NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Infection Prevention Education

Transmission-Based Precautions and Personal Protective Equipment

Transmission-Based Precautions

Upon finishing this education module, participants should:

1. Understand what transmission precautions are and why they are necessary
2. Be able to implement transmission-based precautions (TBP) when needed
3. Know how to appropriately don and doff personal protective equipment (PPE)

Brief Overview and Background Information for Trainers

Transmission-based precautions are to be used in addition to Standard Precautions for patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission. Those include Contact Precautions, Enhanced Barrier Precautions, Droplet Precautions, and Airborne Precautions. There are other types of transmission-based precautions you may see in your facility, such as Enhanced Barrier Precautions in nursing homes, or "special droplet" for use with COVID patients. Facilities should let staff know when a patient is on transmission-based precautions by hanging a sign at their door. Always follow facility's specific guidelines. In this education module, we will go over what each precautionary measure should include.

Contact Precautions

Use Contact Precautions for patients with known or suspected infections that represent an increased risk for contact transmission. Patients on Contact Precautions can infect others through direct contact, otherwise called transmission by touch. Some common conditions that warrant Contact Precautions include MRSA, *C. auris*, scabies, RSV, uncontained draining wounds, and other medical conditions. A patient will have a sign outside of their room to show that they are currently under Contact Precautions. Patients should be in a private room when available. If not, place patients with the same pathogen in the same room. It is important to follow your facility's specific guidelines when working with patients on Contact Precautions.

Enhanced Barrier Precautions

Like Contact Precautions, patients on Enhanced Barrier Precautions (EBP) can spread infections through touch. EBP, however, are specific to nursing home residents. When a resident is placed on EBP, everyone must continue to practice hand hygiene before entering and when leaving a resident's room. Additionally, you must wear gown and gloves for high-contact care activities. These include things like dressing, bathing, providing hygiene, assisting with toileting, device care and wound care.

Background Information for Trainers continued

Droplet Precautions

Droplet Precautions are put in place for patients who might transmit an infection via respiratory droplets. A few examples of conditions that require Droplet Precautions include whooping cough, the flu, colds, mumps, rubella, and others. Follow your facility guidelines on when to use Droplet Precautions. You will also see the Droplet Precaution sign posted outside of the patient's room.

Airborne Precautions

Airborne Precautions are put in place for infections that are transmitted by air. Common conditions that warrant airborne precautions include tuberculosis and measles. The use of a mask is vital when providing care for these patients. When a patient is on Airborne Precautions, providers must clean their hands before entering the room, wear fit-tested, NIOSH-approved N95 respirator, or higher-level, mask prior to entering the room, and keep the door closed. Before leaving the room, clean your hands again. Remove your mask after leaving the room. As with all other transmission-based precautions, a sign will be posted outside of a patient's room to make health care personnel and visitors aware of the precautions in place. Follow these precautions until the sign is removed by your facility leadership.

For more information on Transmission-Based Precautions, please visit: https://www.cdc.gov/infection-control/hcp/basics/transmission-based-precautions.html

Donning and Doffing PPE

The appropriate use of PPE requires the appropriate donning and doffing of equipment. Required PPE varies based on different precautions that are in place. While this will be a lot of information, we want to highlight these few things. To wear PPE correctly, make sure your mask is fitted over your nose and mouth, your gown is tied, and gloves are pulled up over your wrists. When removing your PPE, be careful not to contaminate yourself and dispose of your equipment inside of the room unless stated otherwise.

For more information on appropriate PPE use, please review: https://www.cdc.gov/infection-control/media/pdfs/Toolkits-PPE-Sequence-P.pdf

Facilitation: Preparation

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Follow these guidelines to successfully facilitate this training session. **Read this in its entirety before presenting to ensure adequate preparation.** Find activity instructions on page 4**.**

Preparation	Details
Slide deck	Most of this module relies on a slideshow presentation. Plan ahead if a computer or projector is not available. Link to website with slide decks: https://www.dph.ncdhhs.gov/programs/epidemiology/communicable-disease/information-health-departments-and-providers/infection-prevention-education
Welcome	Start the slideshow before participants arrive.
Pre-assessment **For a shortened version, ask participants to complete this activity as they walk in*	https://forms.office.com/g/J3zJGb6eNp If participants do not have a smartphone or computer, print out copies of this link to hand out at the end of the session. Ask participants to complete the post-assessment when they have access to the internet.
KWL Chart (Know, Want to know, Learned) **For a shortened version, skip both KWL activities*	Supplies: Flipchart, sticky notes, markers or use a virtual whiteboard Create the outline for the KWL chart before the scheduled start time of the module. See what a KWL chart should look like on slide 3. Have the sticky notes and markers already distributed to different tables in the room.
PPE Activity	Based on the number of KWL groups you anticipate for this session, come with enough supplies so that each group has a complete set. For example, if you anticipate having 12 people in attendance, you can anticipate having 3-4 groups of 3-4 people. Bring enough of the supplies listed below so that each group has one complete set. Hand sanitizer bottle, gloves, mask, gown, face shield If you do not have PPE supplies available, a video showing donning and doffing practices could be used: https://spice.unc.edu/hand-hygiene-ppe-videos/
KWL Chart	Use the same KWL chart from earlier in the module.
Post-assessment **For a shortened version, let participants scan the QR code on their way out*	https://forms.office.com/g/CkxpFithT4 If participants do not have a smartphone or computer, print out copies of this link to hand out at the end of the session. Ask participants to complete the post-assessment when they have access to the internet.

We appreciate your feedback! Send us comments, questions, pictures of your KWL chart to Infectionprevention@dhhs.nc.gov

Facilitation: Activities and Steps

Follow these guidelines to successfully facilitate this training session. **Read this in its entirety before presenting.** For questions or guidance, please reach out to infectionprevention@dhhs.nc.gov

Pre-assessment → KWL Chart → Slide deck → PPE Activity → KWL Chart → Post-assessment

Time	Activity	Details
	Slide deck	Link to website with slide decks: https://www.dph.ncdhhs.gov/programs/epidemiology/communicable-disease/information-health-departments-and-providers/infection-prevention-education
	Welcome	Welcome participants to the class.
7 min	Pre-assessment **For a shortened version, ask participants to complete this activity as they walk in*	Go to slide 2. Ask participants to use their smartphones to complete the pre-assessment via the QR code on the screen. If participants do not have a smartphone, ask them to partner with someone else. Allow 5 minutes for participants to answer the questions. Remind everyone that their responses will be kept anonymous. If they ask the purpose of this assessment, share with them that this allows the infection prevention team to monitor the impact of our education. https://forms.office.com/g/swQ9i2PAJK
10 min	KWL Chart (Know, Want to know, Learned) **For a shortened version, skip this activity*	*Supplies: Flipchart, sticky notes, markers or use Canva Whiteboard* Go to slide 3. Share with participants that before we start today's education, we will complete the first two sections of a KWL chart. A KWL chart is a Know, Want to Know, Learned chart. The Know and Want to Know sections should be completed before the education to gather a sense of where your participants knowledge-base lies. This can help inform you, the facilitator, which sections to focus on and which don't need as much time and attention. Create the outline for the KWL chart before the scheduled start time of the module. Have the sticky notes and markers already distributed to different tables in the room. Ask participants to work in groups of three to come up with what they already know about Transmission-based precautions (TBP) and Personal Protective Equipment (PPE) and what they would like to know. Give the groups 7 minutes to brainstorm ideas and write them on the sticky notes. After 7 minutes, ask groups to have one person share and then place the sticky notes on the KWL chart in the front of the room.

Facilitation: Activities and Steps

Follow these guidelines to successfully facilitate this training session. For questions or guidance, please reach out to infectionprevention@dhhs.nc.gov

Pre-assessment → KWL Chart → Slide deck → PPE Activity → KWL Chart → Post-assessment

Time	Activity	Details
15 min	Slideshow presentation	Present the slides (4-30) and use the slide notes as a script.
10 - 20 min	PPE Activity **For a shortened version, discuss the appropriate PPE and donning/doffing sequence instead of having someone put it all on*	Go to slide 31. Ask participants to get back into their KWL groups. In their groups, participants will practice donning and doffing appropriate PPE for various types of TBP. Ensure they are following the correct order in which PPE should be applied and removed. Have the groups work together to dress one person for each type of TBP.
10 min	KWL Chart **For a shortened version skip this activity*	*Supplies: Flipchart, sticky notes, markers or use Canva Whiteboard* Go to slide 36. In the same groups, ask participants to brainstorm a few new things they learned about TBP/PPE. Ask them to write this on the provided sticky notes. After 7 minutes, ask each group to have a representative share with the larger whole and put their group's sticky notes on the KWL chart. Take a picture of the KWL chart to keep for records.
7 min	Post-assessment **For a shortened version, let participants scan the QR code on their way out*	Go to slide 37. Ask participants to use their smartphones to complete the post-assessment via the QR code on the screen. If participants do not have a smartphone, ask them to partner with someone else. Allow 5 minutes for participants to answer the questions. Remind everyone that their responses will be kept anonymous. If they ask the purpose of this assessment, share with them that this allows the infection prevention team to monitor the impact of our modules. https://forms.office.com/g/CkxpFithT4
	Final Remarks/Thank you/Conclusion	Thank participants for completing today's module. Ask if there are any lingering questions at this time. If not, they can always reach out to infectionprevention@dhhs.nc.gov in the future.

We appreciate your feedback! Send us comments, questions, pictures of your KWL chart to Infectionprevention@dhhs.nc.gov

Facilitation: Standard, Enhanced Barrier and Contact Precautions

Table: Summary for Comparison of Standard, Enhanced Barrier and Contact Precautions

Precautions	Applies to	PPE used for these situations:	Required PPE	Room restriction
Standard Precautions	All residents	Any potential exposure to: • Blood • Body fluids • Mucous membranes • Non-intact skin • Potentially contaminated environmental surfaces or equipment	Depending on anticipated exposure: gloves, gown, or facemask or eye protection (Change PPE before caring for another resident)	None
Enhanced Barrier Precautions	All residents with *any of the following:* • Infection or colonization with an MDRO when Contact Precautions do not apply • Wounds and/or indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy/ventilator) regardless of MDRO colonization status	During high-contact resident care activities: • Dressing • Bathing/showering • Transferring • Providing hygiene • Changing linens • Changing briefs or assisting with toileting • Device care or use: central line, urinary catheter, feeding tube, tracheostomy/ ventilator • Wound care: any skin opening requiring a dressing	Gloves and gown prior to the high-contact care activity (Change PPE before caring for another resident) (Face protection may also be needed if performing activity with risk of splash or spray)	None
Contact Precautions	All residents infected or colonized with a MDRO in *any of the following situations*: • Presence of acute diarrhea, draining wounds or other sites of secretions or excretions that are unable to be covered or contained • For a limited time period, as determined in consultation with public health authorities, on units or in facilities during the investigation of a suspected or confirmed MDRO outbreak • When otherwise directed by public health authorities All residents who have another infection (e.g., *C. difficile*, norovirus, scabies) or condition for which Contact Precautions is recommended in Appendix A (Type and Duration of Precautions Recommended for Selected Infections and Conditions) of the CDC Guideline for Isolation Precautions	Any room entry	Gloves and gown (Don before room entry, doff before room exit; change before caring for another resident) (Face protection may also be needed if performing activity with risk of splash or spray)	Yes, except for medically necessary care

Source: https://www.cdc.gov/long-term-care-facilities/hcp/prevent-mdro/PPE.html