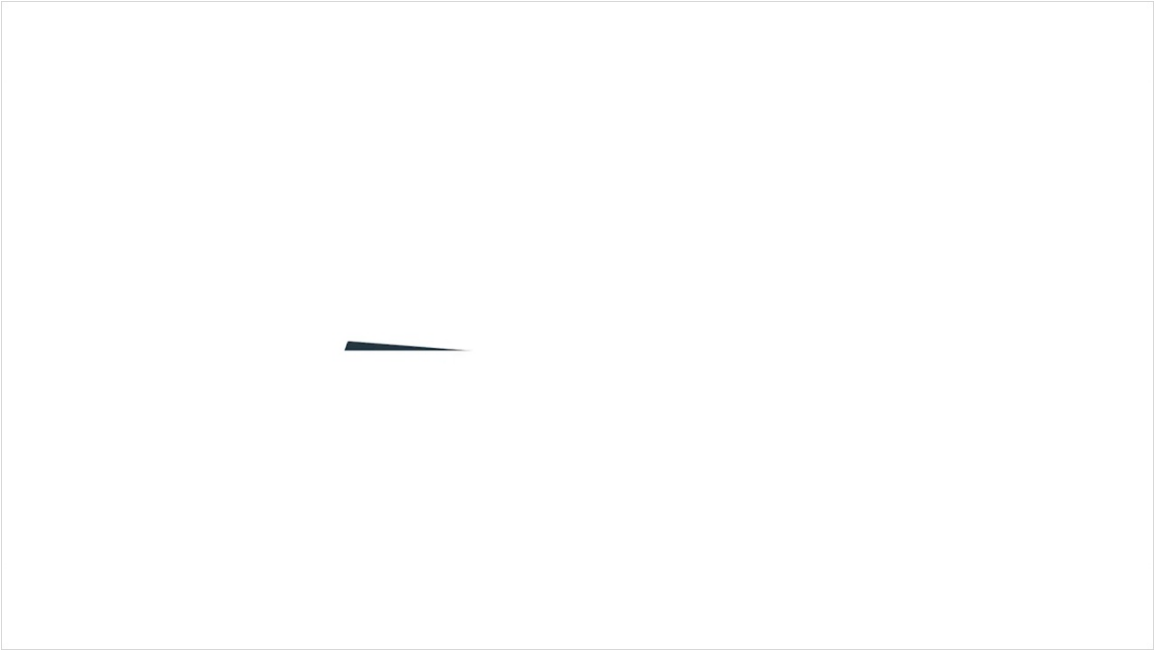


Conditions of Participation: Infection Control and Prevention

1.1 Intro



1.2 Welcome

<p>Conditions of Participation:</p> <hr/> <p>Hospice Catherine Dehlin, RN, BSN, CHPN, CHCM, COOS</p>	<p>Infection Control and Prevention</p> <hr/>
--	---

1.3 Objectives



Objectives

- Summarize the principles and practices for infection control in hospice care and describe the modes and mechanisms of the transmission of pathogenic organisms, including the chain of infection.
- Identify infection transmission precautions, personal protective equipment for protection from exposure to potentially infectious material and understand the principles and practices for safe handling, cleaning and disinfection in the hospice care environment.

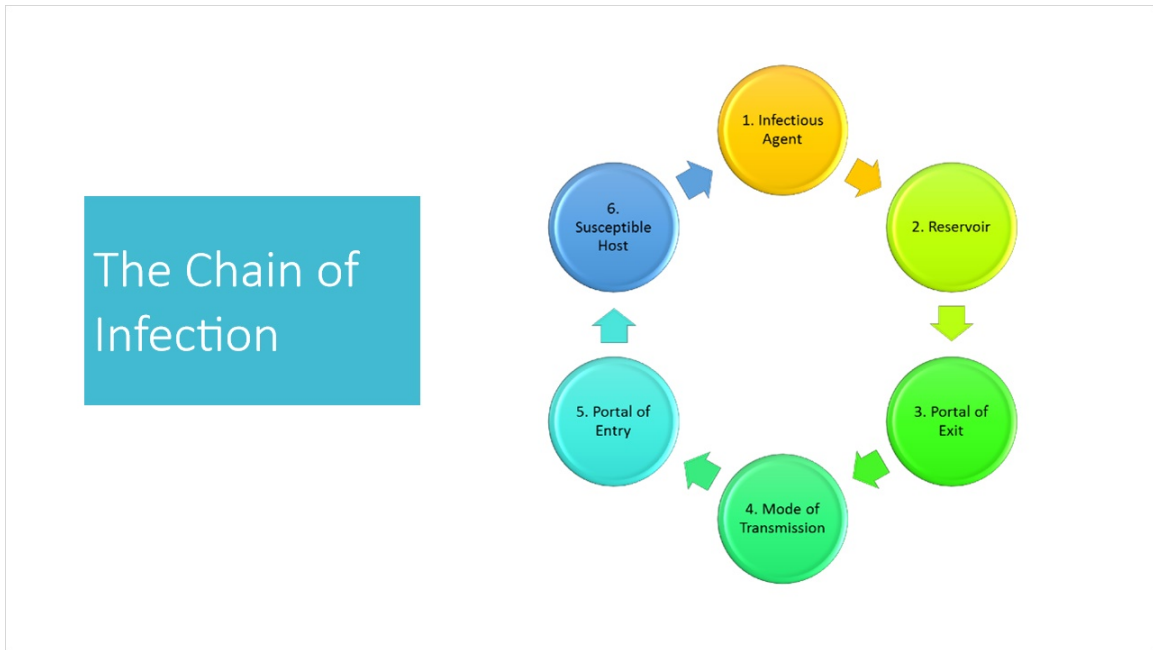
1.4 Goals of Infection Control and Prevention



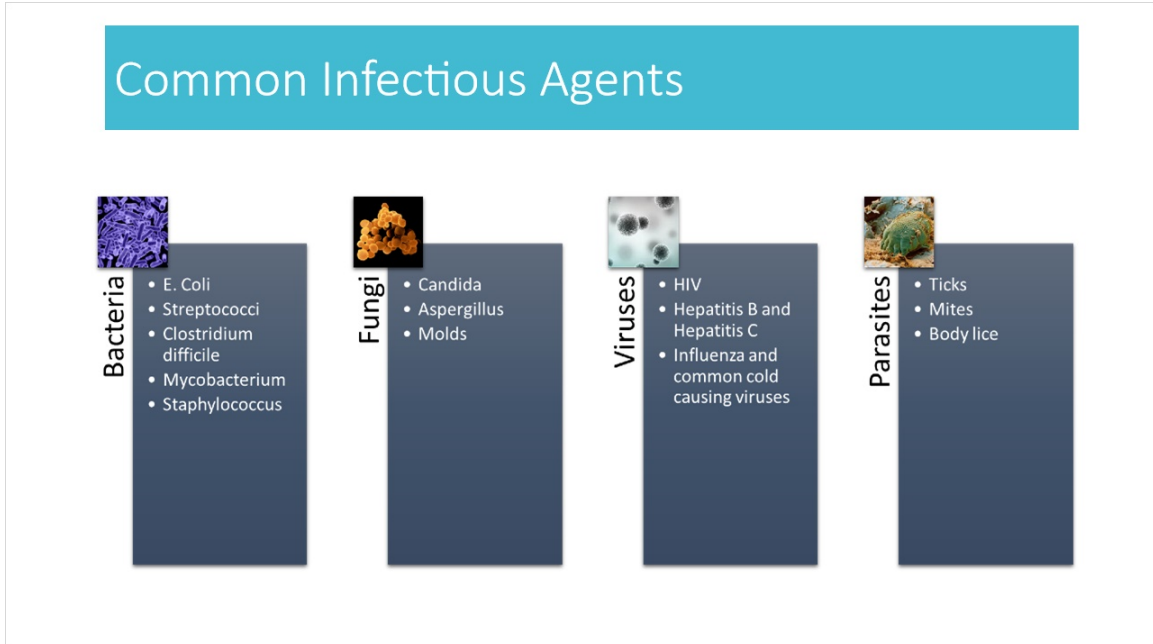
Goals of Infection Control and Prevention

- Assure that healthcare professionals understand how pathogens can be transmitted from patient to healthcare worker, healthcare worker to patient, patient to patient, and within the same patient
- Apply current scientifically accepted infection control principals appropriate for the specific patient environment
- Minimize the chance for transmission of pathogens to patients and healthcare workers

1.5 The Chain of Infection



1.6 Common Infectious Agents



1.7 Multi-Drug Resistant Organisms (MDROs)

Multi-Drug Resistant Organisms (MDRO's)

- **MRSA**
 - Methicillin-Resistant Staphylococcus Aureus
- **VRE**
 - Vancomycin-resistant enterococci
- **ESBL's**
 - Extended-Spectrum Beta-Lactamases-resistant to cephalosporins and monobactams
- **Multi-Drug Resistant Acinetobacters**

1.8 Common Reservoirs of Infectious Agents

Common Reservoirs of Infectious Agents

Human

- Respiratory Tract
- Skin
- Blood
- Genitourinary Tract
- Gastrointestinal Tract

Environmental

- Soiled linens and clothing
- Tissues, doorknobs, telephones, sinks, toilet seats, etc.
- Soiled gloves
- Urinary catheters
- Intravenous catheters
- Needles or sharps
- Inadequately sterilized instruments
- Blood pressure cuffs
- Contaminated medical equipment

1.9 Portals of Exit

Portals of Exit		
Portal	How the Pathogen Exits	Infectious Diseases
Respiratory Tract	Coughing, sneezing	Influenza, common cold, tuberculosis
Skin	Cells, lesions	Scabies, staph infection, MRSA
Blood	Insect bite, needles, syringes	HIV, hepatitis B, hepatitis C
Gastrointestinal Tract	Feces, saliva	Hepatitis A, C. diff, salmonella infection, parasites
Genitourinary Tract	Urine, semen, vaginal secretions	HIV, herpes, cytomegalovirus

1.10 Modes of Transmission

Modes of Transmission	
Contact Transmission-	
3 Types:	
• Direct-involves direct body surface to body surface and physical transfer of pathogen between an infected or colonized person to another person by touch	
• Indirect-involves contact between a person and a contaminated object, also known as a fomite	
• Droplet-occurs when droplets containing pathogens generated during coughing, sneezing and talking are propelled through the air and are deposited upon a susceptible host	
Airborne Transmission:	
• Occurs when evaporated droplet particles, dust particles, or shed skin cells containing pathogens are broadcasted, suspended in the air for long periods of time, and transmitted by air current.	
• They may be inhaled by a susceptible person who is in the same room with the infected person or over a longer distance, depending on environmental factors.	

1.11 Portal of Entry

Portals of Entry

Portal	How the Pathogen Enters	Infectious Diseases
Skin	Conjunctivae, hair follicles, sweat ducts, cuts, nicks, abrasions, punctures, insect bites	Hookworm, tinea pedis, herpes simplex, folliculitis
Respiratory Tract	Inhalation	Influenza, tuberculosis, common cold
Gastrointestinal tract	Food, drink, contaminated hands	Diarrheal illnesses, salmonella, infection, gastroenteritis
Genitourinary tract	Skin or mucous membrane of penis, vagina, cervix, urethra, external genitalia	Cystitis, gonorrhea, chlamydia, genital herpes, HPV

1.12 Susceptible Host

Susceptible Host

Age

Genetics

Stress level

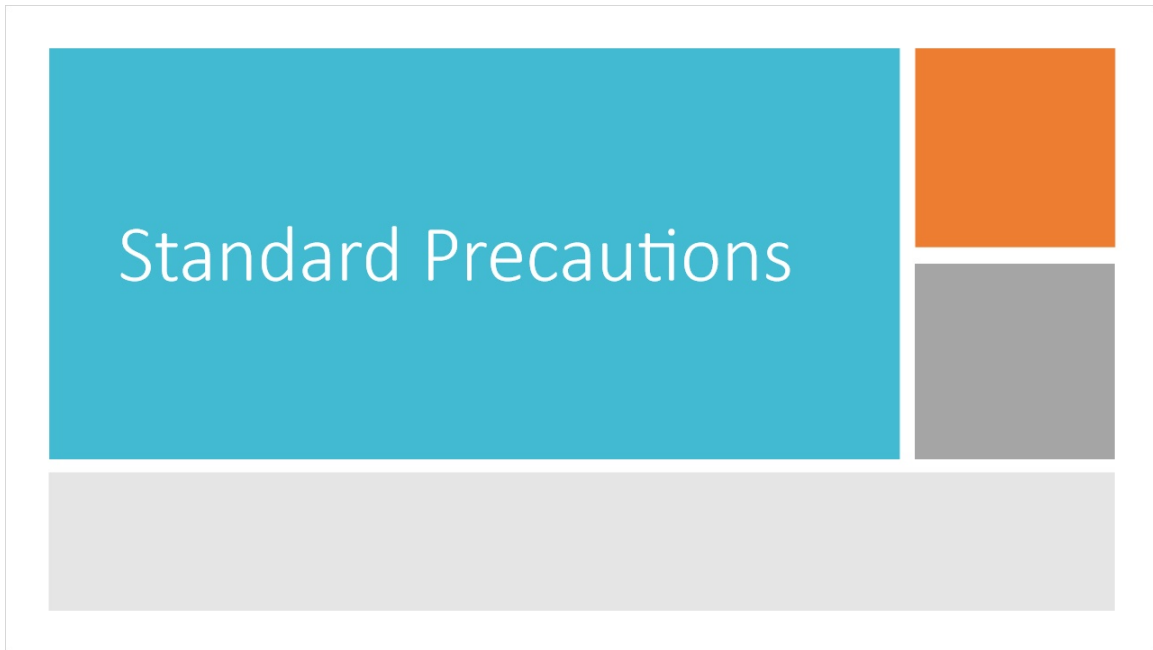
Nutritional status

Current medical therapy

Pre-existing disease

Gender

1.13 Standard Precautions



1.14 Standard Precautions

<p>Standard Precautions</p>	<ul style="list-style-type: none">• Hand Hygiene• Use of Personal Protective Equipment (PPE) whenever there is an expectation of possible exposure to infectious material• Follow respiratory hygiene/cough etiquette principals• Clean and disinfect patient care equipment, instruments/devices, and carefully handle textiles and laundry• Follow safe injection practices
---------------------------------	---


1.15 Hand Hygiene





1.16 Handwashing Technique

Handwashing Technique


- 


0 Wet hands with water;
- 

1 Apply enough soap to cover all hand surfaces;
- 


2 Rub hands palm to palm;
- 


3 Right palm over left dorsum with interlaced fingers and vice versa;
- 


4 Palm to palm with fingers interlaced;
- 

5 Backs of fingers to opposing palms with fingers interlocked;
- 

6 Rotational rubbing of left thumb clasped in right palm and vice versa;
- 

7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- 


8 Rinse hands with water;
- 

9 Dry hands thoroughly with a single use towel;
- 

10 Use towel to turn off faucet;
- 

11 Your hands are now safe.

1.17 Handwashing



Handwashing

- Before patient contact
- Before bag entry
- Before a procedure
- Before donning gloves
- Before leaving a home
- Between dressing changes
- When visibly soiled
- After touching a patient
- After doffing gloves
- After touching a person's surroundings

1.18 Hand Rubs

Hand Rubs

- Alcohol-based hand rubs are the most efficacious agents for reducing the number of bacteria on the hands of staff
- Alcohol-based hand gels are recommended for routine decontamination of hands for all clinical indications (except when visibly soiled)



1.19 Hand Hygiene with Hand Rubs

Hand Hygiene with Hand Rubs

The diagram illustrates the 8 steps of hand hygiene with hand rubs:

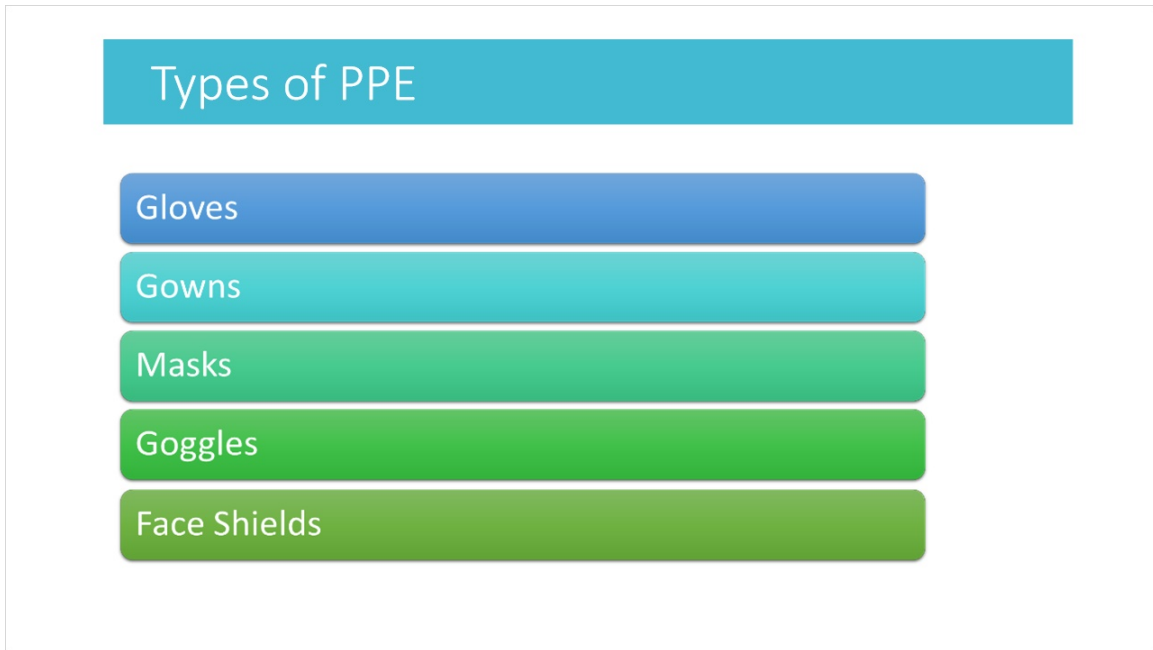
- 1a** Apply a palmful of the product in a cupped hand, covering all surfaces;
- 1b** Rub hands palm to palm;
- 2** Rub hands palm to palm;
- 3** Right palm over left dorsum with interlaced fingers and vice versa;
- 4** Palm to palm with fingers interlaced;
- 5** Backs of fingers to opposing palms with fingers interlocked;
- 6** Rotational rubbing of left thumb clasped in right palm and vice versa;
- 7** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
- 8** Once dry, your hands are safe.

1.20 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE)

- Personal protective equipment is special equipment worn to create a barrier between a healthcare worker and infectious agents
- This barrier reduces the chance of touching, being exposed to, and spreading germs

1.21 Types of PPE



1.22 Gloves

Gloves

- Wear when touching blood, body fluids, secretions, excretions, moist body surfaces, mucous membranes, or non-intact skin
- Wear during procedures, such as venipuncture, wound care, or urinary catheter changes
- Wear if the home care workers skin is compromised
- Wear to handle potentially hazardous materials or when coming in contact with contaminated surfaces or items

1.23 Change Gloves:

Change Gloves:

Between tasks and procedures on the same patient

When visibly soiled

When torn or punctured

1.24 Remove Gloves:

Remove Gloves:



After use



Before touching
non-
contaminated
surfaces



Before entering
bag



Before going to
another patient

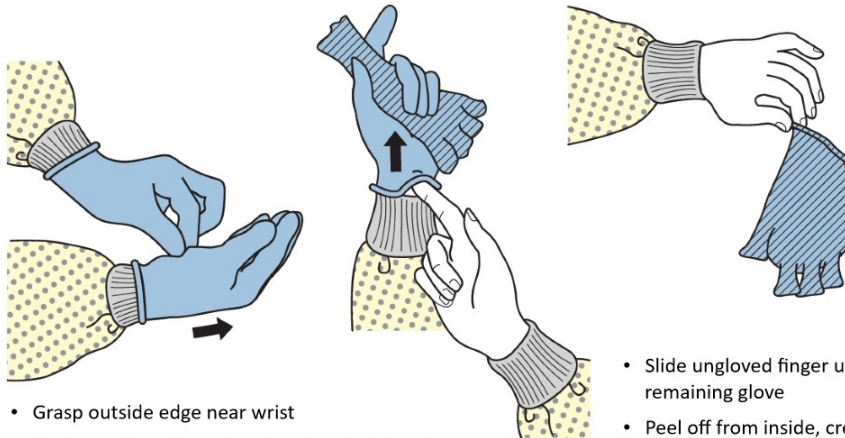
1.25 Glove “Do’s”

Remove Gloves:

DO work	from clean to dirty
DO limit	opportunities for “touch contamination”
DO keep	gloved hands away from face
DO try	to avoid touching or adjusting other PPE
DO limit	surfaces and items touched

1.26 How to Remove Gloves

How to Remove Gloves



- Grasp outside edge near wrist
- Peel away from hand, turning glove inside-out
- Hold in opposite gloved hand

- Slide ungloved finger under the wrist of the remaining glove
- Peel off from inside, creating a bag for both gloves
- Discard

1.27 Gowns

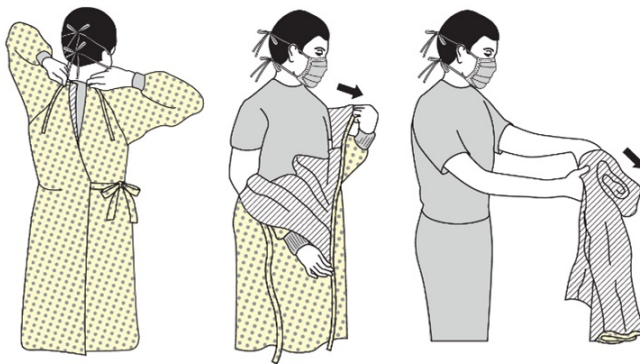


Gowns

Wear to protect skin and prevent soiling of clothing during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions

1.28 Removing Gown

Removing Gown



- Unfasten ties
- Peel gown away from neck and shoulder
- Turn contaminated outside toward the inside
- Fold or roll into a bundle
- Discard in appropriate receptacle

1.29 Masks



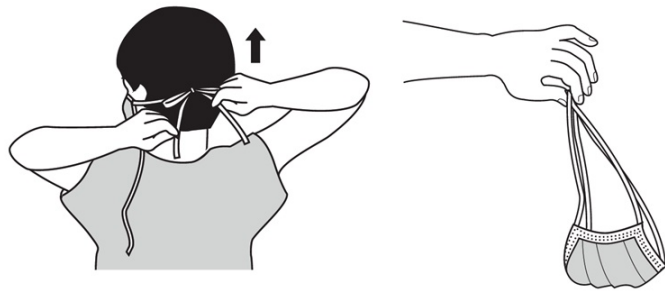
Masks

Wear during patient care activities where there is a reasonable chance that splashes or sprays of blood, body fluids, secretions, or excretions may occur to the nose or mouth

1.30 Removing a Mask

Removing a Mask

- Untie the bottom, then top, tie
- Remove from face
- Discard



1.31 Goggles



Goggles

Wear if there is a reasonable chance that a splash or spray of blood or body fluid may occur to the eyes

1.32 Face Shields

Face Shields

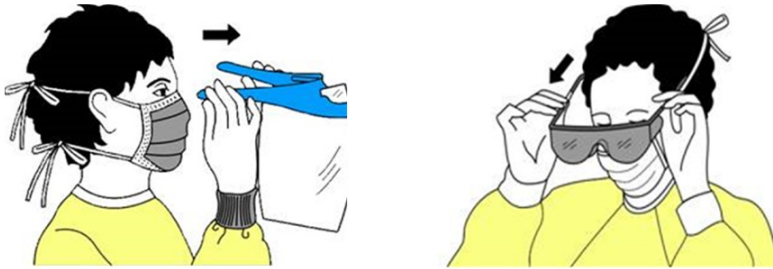


- Protect the face, nose, mouth and eyes when skin protection is also needed

1.33 Remove Goggles or Face Shield

Remove Goggles or Face Shield

- Grasp ear or head pieces with unglved hands
- Lift away from face
- Place in designated receptacle for reprocessing or disposal



1.34 Removing a Particulate Respirator

Removing a Particulate Respirator

- Lift the bottom elastic over your head first
- Then lift off the top elastic
- Discard in bag and seal



1.35 Putting on PPE

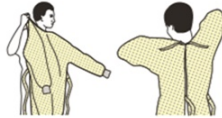
Putting on PPE

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.


1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist




2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator




3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit




4. GLOVES

- Extend to cover wrist of isolation gown



1.36 “Contaminated” and “Clean” Areas of PPE



“Contaminated” and “Clean” Areas of PPE

Contaminated:
Outside Front

Clean:
Inside, outside back,
ties on head and back

Areas of PPE that have or are likely to have been in contact with body sites, materials, or environmental surfaces where the infectious organism may reside

Areas of PPE that are not likely to have been in contact with the infectious organism

1.37 Removing PPE

Removing PPE

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



- 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



1.38 Four Key Points About PPE

Four Key Points About PPE

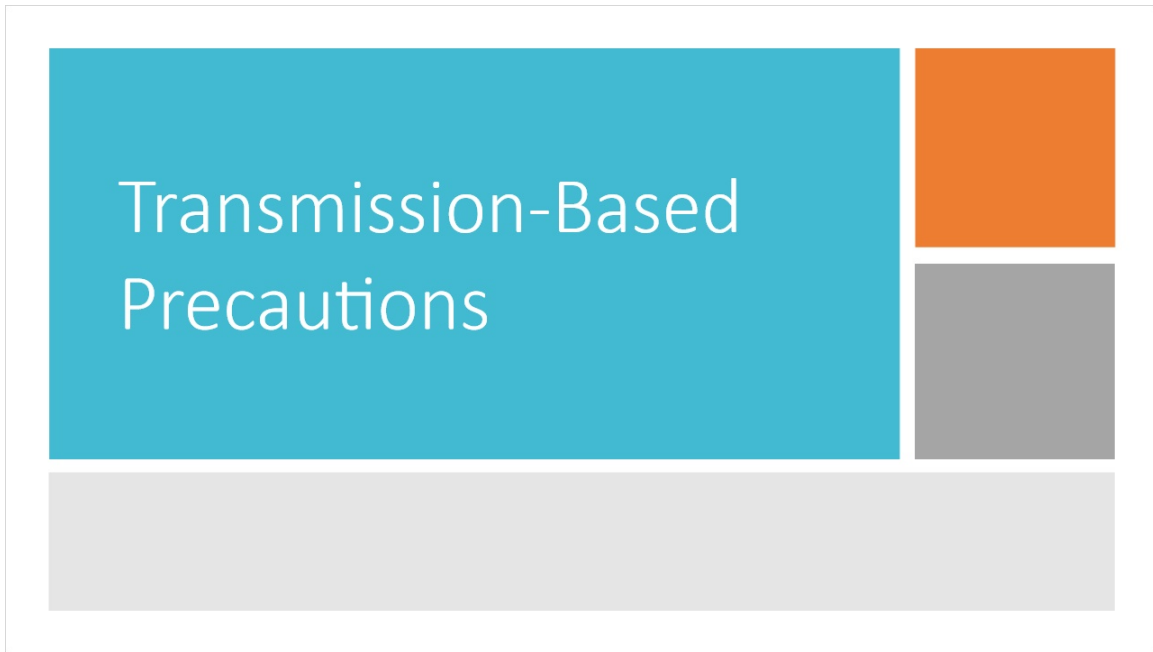
Don PPE before contact with the patient

Use PPE carefully to prevent spreading contamination

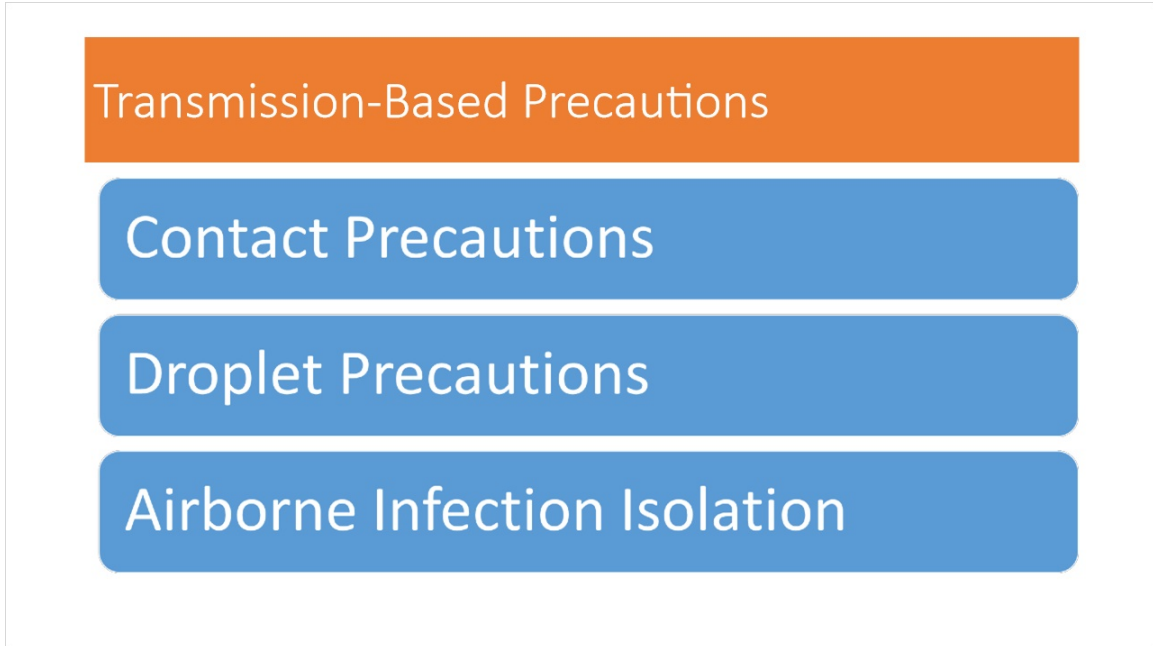
Remove PPE carefully and discard appropriately

Perform hand hygiene

1.39 Transmission-Based Precautions



1.40 Transmission-Based Precautions



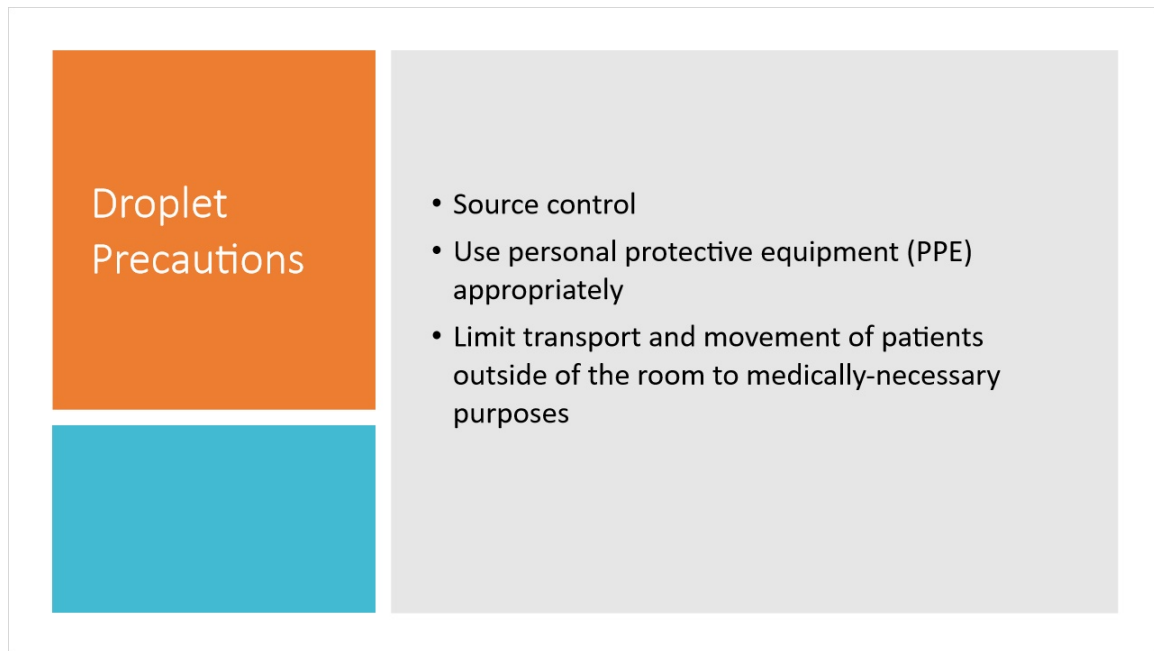
1.41 Contact Precautions

<p>Contact Precautions</p>	<ul style="list-style-type: none">• Use PPE appropriately• Limit transport and movement of patients outside of the room to medically-necessary purposes• Use disposable or dedicated patient-care equipment• Prioritize cleaning and disinfection of the rooms of patients on contact precautions

1.42 Precautions for MDROs in Hospice Care

<p>Precautions for MDRO's in Hospice Care</p>	<ul style="list-style-type: none">• Caregivers should wash their hands with soap and water after physical contact with the infected or colonized person and before leaving the home.• Towels used for drying hands after contact should be used only once.• Disposable gloves should be worn if contact with body fluids is expected and hands should be washed after removing the gloves.• Linens should be changed and washed if they are soiled and on a routine basis-MRSA can be spread from dirty clothes and bedding. Teach caregivers proper precautions for doing laundry.• The patient's environment should be cleaned routinely and when soiled with body fluids.• Notify doctors and other healthcare personnel who provide care for the patient that the patient is colonized/infected with a MDRO.

1.43 Droplet Precautions

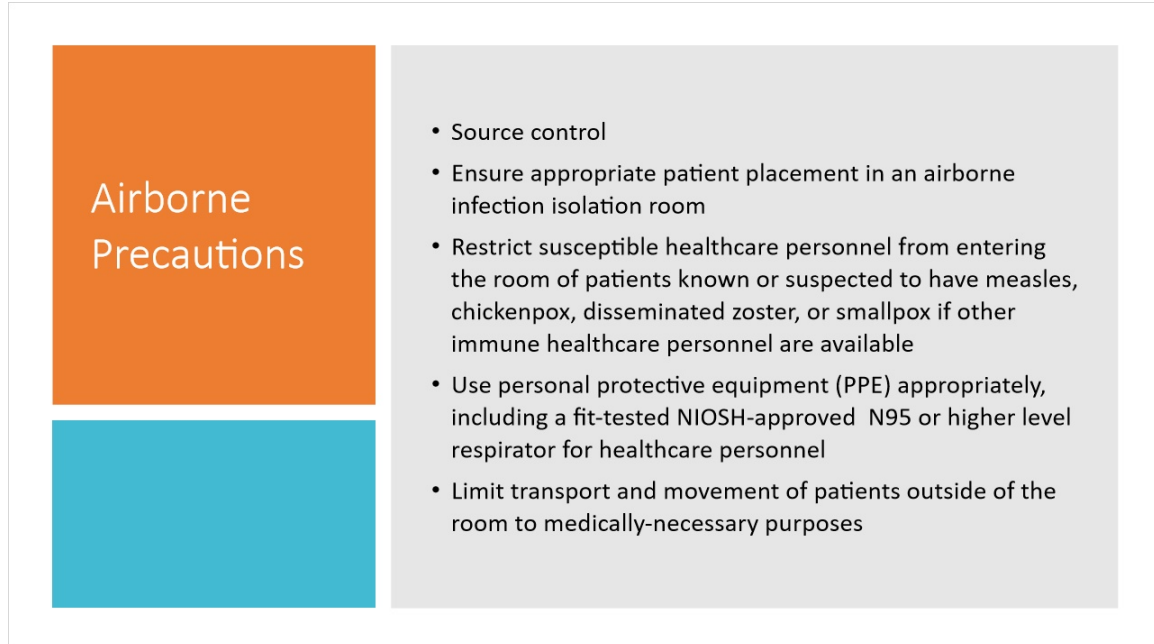


The infographic for Droplet Precautions features a vertical bar on the left with an orange top section containing the text 'Droplet Precautions' and a teal bottom section. To the right, a light gray box contains a bulleted list of three items.

Droplet Precautions

- Source control
- Use personal protective equipment (PPE) appropriately
- Limit transport and movement of patients outside of the room to medically-necessary purposes

1.44 Airborne Precautions

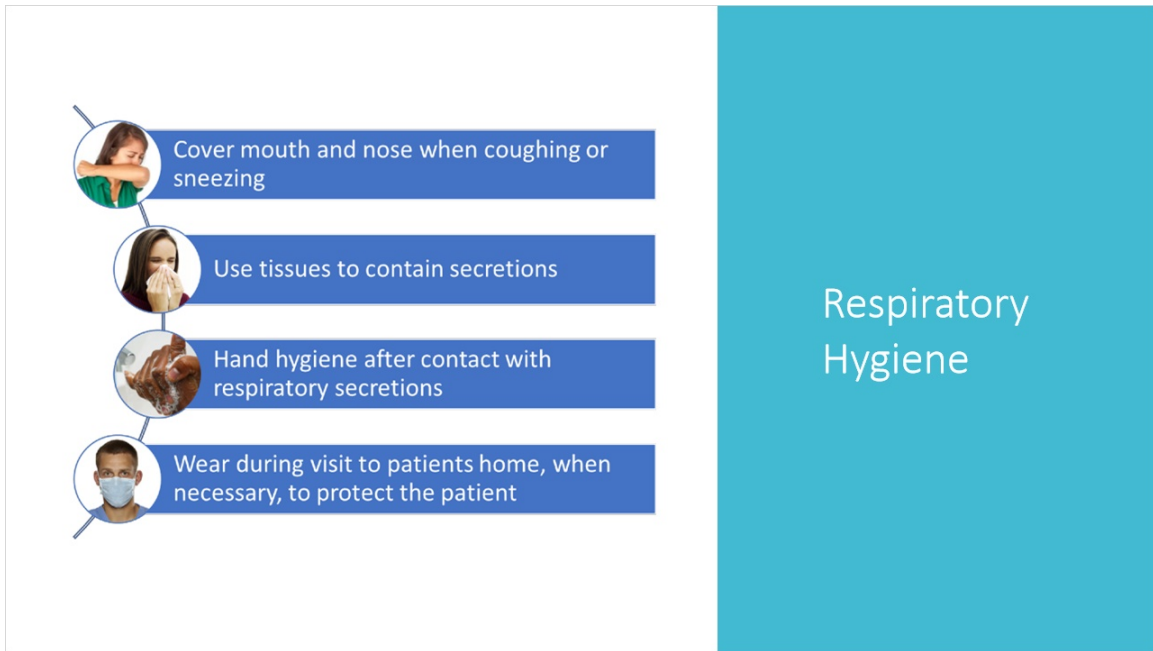


The infographic for Airborne Precautions features a vertical bar on the left with an orange top section containing the text 'Airborne Precautions' and a teal bottom section. To the right, a light gray box contains a bulleted list of five items.

Airborne Precautions

- Source control
- Ensure appropriate patient placement in an airborne infection isolation room
- Restrict susceptible healthcare personnel from entering the room of patients known or suspected to have measles, chickenpox, disseminated zoster, or smallpox if other immune healthcare personnel are available
- Use personal protective equipment (PPE) appropriately, including a fit-tested NIOSH-approved N95 or higher level respirator for healthcare personnel
- Limit transport and movement of patients outside of the room to medically-necessary purposes

1.45 Respiratory Hygiene



The infographic features a vertical list of four items on the left, each with a circular icon and a blue text box. The items are: 1. A woman coughing into her elbow, with text 'Cover mouth and nose when coughing or sneezing'. 2. A woman using a tissue, with text 'Use tissues to contain secretions'. 3. Hands being washed with soap, with text 'Hand hygiene after contact with respiratory secretions'. 4. A person wearing a face mask, with text 'Wear during visit to patients home, when necessary, to protect the patient'. To the right of this list is a large teal vertical rectangle containing the text 'Respiratory Hygiene' in white.

Cover mouth and nose when coughing or sneezing

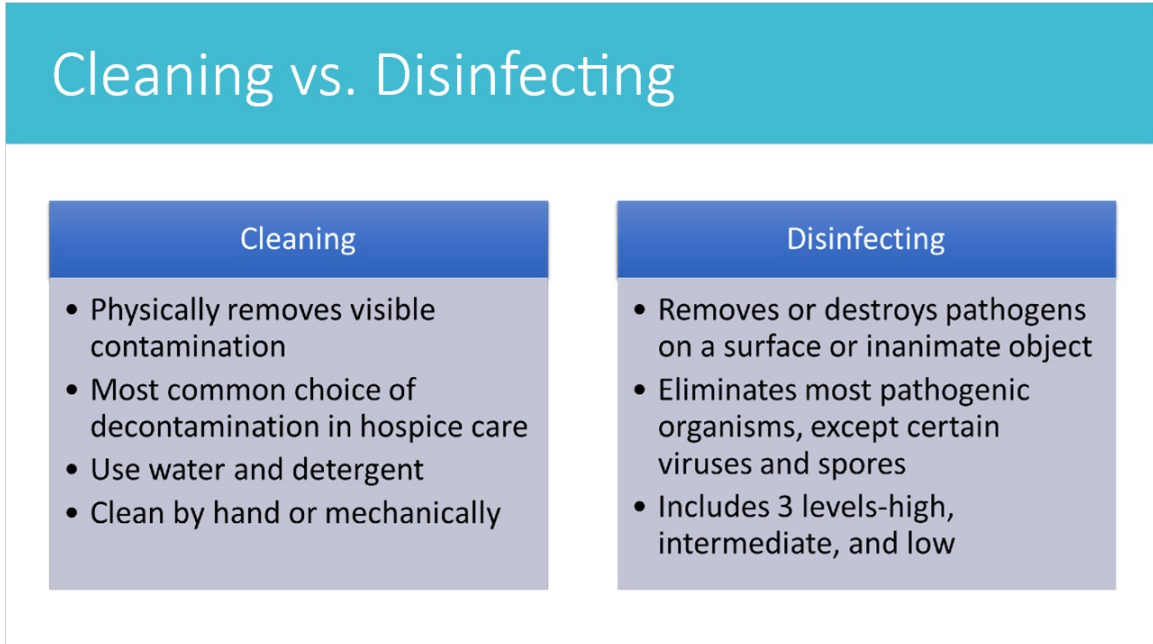
Use tissues to contain secretions

Hand hygiene after contact with respiratory secretions

Wear during visit to patients home, when necessary, to protect the patient

Respiratory Hygiene

1.46 Cleaning vs. Disinfecting



The infographic has a teal header with the title 'Cleaning vs. Disinfecting'. Below the header are two columns. The left column is titled 'Cleaning' and contains four bullet points: 'Physically removes visible contamination', 'Most common choice of decontamination in hospice care', 'Use water and detergent', and 'Clean by hand or mechanically'. The right column is titled 'Disinfecting' and contains three bullet points: 'Removes or destroys pathogens on a surface or inanimate object', 'Eliminates most pathogenic organisms, except certain viruses and spores', and 'Includes 3 levels-high, intermediate, and low'.

Cleaning vs. Disinfecting

Cleaning	Disinfecting
<ul style="list-style-type: none">• Physically removes visible contamination• Most common choice of decontamination in hospice care• Use water and detergent• Clean by hand or mechanically	<ul style="list-style-type: none">• Removes or destroys pathogens on a surface or inanimate object• Eliminates most pathogenic organisms, except certain viruses and spores• Includes 3 levels-high, intermediate, and low

1.47 Disinfection of Patient Care Equipment

Critical Devices	Semi-Critical Devices	Non-Critical Devices
Enter the sterile tissue or vascular system	Contact mucous membranes or non-intact skin	Come in contact with intact skin, but not mucous membranes
Indwelling catheters, needles	Oral thermometers, respiratory therapy equipment	Blood pressure cuff, stethoscope, laptop, nursing bag, pulse ox
Should be sterilized	Should be disinfected with intermediate-level disinfectants, such as bleach concentrate or 70-90% ethyl or isopropyl alcohol	Should be disinfected with an EPA-registered low or intermediate-level disinfectant

Disinfection of Patient Care Equipment

Three levels of disinfection:

- High-level disinfection kills all microorganisms except large numbers of bacterial spores (which requires sterilization)
- Intermediate-level disinfection kills mycobacteria, vegetative bacteria, most viruses, and most fungi, but does not necessarily kill bacterial spores
- Low-level disinfection kills most vegetative bacteria, some fungi, and some viruses.

1.48 Cleaning Blood or Body Fluid Spills

Cleaning Blood or Body Fluid Spills

- Put on gloves
- Mix a disinfectant solution (1 part bleach to 10 parts water)
- Wipe area with a paper towel
- Clean area with disinfectant solution
- Discard paper towels in a plastic bag, tie, and throw away in appropriate receptacle



1.49 Principals of Bag Technique



Principals of Bag Technique

- Hand hygiene
- Bag placement
- Bag placement during interim storage
- Cleaning the interior and exterior surfaces of the bag
- Maintenance of equipment and supplies stored in the bag
- Management of equipment and supplies removed from the bag

1.50 Healthcare Bag Technique

Healthcare Bag Technique

Select a healthcare bag that has at least three separate compartments, at least one of which should be lockable to secure patient records.

Designate two “clean” compartments, one for clean disposables and the other for patient records.

Pack the bag with necessary supplies before leaving for visits. Pack hand washing supplies near the top or in a side pocket where they are easily accessible.

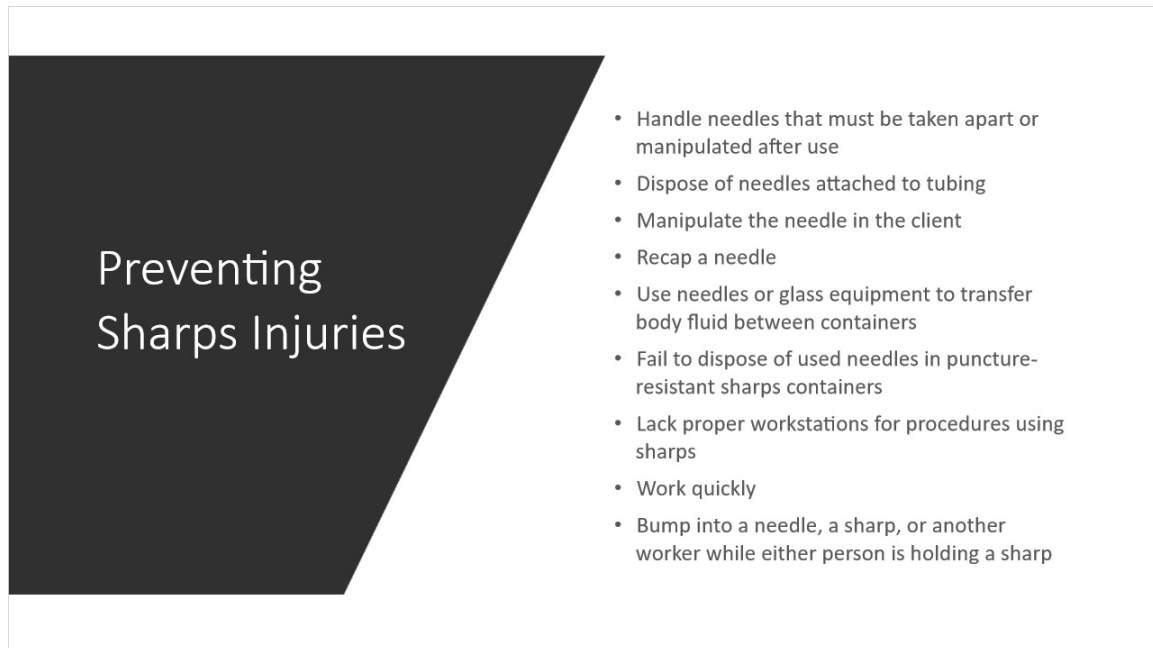
Store the healthcare bag in a clean storage container or other separate compartment in your car.

Do not take the healthcare bag into infested homes or homes of patients with antibiotic resistant infections such as MRSA or VRE.

1.51 Bag Technique



1.52 Preventing Sharps Injuries



1.53 Disposal of Sharps



Disposal of Sharps

- Needles – hollow needles used to inject drugs (medication) under the skin
- Syringes – devices used to inject medication into or withdraw fluid from the body
- Lancets, also called “fingerstick” devices – instruments with a short, two-edged blade used to get drops of blood for testing. Lancets are commonly used in the treatment of diabetes.
- Auto Injectors, including epinephrine and insulin pens – syringes pre-filled with fluid medication designed to be self-injected into the body
- Infusion sets – tubing systems with a needle used to deliver drugs to the body.
- Connection needles/sets – needles that connect to a tube used to transfer fluids in and out of the body. This is generally used for patients on home hemodialysis.

1.54 Hospice Employees Should:

Hospice Employees Should:

- Avoid using needles whenever safe and effective alternatives are available
- Avoid recapping or bending needles that might be contaminated
- Bring standard-labeled, leak-proof, puncture-resistant sharps containers to patients' homes
- Promptly dispose of used needle devices and sharps, which might be contaminated, in the containers
- Plan for the safe handling and disposal of needles before use
- Store sharps containers out of the reach of children, pets, and others not needing access
- Secure used sharps containers during transport to prevent spilling
- Follow standard precautions, infection prevention, and general hygiene practices consistently
- Participate in your employer's bloodborne pathogens training program
- Help your employer select and evaluate devices with safety features
- Use devices with safety features provided by your employer
- Report any needle stick and other sharps injury immediately to your employer

1.55 Employers Should:

**Employers
Should:**

- Establish a bloodborne pathogen control program that meets the requirements of the OSHA bloodborne pathogens standard (<http://www.osha.gov/SLTC/bloodbornepathogens/index.html>)
- Eliminate the use of needle devices whenever safe and effective alternatives are available
- Provide needle devices with safety features
- Provide sharps containers for workers to bring into patients' homes
- Investigate all sharps-related injuries
- Provide post-exposure medical evaluations

1.56 Steps to Take if Exposure Occurs

Steps to Take if Exposure Occurs:

- Wash needlesticks and cuts with soap and water
- Flush splashes to the nose, mouth, or skin with water
- Irrigate eyes with clean water, saline, or sterile irrigants
- **Report the incident to your supervisor**
- Immediately seek medical treatment.

1.57 Infection Control in Hospice

Infection Control in Hospice



- Basic infection control written procedures
- Care plan infection control information
- Agency approved PPE, cleaning and handwashing supplies
- Bloodborne pathogen procedures
- Reporting sharps injuries
- Reporting your own exposure to possible infection
- Identifying and reporting signs of a patient infection

1.58 Possible Signs of Infection

Possible Signs of Infection

- Redness, swelling, or drainage from cuts or wound dressings
- Coughing or sneezing
- Fever, chills
- Diarrhea or vomiting
- Frequent urination, especially if foul odor is noted
- Change in behavior

1.59 References

References

- Break the Chain of Infection. <http://professionals.site.apic.org/protect-your-patients/break-the-chain-of-infection/>. Accessed 8 December 2019.
- Hand hygiene improvements. www.infectiousdiseaseadvisor.com/home/decision-support-in-medicine/hospital-infection-control/hand-hygiene-improvements/. Accessed 10 December 2019.
- Hepatitis B Questions and Answers for Health Professionals. <https://www.cdc.gov/hepatitis/hbv/hbvfaq.htm#treatment>. Accessed 8 December 2019.
- Centers for Disease Control and Prevention website. Personal protective equipment. <https://www.cdc.gov/niosh/ppe/default.html>. Updated February 2, 2018. Accessed 9 December 2019.
- Centers for Disease Control and Prevention website. Protecting Healthcare Personnel. <https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>. Accessed 10 December 2019.
- McGoldrick, Mary. "Best Practices for Home Care 'Bag Technique' and the Use of Surface Barriers." Home Healthcare Now, vol. 35, no. 9, Oct. 2017, pp. 478–84. DOI.org (Crossref), doi:10.1097/NHH.0000000000000611.
- Respiratory Hygiene/Cough Etiquette in Healthcare. Settings. <https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm> 11 December 2019.
- NIOSH Fast Fact Publications for Home Healthcare Workers. <https://ehsworks1.blogspot.com/2012/02/niosh-fast-fact-publications-for-home.html>. Accessed 11 December 2019.

1.60 Thank You

Thank You!

Questions?
learning@wellsky.com

RESTART COURSE

EXIT COURSE