HealthStream Regulatory Script

Transmission-Based Precautions: Contact and Droplet

Version: May 2007

Lesson 1: Introduction
Lesson 2: Contact Precautions
Lesson 3: Droplet Precautions
Lesson 1: Introduction

Welcome to the introductory lesson on Contact and Droplet Precautions. This lesson gives the course rationale, goals, and outline.

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Course Rationale

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 HAI.</th>
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<tbody>
<tr>
<td>Mortality</td>
<td>HAI causes an estimated 90,000 deaths per year.</td>
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<td>Cost</td>
<td>The economic cost of treating HAI is estimated $4.5 to $6.7 billion annually.</td>
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<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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<td>Course Goals</td>
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<tr>
<td>After completing this course, you should be able to:</td>
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<tr>
<td>- Recognize how contact pathogens are spread</td>
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<tr>
<td>- Identify Contact Precautions</td>
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<td>- Recognize how droplet pathogens are spread</td>
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<tr>
<td>- Identify Droplet Precautions</td>
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</table>
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.

After completing this lesson, you should be able to:
- Define direct and indirect Contact Transmission.
- List the key elements of Contact Precautions.
- Recognize diseases that call for Contact Precautions.
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

Note: Standard Precautions are used in the care of all patients. For more information on Standard Precautions, see the course *Standard Precautions: Bloodborne Pathogens and Other Potentially Infectious Materials.*
## Contact Precautions

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, use gloves as you would for Standard Precautions.

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 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.
2007

Gown Use

For Contact Precautions, use a gown as you would for Standard Precautions.

In addition, wear a gown each time you enter the patient’s room, if you think your clothing may come in contact with:

- The patient
- Surfaces in the patient’s room
- Items in the patient’s room

Also wear a gown each time you enter the patient’s room if the patient has:

- Incontinence
- Diarrhea
- Ileostomy
- Colostomy
- Wound drainage without a dressing

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.
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
<table>
<thead>
<tr>
<th>Patient-Care Equipment</th>
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<tr>
<td>If possible, each patient (or cohort of patients) on Contact Precautions should have his or her own supply of non-critical equipment.</td>
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<tr>
<td>This prevents cross-contamination between infected and uninfected patients.</td>
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<tr>
<td>If equipment must be shared, clean and disinfect equipment between patients.</td>
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</table>

FLASH ANIMATION: 2009.SWF/FLA
### 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.

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<th>CLICK TO REVEAL</th>
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**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
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.
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.
Summary

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 and hand hygiene to prevent the spread of contact infection.
- Use a gown as necessary 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.

After completing this lesson, you should be able to:
- Define droplet transmission
- List Droplet Precautions
- Recognize conditions that call for Droplet Precautions

### Lesson Map

- Droplet transmission
- Elements of droplet precautions
- Conditions that require droplet precautions

FLASH ANIMATION: 3001.SWF/FLA
### 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 patients have certain infections, 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
**Droplet Transmission vs. Airborne Transmission**

Droplet transmission is not the same as airborne transmission. Therefore, Droplet and Airborne Precautions are different. These differences will be noted throughout the lesson.

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

**Droplet Size** | **Distance Traveled** | **Transmission**
--- | --- | ---
Droplet Nuclei | | Mucus Membranes
Droplet | | Inhaled
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

**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.
Droplet Precautions apply to:
- Patient placement
- Mask use
- Patient transport

Let's take a closer look at each.

FLASH ANIMATION: 3005.SWF/FLA
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.
Mask Use

For Droplet Precautions, use a mask as for Standard Precautions

In addition, use a mask whenever you are working within three feet of the patient.

**Note:**
Unlike Airborne Precautions:
- Droplet Precautions do **not** require certified respiratory protection.
- A *surgical mask* is acceptable.
**Patient Transport**

Patients on Droplet Precautions should be moved only when absolutely necessary.

During necessary transport, the patient should wear a surgical mask, if possible.

**FLASH ANIMATION: 3008.SWF/FLA**

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**Droplet Precautions:**
- Patient placement
- Mask use
- Patient transport
## Patient Conditions Requiring Droplet Precautions

Examples of conditions that call for Droplet Precautions include:

- **Certain invasive diseases**
- **Certain serious bacterial respiratory infections**
- **Certain serious bacterial respiratory infections in infants and young children**
- **Serious viral infections spread by droplet**

Click on each condition to learn more.

### 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
Respiratory droplets can travel a maximum of three feet.

<table>
<thead>
<tr>
<th>a. True</th>
<th>TRUE / FALSE INTERACTION</th>
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</thead>
<tbody>
<tr>
<td>Correct answer: A</td>
<td></td>
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<tr>
<td>Feedback for A: Correct. This statement is true.</td>
<td></td>
</tr>
<tr>
<td>Feedback for B: Incorrect. This statement is true.</td>
<td></td>
</tr>
</tbody>
</table>
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.
- Use a mask whenever you are working within three feet 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>
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<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>
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</tbody>
</table>
[Transmission-Based Precautions: Contact and Droplet]

Pre-Assessment

1. All hospitalized patients should be placed on ____________.
   a. Contact Precautions
   b. Droplet Precautions
   c. Standard Precautions
   d. Airborne Precautions

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

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 direct contact transmission.
   a. True
   b. False

Correct answer: B
Rationale: This is an example of indirect contact transmission. The pathogen was spread from source to object to susceptible host.

3. All known pathogens can be spread by direct contact.
   a. True
   b. False

Correct answer: B
Rationale: Not all pathogens are spread by contact.

4. You are ready to leave a contact isolation room. You should:
   b. Leave room. Remove gloves. Disinfect hands.
   c. Remove gloves. Leave room. Disinfect hands.
   d. Disinfect gloved hands. Leave room. Remove gloves.

Correct answer: A
Rationale: Before leaving a contact isolation room, remove gloves and immediately disinfect hands. Wash with antimicrobial soap or use an alcohol-based rub.
5. 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 these answers
   e. None of these answers

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

6. An infant is in the hospital with respiratory syncytial virus (RSV) infection. This patient should be placed on:
   a. Contact Precautions
   b. Droplet Precautions
   c. Both of these answers
   d. Neither of these answers

Correct answer: A
Rationale: Infants and young children with RSV infection should be placed on Contact Precautions.

7. Respiratory droplets:
   a. Can be released into the air during coughing, sneezing, or talking
   b. Cannot remain suspended in the air for long periods of time
   c. Can spread disease without forming droplet nuclei
   d. All of these answers
   e. None of these answers

Correct answer: D
Rationale: Respiratory droplets cannot remain suspended in the air for long periods of time. They can spread disease without forming droplet nuclei. Droplets are released into the air during coughing, sneezing, and talking. Procedures such as suctioning and bronchoscopy also produce respiratory droplets.

8. You should wear a mask if you are working within three feet of a patient with:
   a. Mumps
   b. Influenza
   c. H. influenzae meningitis
   d. All of these answers
   e. None of these answers

   Correct answer: D
   Rationale: All of these conditions require the use of a mask when working within three feet of a patient.
Correct answer: D
Rationale: All three of these diseases are spread by droplet. This means that all three patients should be on Droplet Precautions. You should wear a mask when working within three feet of any of these patients.

9. Wear gloves whenever you enter the room of:
   a. A patient with impetigo
   b. A patient with whooping cough
   c. An infant with group A streptococcal scarlet fever
   d. All of these answers
   e. None of these answers

Correct answer: A
Rationale: Impetigo calls for Contact Precautions. This includes wearing gloves whenever you enter the patient’s room. The other two diseases call for Droplet Precautions. It is not necessary to wear gloves each time you enter the room.

10. Your facility has just admitted an infectious patient. There are no private rooms. Cohorting is not possible. You place the patient in an open area, at least three feet away from any other patient. This would not be okay if the patient had:
   a. Measles
   b. Mumps
   c. Rubella
   d. Any of these answers
   e. None of these answers

Correct answer: A
Rationale: Placement at least three feet away from any other patient is okay for patients on Droplet Precautions. This includes patients with mumps or rubella. Measles, however, calls for Airborne Precautions. This patient must be isolated in a room with special air and ventilation systems.
Final Exam

1. A patient with a droplet infection should be placed on Droplet Precautions instead of Standard Precautions.
   a. True
   b. False
   Correct Answer: False
   Answer Rationale: Standard Precautions are for all patients. When needed, Droplet Precautions are always in addition to Standard Precautions.

2. Contact transmission always involves direct contact between body surfaces.
   a. True
   b. False
   Correct Answer: False
   Answer Rationale: Contact transmission may be direct or indirect.

3. You must wear gloves each time you enter a patient’s room. This patient is on:
   a. Contact Precautions
   b. Droplet Precautions
   c. Both of these answers
   d. Neither of these answers
   Correct Answer: Contact Precautions
   Answer Rationale: For Contact Precautions, wear gloves to enter the patient’s room.

4. A patient on Contact Precautions is incontinent. True or False: You should wear a gown each time you enter the patient’s room.
   a. True
   b. False
   Correct Answer: True
   Answer Rationale: For Contact Precautions, wear a gown each time you enter the patient’s room, if the patient is incontinent, or has diarrhea, an ileostomy, a colostomy, or wound drainage without a dressing.
5. Which of the following calls for Contact Precautions?
   a. Rotavirus in an infant
   b. *H. influenzae* meningitis
   c. Active TB in an HIV-positive patient
   d. Group A streptococcal scarlet fever in an infant

Correct Answer: Rotavirus in an infant
Answer 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.

6. Which of the following statements is NOT true?
   a. Respiratory droplets can travel farther than three feet.
   b. Respiratory droplets are released into the air during coughing and sneezing.
   c. Respiratory droplets cannot remain suspended in the air for long periods of time.
   d. Droplet transmission can occur if a respiratory droplet lands on susceptible mucous membranes.

Correct Answer: Respiratory droplets can travel farther than three feet.
Answer Rationale: Respiratory droplets cannot travel farther than three feet.

7. Special air and ventilation systems are used when a patient is on:
   a. Contact Precautions
   b. Droplet Precautions
   c. Airborne Precautions
   d. All of these answers

Correct Answer: Airborne Precautions
Answer Rationale: Special air and ventilation systems are part of Airborne Precautions only.

8. A patient on Droplet Precautions may be placed:
   a. In a private room
   b. In a cohort
   c. At least three feet away from any other patient
   d. All of these answers
   e. None of these answers
Correct Answer: All of these answers
Answer Rationale: All of these are acceptable placement options for a patient on Droplet Precautions.

9. 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. Both of these answers
   d. Neither of these answers

Correct Answer: Both of these answers
Answer Rationale: Wearing a mask if blood splashes are likely is part of Standard Precautions. Standard Precautions should be used for all patients. This includes patients on Contact or Droplet Precautions.

10. Droplet Precautions should be used for:
   a. Ebola virus
   b. Influenza virus
   c. Parainfluenza virus
   d. Vancomycin-resistant enterococci

Correct Answer: Influenza
Answer Rationale: Of the pathogens listed, only influenza is spread by droplet.

11. The healthcare setting is the single most important source of transmission of drug-resistant organisms.
   a. True
   b. False

Correct Answer: True
Answer Rationale: Transmission precautions are needed because drug-resistant organisms are transmitted primarily in the healthcare setting.

12. Patients on Contact Precautions should have their own supply of non-critical equipment.
   a. True
   b. False

Correct Answer: True
Answer Rationale: Having non-critical equipment dedicated to a patient or cohort of patients on Contact Precautions will reduce the possibility of transmission.
13. Droplet transmission is the same as airborne transmission.
   a. True
   b. False

Correct Answer: False
Answer Rationale: Airborne and droplet transmission are not the same. For example, Airborne transmission is over long distances while droplet transmission occurs within three feet.

14. A mask is necessary whenever you are working in or near the room of a patient on Droplet Precautions.
   a. True
   b. False

Correct Answer: False
Answer Rationale: Droplet transmission occurs within three feet. A mask only needs to be worn if you will be working within three feet of the patient on Droplet Precautions.

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

Correct Answer: None of the above
Answer Rationale: Shigella, RSV, and Lice call for Contact Precautions.