HealthStream Regulatory Script

Transmission-Based Precautions: Contact and Droplet

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Lesson 1: Introduction
Lesson 2: Contact Precautions
Lesson 3: Droplet Precautions
Welcome to the introductory lesson on Contact and Droplet Precautions. This lesson gives the course rationale, goals, and outline.

As your partner, HealthStream strives to provide its customers with excellence in regulatory learning solutions. As new guidelines are continually issued by regulatory agencies, we work to update courses, as needed, in a timely manner. Since responsibility for complying with new guidelines remains with your organization, HealthStream encourages you to routinely check all relevant regulatory agencies directly for the latest updates for clinical/organizational guidelines.

If you have concerns about any aspect of the safety or quality of patient care in your organization, be aware that you may report these concerns directly to The Joint Commission.
Healthcare settings are the most common source of transmission for certain infections.

Disease-causing microorganisms can be transmitted by:
- Contact
- Droplet
- Airborne
- Common vehicle
- Vectors

This course will teach you how to prevent the spread of contact and droplet pathogens in the healthcare setting.

You will learn about:
- Contact Precautions
- Droplet Precautions

### Healthcare-Associated Infection (HAI): Facts and Figures

<table>
<thead>
<tr>
<th>Incidence</th>
<th>Each year in the United States, two million hospital patients develop HAIs.</th>
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<tbody>
<tr>
<td>Mortality</td>
<td>HAIs cause an estimated 90,000 deaths per year.</td>
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<tr>
<td>Cost</td>
<td>The economic cost of treating HAI is an estimated $4.5 to $5.7 billion annually.</td>
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<tr>
<td>Spread of Resistance</td>
<td>The healthcare setting is the single most important source of transmission for certain infections and drug-resistant organisms.</td>
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### Course Goals

After completing this course, you should be able to:

- Recognize how contact pathogens are spread
- Identify Contact Precautions
- Recognize how droplet pathogens are spread
- Identify Droplet Precautions
Lesson 1 provided the course rationale and goals.

Lesson 2 will describe Contact Precautions. This includes a brief summary of common conditions that call for Contact Precautions.

Finally, lesson 3 will describe Droplet Precautions. This includes a brief summary of common conditions that call for Droplet Precautions.
Welcome to the lesson on Contact Precautions.

This lesson will describe Contact Precautions. This includes a brief summary of common conditions that call for Contact Precautions.
## Contact Transmission

Within the healthcare setting, most infections are spread by contact.

Contact transmission may be:
- **Direct**
- **Indirect**

Click on each bulleted item for a more detailed description of the two forms of contact transmission.

### Direct contact transmission

This form of transmission occurs when:
1. An infected or colonized person (the source) makes direct contact with a [susceptible host](glossary).
2. Pathogens are transferred from the source to the susceptible host.

### Indirect contact transmission

This form of transmission occurs when:
1. An infected or colonized person (the source) contaminates an object (bedding, instrument, needle, dressing).
2. A susceptible host touches the contaminated object.
3. Pathogens are transferred from the object to the susceptible host.
Precautions for Contact Infections

All patients with diagnosed contact infections should be isolated.

Patients who appear to have contact infections also should be isolated, until a diagnosis can be made.

Isolation should use:
- Contact Precautions
- Standard Precautions

**Remember:** Standard Precautions are used in the care of all patients, regardless of presumed infection status. For more information on Standard Precautions, see the course Standard Precautions: Bloodborne Pathogens and Other Potentially Infectious Materials.
Contact Precautions apply to:

- Patient placement
- Gloves and handwashing
- Gown use
- Patient transport
- Patient-care equipment

Let’s take a closer look at each.
Patients on Contact Precautions should be placed in private rooms.

If there are no private rooms, patients should be cohorted.

A cohort is a group of patients who have:
- The same active infection
- No other infections

Sometimes:
- There are no private rooms.
- Cohorting is not possible.

In this case, an infection control expert at your facility decides where to place the patient. Their decision is usually based upon:
- The pathogen
- Your facility’s patient population
For Contact Precautions, don gloves when you enter the patient’s room.

In addition:

- Wear clean gloves each time you enter the patient’s room.
- Change gloves after touching material that may be highly contaminated. Examples include fecal material or wound drainage.
- Before leaving the room, remove gloves and immediately disinfect hands. Wash with antimicrobial soap (if hands are soiled) or use an alcohol-based hand rub.
- After glove removal and handwashing, do not touch anything in the patient’s room that might be contaminated.
For patients on Contact Precautions, don a gown when entering the patient’s room.

This is necessary because you cannot predict the nature of your interaction with the patient.

Wearing a gown protects your clothing from contact with:
- The patient
- Surfaces in the patient's room
- Items in the patient’s room

Remove your gown before leaving the patient’s room.

After removing your gown, do not let your clothing touch anything in the patient’s room that might be contaminated.
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Patient Transport

Patients on Contact Precautions should be transported only when absolutely necessary.

During necessary transport, guard against:
- Spread of the pathogen to other patients
- Contamination of surfaces or equipment
If possible, each patient (or cohort of patients) on Contact Precautions should have his or her own supply of non-critical equipment. This prevents cross-contamination between infected and uninfected patients.

If equipment must be shared, clean and disinfect equipment between patients.
## Patient Conditions Requiring Contact Precautions

Examples of conditions that call for Contact Precautions include:

- **Drug-resistant infections**
- **Certain intestinal infections**
- **Certain infections in infants and young children**

Click on each condition to learn more.

### CLICK TO REVEAL

#### Drug-resistant infections

Patients should be placed on Contact Precautions if they have clinically important drug-resistant infections. For example, patients with vancomycin-resistant infections should be placed on Contact Precautions.

#### Certain intestinal infections

Patients should be placed on Contact Precautions if they have intestinal infections with two key features. First, the infection must be able to be spread by a small number of organisms. Second, the organism must be able to survive in the open environment. For example, patients should be placed on Contact Precautions if they have *Clostridium difficile* infection. Diapered or incontinent patients should be placed on Contact Precautions if they have any of the following intestinal infections:

- *E. coli* O157: H7
- *Shigella*
- Hepatitis A
- Rotavirus

#### Certain infections in infants and young children

Infants and young children should be placed on Contact Precautions if they have:

- Respiratory syncytial virus (RSV)
- Parainfluenza virus
- Enteroviral infections
## Patient Conditions Requiring Contact Precautions

**The following conditions also call for Contact Precautions:**

- **Certain skin infections**
- **Certain types of conjunctivitis**
- **Viral hemorrhagic infections**

Click on each condition to learn more.

<table>
<thead>
<tr>
<th>CLICK TO REVEAL</th>
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</table>

### Certain skin infections
Patients should be placed on Contact Precautions if they have highly contagious skin infections. Contact Precautions also should be used for infections that can occur on dry skin. Examples of skin infections that call for Contact Precautions include:

- Diphtheria infection of the skin
- Certain herpes simplex virus infections
- Impetigo
- Major non-contained lesions or abscesses of the skin or underlying tissue
- Lice
- Scabies
- Staphylococcal skin abscesses in infants and young children
- Disseminated shingles
- Localized shingles in a patient with a weakened immune system

### Certain types of conjunctivitis
Patients with viral or hemorrhagic conjunctivitis should be placed on Contact Precautions.

### Viral hemorrhagic infections
Patients should be placed on Contact Precautions if they have:

- Ebola
- Lassa
- Marburg
### Review

**Select the answer that best fits the question.**

You are caring for a patient on Contact Precautions. You should put on clean gloves:

- a. Before entering the patient’s room
- b. Before contact with the patient’s nasal mucosa
- c. After contact with wound drainage
- d. A, B, and C
- e. None of the above

#### MULTIPLE CHOICE INTERACTION

Correct answer: D

Feedback for A: Not quite. The correct answer is D. When caring for a patient on Contact Precautions, put on clean gloves before entering the patient’s room. Put on clean gloves before touching non-intact skin or mucous membranes (this is part of Standard Precautions). Put on clean gloves after touching highly contaminated materials, such as feces or wound drainage.

Feedback for B: Not quite. The correct answer is D. When caring for a patient on Contact Precautions, put on clean gloves before entering the patient’s room. Put on clean gloves before touching non-intact skin or mucous membranes (this is part of Standard Precautions). Put on clean gloves after touching highly contaminated materials, such as feces or wound drainage.

Feedback for C: Not quite. The correct answer is D. When caring for a patient on Contact Precautions, put on clean gloves before entering the patient’s room. Put on clean gloves before touching non-intact skin or mucous membranes (this is part of Standard Precautions). Put on clean gloves after touching highly contaminated materials, such as feces or wound drainage.

Feedback for D: Correct. When caring for a patient on Contact Precautions, put on clean gloves before entering the patient’s room. Put on clean gloves before touching non-intact skin or mucous membranes (this is part of Standard Precautions). Put on clean gloves after touching highly contaminated materials, such as feces or wound drainage.

Feedback for E: Incorrect. The correct answer is D. When caring for a patient on Contact Precautions, put on clean gloves before entering the patient’s room. Put on clean gloves before touching non-intact skin or mucous membranes (this is part of Standard Precautions). Put on clean gloves after touching highly contaminated materials, such as feces or wound drainage.
You have completed the lesson on Contact Precautions.

Remember:
- Within the healthcare setting, the spread of infection is mostly by contact.
- Contact transmission may be direct or indirect.
- All patients with known or suspected contact infections should be placed on Standard and Contact Precautions.
- Patients on Contact Precautions should be placed in private rooms or cohorted.
- Use gloves, a gown, and hand hygiene to prevent the spread of contact infection.
- Patients on Contact Precautions should be transported only when absolutely necessary. During necessary transport, guard against spreading the pathogen.
- Avoid sharing equipment between infected and uninfected patients. If equipment must be shared, clean and disinfect equipment between patients.
- Many pathogens are spread by contact. Familiarize yourself with common conditions that call for Contact Precautions.
Welcome to the lesson on Droplet Precautions.

This lesson will describe Droplet Precautions. This includes a brief summary of common conditions that call for Droplet Precautions.
### Droplet Transmission

Respiratory droplets are released into the air during:
- Coughing
- Sneezing
- Talking
- Suctioning
- Bronchoscopy
- Other clinical procedures that involve the mouth and throat

These droplets travel up to three feet before landing.
When a patient has certain infections, his or her respiratory droplets contain pathogens.

Droplet transmission can occur when these infectious respiratory droplets land on a susceptible host. For the spread of infection, droplets must land on the mucous membranes of the:

- Eyes
- Nose
- Mouth

Note: Droplets also can settle on surfaces. The pathogens can then be spread by the contact route.
Droplet Transmission vs. Airborne Transmission

Droplet transmission is not the same as airborne transmission:
- Droplet nuclei are evaporated droplets. These tiny particles can stay airborne for long periods of time. Transmission happens when a susceptible host inhales an infectious particle.
- Droplets are larger. They travel up to three feet before landing. For the spread of infection, droplets must land on the mucous membranes.

Therefore, *Droplet and Airborne Precautions are different.*

For more information on Airborne Precautions, see the course *Transmission-Based Precautions: Airborne.*
Precautions for Droplet-Transmitted Disease

All patients with diagnosed droplet infections should be isolated.

Patients who appear to have droplet infections also should be isolated, until a diagnosis can be made.

Isolation should use:
- Droplet Precautions
- Standard Precautions

Note: Standard Precautions are used in the care of all patients, regardless of presumed infection status. For more information on Standard Precautions, see the course Standard Precautions: Bloodborne Pathogens and Other Potentially Infectious Materials.
Droplet Precautions

Droplet Precautions apply to:
- Patient placement
- PPE use
- Patient transport

Let’s take a closer look at each.
Patients on Droplet Precautions should be placed in private rooms.

If there are no private rooms, patients should be cohorted.

Sometimes:
- There are no private rooms.
- Cohorting is not possible.

In this case, the patient should be placed at least three feet away from any other patient.

**Note:**
Unlike Airborne Precautions:
- Special air and ventilation systems are **not** required in a droplet isolation room.
- The room door may stay **open**.
For Droplet Precautions don gloves and a mask when entering the patient’s room.

Wear a gown if you anticipate contact with:
- Uncontained secretions or excretions
- Blood or body fluids

Wear eye protection if you anticipate exposure to splashes or sprays of blood, body fluids, secretions, or excretions.

**Note:**
Unlike Airborne Precautions:
- Droplet Precautions do **not** require certified respiratory protection.
- A **surgical mask** is acceptable.
Patients on Droplet Precautions should be moved only when absolutely necessary.

During necessary transport, the patient should wear a surgical mask, if possible.
Patient Conditions Requiring Droplet Precautions

<table>
<thead>
<tr>
<th>Examples of conditions that call for Droplet Precautions include:</th>
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<tbody>
<tr>
<td>• <strong>Certain invasive diseases</strong></td>
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<tr>
<td>• <strong>Certain serious bacterial respiratory infections</strong></td>
</tr>
<tr>
<td>• <strong>Certain serious bacterial respiratory infections in infants and young children</strong></td>
</tr>
<tr>
<td>• <strong>Serious viral infections spread by droplet</strong></td>
</tr>
</tbody>
</table>

Click on each condition to learn more.

**CLICK TO REVEAL**

**Invasive diseases**
Patients should be placed on Droplet Precautions if they have invasive diseases caused by the bacteria *H. influenzae* or *N. meningitides*. Examples of these diseases are:
- Meningitis
- Pneumonia
- Bloodstream infection

**Serious bacterial respiratory infections**
Bacterial respiratory infections requiring Droplet Precautions include:
- Diphtheria infection of the throat
- Mycoplasmal pneumonia
- Whooping cough
- Plague in the lungs

**Serious bacterial respiratory infections in infants and young children**
Droplet Precautions should be used for infants and young children with group A streptococcal:
- Throat infection
- Pneumonia
- Scarlet fever

**Serious viral infections spread by droplet**
Droplet Precautions should be used for:
- Adenovirus
- Influenza
- Mumps
- Parvovirus B19
- Rubella
Select the answer that best fits the question.

Respiratory droplets can travel a maximum of three feet.

- a. True
- b. False

**TRUE / FALSE INTERACTION**

Correct answer: A

Feedback for A: Correct. This statement is true.

Feedback for B: Incorrect. This statement is true.
You have completed the lesson on Droplet Precautions.

Remember:
- Droplet transmission occurs when infectious respiratory droplets land on mucous membranes.
- Droplet transmission is not the same as airborne transmission. Droplet Precautions are not the same as Airborne Precautions.
- All patients with known or suspected droplet infections should be placed on Standard and Droplet Precautions.
- Patients on Droplet Precautions should be placed in private rooms or cohorted.
- If there are no private rooms and cohorting is not possible, place patients on Droplet Precautions at least three feet away from any other patient.
- Don a mask, gloves, and gown before entering the room of a patient on Droplet Precautions.
- Patients on Droplet Precautions should be transported only when absolutely necessary. During necessary transport, the patient should wear a surgical mask, if possible.
- Many pathogens are transmitted by the droplet route. Familiarize yourself with common conditions that call for Droplet Precautions.
## Course Glossary

<table>
<thead>
<tr>
<th>#</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Healthcare-associated disease</td>
<td>Illness or infection acquired in the healthcare setting</td>
</tr>
<tr>
<td>2</td>
<td>Healthcare-associated transmission</td>
<td>Spread of pathogens in the healthcare setting</td>
</tr>
<tr>
<td>3</td>
<td>Susceptible host</td>
<td>Person (or other organism) able to be colonized or infected by a particular microorganism</td>
</tr>
</tbody>
</table>
Pre-Assessment Questions:

1. Within the healthcare setting, most infections are spread by contact that is either direct or indirect. All of the following are examples of direct contact EXCEPT:
   a. An infected person touches a healthcare worker.
   b. An infected person coughs or sneezes near a healthcare worker.
   c. Two drug addicts share the same needle.
   d. A person enters a room occupied by a patient with a disease known to spread by airborne pathogens.
   e. There are no exceptions; all of the items are examples of direct contact.

Correct answer: C
Rationale: All of the items are examples of direct contact except two drug addicts sharing the same needle. In this case, the infection is not transferred directly from one person to the other but is rather first transferred to the needle, and then to the other person. This is an example of indirect contact.

2. A patient sheds bacteria from his skin onto his sheets. Later, you touch the patient’s sheets without gloves. You end up with the bacteria on your hands. This is an example of:
   a. Direct transmission
   b. Airborne transmission
   c. Droplet transmission
   d. Respiratory invasion
   e. None of the above

Correct answer: E
Rationale: Touching the patient’s sheets without gloves is an example of indirect transmission. None of the items listed are correct.

3. Patient placement, gloves and hand washing, gown use, patient transport, and patient equipment are all subject to:
   a. Contact precautions
   b. Droplet precautions
   c. Airborne precautions
   d. Two-identity precautions
   e. All of the above
f. None of the above

Correct answer: A
Rationale: Patient placement, gloves and hand washing, gown use, patient transport, and patient equipment are all subject to contact precautions.

4. A cohort is a group of patients who all have:
   a. Similar types of infections (e.g., pulmonary infections)
   b. The same active infection, with no other infections present
   c. The same active infection, although other infections may be present
   d. Psychological and/or behavioral disorders
   e. None of the above

Correct answer: B
Rationale: A cohort is a group of patients who all have the same active infection, with no other infections present.

5. You are ready to leave a contact isolation room. You should perform certain actions in the following order:
   a. First leave room, then remove gloves, then disinfect hands.
   b. First remove gloves, then disinfect hands, then leave room.
   c. First remove gloves, then leave room, then disinfect hands.
   d. First disinfect gloved hands, then leave room, then remove gloves.

Correct answer: B
Rationale: Before leaving a contact isolation room, remove gloves and immediately disinfect hands. Wash with antimicrobial soap or use an alcohol-based rub.

6. To protect yourself when treating patients on contact precautions, you should always:
   a. Wear a respirator when approaching the patient.
   b. Clean all surfaces with an antimicrobial agent.
   c. Avoid all physical contact with the patient.
   d. Put on a gown before entering the patient’s room.
   e. All of the above
   f. None of the above

Correct answer: D
Rationale: To protect yourself when treating patients on contact precautions, you should put on a gown before entering the patient’s room.
7. If possible, each patient (or cohort of patients) on Contact Precautions should have his or her own supply of ______ that is not to be shared with other patients:
   a. Non-critical equipment
   b. Towels and bedding
   c. Food and drink
   d. Hospital gowns
   e. All of the above
   f. None of the above

Correct answer: A
Rationale: If possible, each patient (or cohort of patients) on Contact Precautions should have his or her own supply of non-critical equipment. This prevents cross-contamination between infected and uninfected patients.

8. Droplet precautions when entering a room with an infected patient should include all of the following EXCEPT:
   a. Respiratory protection
   b. Eye protection
   c. Surgical gloves
   d. A surgical gown
   e. There are no exceptions; all of the items are included in droplet precautions.

Correct answer: A
Rationale: Droplet precautions when entering a room with an infected patient do not require respiratory protection. A surgical mask is sufficient protection against droplet infection.

9. Serious viral infections spread by droplet include:
   a. Psoriasis
   b. Mumps
   c. Herpes
   d. Tuberculosis
   e. All of the above
   f. None of the above

Correct answer: B
Rationale: Mumps is a serious viral infection spread by droplet. None of the other diseases fit this description.

10. You are assisting with a procedure that could cause splashes of blood. You should wear a mask if the patient is on:
    a. Contact precautions
b. Droplet precautions

c. Standard precautions

d. All of the above

e. None of the above

Correct answer: D

Rationale: Wearing a mask if blood splashes are likely is a part of Standard Precautions and should be used for all patients, including patients on Contact or Droplet Precautions.
**Final Exam Questions:**

1. All hospitalized patients should be placed on:
   a. Contact Precautions
   b. Droplet Precautions
   c. Standard Precautions
   d. Airborne Precautions
   e. All of the above
   f. None of the above

Correct answer: **C**
Rationale: Standard Precautions are used for all hospitalized patients.

2. You are caring for several different patients on Contact Precautions. Patient A has diarrhea. Patient B has an ileostomy. Patient C has a colostomy. You should wear a gown when you enter:
   a. Patient A’s room
   b. Patient B’s room
   c. Patient C’s room
   d. All of the above
   e. None of the above

Correct answer: **D**
Rationale: All three of these conditions call for the use of a gown each time you enter the patient’s room.

3. Patients should be placed on contact precautions if they have any of the following conditions EXCEPT:
   a. Have clinically important drug-resistant infections
   b. Are incontinent and infected with *E. coli*
   c. Are infants and infected with RSV, parainfluenza virus, or enteroviral infections
   d. Impetigo
   e. There are no exceptions; all of the patients listed should be placed on contact precautions.

Correct answer: **E**
Rationale: All of the patients listed should be placed on contact precautions. There are no exceptions.
4. Which of the following calls for Contact Precautions?
   a. *H. influenzae* meningitis
   b. Rotavirus in an infant
   c. Active TB in an HIV-positive patient
   d. Group A streptococcal scarlet fever in an infant
   e. All of the above
   f. None of the above

Correct Answer: **B**
Rationale: Rotavirus infection in a diapered or incontinent patient calls for Contact Precautions. Active TB calls for Airborne Precautions. The other two conditions listed call for Droplet Precautions.

5. All of the following statements about respiratory droplets are true EXCEPT:
   a. Respiratory droplets can easily travel farther than three feet.
   b. Respiratory droplets are released into the air during coughing and sneezing.
   c. Droplet transmission can occur if a respiratory droplet lands on susceptible mucous membranes.
   d. Respiratory droplets cannot remain suspended in the air for long periods of time.
   e. There are no exceptions; all of the statements are true.

Correct Answer: **A**
Rationale: Respiratory droplets cannot travel farther than three feet. The other statements are true.

6. Fill in the blank in the following sentence: “For the spread of infection, droplets must land on the _______ of a susceptible host.”
   a. Skin
   b. Eyes
   c. Nose
   d. Mouth
   e. Mucous membranes

Correct answer: **E**
Rationale: For the spread of infection, droplets must land on the mucous membrane of a susceptible host, typically that of the eyes, nose, or mouth.

7. A patient on droplet protection should always be placed in any of the following situations EXCEPT:
   a. In a cohort
   b. In a room with a door that can be kept closed
   c. In a private room
d. At least 3 feet away from other patients
e. There are no exceptions; all of the statements are true.

Correct answer: B
Rationale: A patient on droplet protection does not need to be placed in a room with a door that can be kept closed, since droplets do not travel farther than 3 feet.

8. Bacterial respiratory infections requiring Droplet Precautions include:
   a. Diphtheria infection of the throat
   b. Mycoplasmal pneumonia
   c. Whooping cough
   d. All of the above
   e. None of the above

Correct answer: D
Rationale: Bacterial respiratory infections requiring Droplet Precautions include all of the disorders listed.

9. Patients should be placed on Droplet Precautions if they have invasive diseases caused by the bacteria *H. influenzae* or *N. meningitides*. Examples of these diseases are:
   a. Meningitis and rubella
   b. Whooping cough and pneumonia
   c. Whooping cough and parvovirus
   d. Meningitis and pneumonia
   e. Adenovirus and mumps
   f. Mumps and rubella
   g. None of the above

Correct answer: D
Rationale: Meningitis and pneumonia are examples of invasive diseases caused by the bacteria *H. influenzae* or *N. meningitides*.

10. Patients with ____ should be placed on Droplet Precautions.
    a. Shigella
    b. RSV
    c. Lice
    d. None of the above

Correct Answer: D
Rationale: Shigella, RSV, and Lice require Contact Precautions, not Droplet Precautions.