

Sterile Techniques Curriculum



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1073087-01

Table of Contents

Table of Contents	3
Author	4
Curriculum Structure	4
Lesson Structure	5
Lesson One – Sterile Technique Basics	6
FOCUS: Paper Activity	7
LEARN: Sterile Technique Basics Slide Presentation	8
REVIEW: Sterile Technique Basics Practice	11
Lesson Two – Central Line Dressing Change	14
FOCUS: Straw Activity	15
LEARN: Central Line Dressing Change Slide Presentation	16
REVIEW: Central Line Dressing Change Practice	19
Student check-off	20
Lesson Three – Tracheostomy Suctioning	21
FOCUS: Breath Holding Activity	22
LEARN: Tracheostomy Suctioning Slide Presentation	23
REVIEW: Tracheostomy Suctioning Practice	26
Lesson Four – Urinary Catheterization Overview	29
FOCUS: Urinary Catheterization	30
LEARN: Urinary Catheterization Slide Presentation	31
REVIEW: Urinary Catheterization practice	34
Sources	36

Sterile Techniques Curriculum

The purpose of the *Sterile Techniques Curriculum* and simulator are to prepare students to perform central line dressing changes, tracheostomy suctioning, and urinary catheterization while maintaining asepsis techniques.

Author



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Curriculum Structure

The *Sterile Techniques Curriculum* is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Sterile Technique Basics	60 minutes
Two	Central Line Dressing Changes	60 minutes
Three	Tracheostomy Suctioning	60 minutes
Four	Urinary Catheterization	60 minutes
	Total	4 hours

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table, which lists lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which contains the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, game, demonstration, or review of previous lesson information. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

Lesson One – Sterile Technique Basics

Lesson Overview

In this lesson, the learner will review the basics of sterile technique.

Lesson Objectives

After completing this lesson, participants will be able to:

- Define sterile technique
- Determine how to maintain sterile technique
- Discuss what actions to take when sterile technique is broken

Lesson at a Glance

Activity	Materials	Preparation	Approximate Class Time
FOCUS	• Paper for each student	1. Give each student a piece of paper.	5 minutes
LEARN	• <i>Sterile Technique Basics</i> worksheet • <i>Sterile Technique Basics</i> – Answer Key • <i>Sterile Technique Basics</i> slide presentation	1. Print/photocopy the <i>Sterile Technique Basics</i> worksheet for each participant 2. Prepare the <i>Sterile Technique Basics</i> slide presentation for viewing	15 minutes
REVIEW	• <i>Sterile Technique Basics Review Questions</i> • Sterile fields • Packages of sterile gauze	1. Print/photocopy <i>Sterile Technique Basics Review Questions</i> (one per participant)/ 2. Review the <i>Basics of Sterile Technique</i> instructor demonstration. 3. Gather supplies for the lesson.	40 minutes

Lesson One – Sterile Technique Basics

FOCUS: Paper Activity

5 minutes

Purpose:

Help students to maintain sterility using a piece of paper.

Materials:

- Piece of paper for each student

Facilitation Steps:

1. Have students pick up the paper without giving any specific direction and ask them how easy it was.
2. Now let's pretend the paper is a sterile field. Have the students pick up the paper, noting that the border of one inch at the edge is considered non-sterile, and pass the paper to a classmate.
3. Ask students if they were able to keep their hands within one inch of the edge and how they think differently when focusing on the edge of the paper.

Lesson One – Sterile Technique Basics

LEARN: Sterile Technique Basics Slide Presentation

15 minutes

Purpose:

Learn the basics of sterile technique, including how to maintain sterility and actions to take if sterility is broken.

Materials:

- *Sterile Technique Basics* worksheet
- *Sterile Technique Basics* slide presentation

Facilitation Steps:

1. Distribute the worksheet and have students fill it out before the presentation. Students should cross out any incorrect answers and write the correct answer above as you go through the presentation.
2. Share the slide presentation.

Slide 1: Sterile Technique Basics

Today we will talk about sterile technique basics.

Slide 2: Objectives

These are the objectives. Do you have any questions about them?

Slide 3: Sterile Technique Basics

Let's begin by defining sterile technique. Sterile technique is the use of practices that restrict microorganisms in the environment. The goal is to prevent bacteria from entering a patient, causing an infection. An infection received while receiving care is known as a Healthcare-Associate Infection, or HAI.

Slide 4: HAI Statistics

HAIs are too common. Think about possible increased length of stay, antibiotics needed, and the increase to healthcare dollars. Do you know someone who developed an HAI?

Slide 5: Principles of Sterile Technique

These are the principles of sterile technique. What questions do you have?

Slide 6: Supplies Nurses Use Most Often

People think of sterile fields as being in the operating room though nurses and other health professionals use them in a variety of situations, such as inserting a urinary catheter and changing dressings. Today's focus is the basics of applying sterile gloves and opening a sterile field.

Slide 7: Sterile Technique Basics Videos

Slide 8: Video Discussion

Slides 9-11: Breaking Sterile Technique

What should we do if we break sterile technique? First, stop and ask yourself, "When did I break it and how?" Do you need to start over, get a new pair of gloves, new supplies, or a new kit? When in doubt, start over. It helps to have a second person to observe that sterile technique is maintained and/or get new supplies. It is a good idea to bring an extra pair of sterile gloves and supplies or have them sitting outside the room just in case.

Let's talk about what to say to someone who we observed breaking sterile technique.

The bold statements on slide 11 are correct. What else would you say? What would you do if the person ignored you? If you can, you should stop the person and say you will take over. You should also inform the manager that the person broke sterile technique and was not willing to take feedback. Let's practice telling each other that sterile technique was broken.

Slide 12: Questions

What questions do you have so far?

Name: _____ Class: _____

Sterile Technique Basics

Instructions: Answer each question below as you go through the principles of sterile technique in the slide presentation.

1. All objects used in a sterile field must be _____.
2. A sterile object becomes _____ when touched by a non-sterile object.
3. Sterile items that are _____ the waist level, or items _____
_____ waist level, are non-sterile.
4. Sterile fields must _____ be kept in sight to be considered sterile.
5. When opening sterile equipment and adding supplies to a sterile field, take care to avoid
_____.
6. Any puncture, moisture, or tear that passes through a _____
_____ must be considered contaminated.
7. Once a sterile field is set up, the border of _____ inch at the edge of the sterile drape is
considered non-sterile.
8. If there is any doubt about the sterility of an object, it is considered _____.
9. Sterile persons or objects may only contact _____ areas; non-sterile persons or
items contact only _____ areas.
10. Movement around and in the sterile field must not _____ or
_____ the sterile field.

Name: _____ Class: _____

Sterile Technique Basics – Answer Key

1. All objects used in a sterile field must be **sterile**.
2. A sterile object becomes **non-sterile** when touched by a non-sterile object.
3. Sterile items that are **below** the waist level, or items **held below** waist level, are non-sterile.
4. Sterile fields must **always** be kept in sight to be considered sterile.
5. When opening sterile equipment and adding supplies to a sterile field, take care to avoid **contamination**.
6. Any puncture, moisture, or tear that passes through a **sterile barrier** must be considered contaminated.
7. Once a sterile field is set up, the border of **one** inch at the edge of the sterile drape is considered non-sterile.
8. If there is any doubt about the sterility of an object, it is considered **non-sterile**.
9. Sterile persons or objects may only contact **sterile** areas; non-sterile persons or items contact only **non-sterile** areas.
10. Movement around and in the sterile field must not **compromise** or **contaminate** the sterile field.

Lesson One – Sterile Technique Basics

REVIEW: Sterile Technique Basics Practice

40 minutes

Purpose:

Students will identify and practice the principles of sterile technique. They will also practice communicating with peers when sterile technique is broken.

Materials:

- *Sterile Technique Basics Review Questions*
- *Sterile Technique Basics Review Questions – Answer Key*
- Sterile fields
- Packages of sterile gauze

Facilitation Steps:

1. Set up an area for the demonstration and tell students they will correctly set up a sterile field.
2. Correctly open a sterile field and drop a sterile piece of gauze on it from the package.
3. Tell students they will make some mistakes during setup. They must identify those areas where they broke sterile technique.
4. Discuss with students how you let someone know they broke sterile technique using professional communication:
 - What do you say?
 - How do you say it?
 - When do you say it?
 - What should you **not** say?
5. Discuss what actions are taken when sterile technique is broken.
6. Have students get into pairs or small groups. Each student should set up a sterile field and place sterile gauze on it correctly three times. Their peers should watch and give feedback.
7. Have each student set up a sterile field and place a sterile gauze on it while intentionally making a mistake. Instruct the peers to watch for the error, stop the activity, and with professional communication tell the person about the break in technique.
8. Have each group discuss what action should be taken when sterile technique is broken.
9. Debrief the last five minutes of class:
 - What did you learn today?
 - Why is it important to maintain sterile technique?
 - What actions do you take if sterile technique is broken?
 - Do have any questions?
10. Distribute the *Sterile Technique Basics Review Questions* and have students complete it.

Name: _____ Class: _____

Sterile Technique Basics Review Questions

1. What is the goal of sterile technique?

2. What are some cues you can use to maintain the principle of sterile technique? For example, once you have put on sterile gloves, keep your hands together until you touch something sterile.

3. Which of the following actions would contaminate a sterile field? Select all that apply.
 - a. A cotton ball dampened with sterile normal saline is placed on the field
 - b. The nurse turns to address the client's question concerning the procedure
 - c. A family member repositions the field

4. A nurse is preparing to open a sterile field. Identify the order in which the nurse should perform the following steps.
 - _____ Position the tray so that the top flap is farthest away from their body
 - _____ Open the flap closest to their body
 - _____ Open the side flaps
 - _____ Open the flap furthest from their body

5. When opening a sterile package of gauze, which of the nurse's actions might compromise the sterility of the gauze inside the pack?

6. While waiting for a sterile procedure to begin, how should a nurse position their hands and arms?

Basics of Sterile Technique Review Questions – Answer Key

1. What is the goal of sterile technique? **To minimize the presence of microorganisms to prevent the spread of infection**
2. What are some cues you can use to maintain the principle of sterile technique? For example, once you put on sterile gloves, keep your hands together until you touch something sterile.
Have a second person watching to ensure sterility is maintained.
Ready all non-sterile equipment and supplies before putting on sterile gloves.
Position the table the sterile field is on so you will not turn your back.
Have an extra pair of sterile gloves and kits in case you break sterile technique.
3. Which of the following actions would contaminate a sterile field? Select all that apply.
 - a. **A cotton ball dampened with sterile normal saline is place on the field**
 - b. The nurse turns their head to address the client's question concerning the procedure
 - c. **A family member repositions the field**
4. A nurse is preparing to open a sterile field. Identify the order in which the nurse should perform the following steps.
 - 1** Position the tray so that the top flap is farthest away from their body
 - 4** Open the flap closest to their body
 - 3** Open the side flaps
 - 2** Open the flap furthest from their body
5. When opening a sterile package of gauze, which of the nurse's actions might compromise the sterility of the gauze inside the pack?
Touching the gauze and/or inside of the package with non-sterile hands
6. While waiting for a sterile procedure to begin, how should a nurse position their hands and arms?
Above the waist with their hands clasped together and arms at their sides

Lesson Two – Central Line Dressing Change

Lesson Overview

In this lesson, students will review the procedure for changing a central line dressing using sterile technique.

Lesson Objectives

After completing this lesson, participants will be able to:

- Explain sterile technique related to central line dressing changes
- Demonstrate maintenance of sterile technique when changing a central line dressing

Lesson at a Glance

Activity	Materials	Preparation	Approximate Class Time
FOCUS	• Cardstock with an opening punched through it using a hole punch • Straw for each student • Tape	1. Gather materials.	5 minutes
LEARN	• <i>Central Line Dressing Change</i> worksheet • <i>Central Line Dressing Change – Answer Key</i> • <i>Central Line Dressing Change</i> slide presentation	1. Print/photocopy the <i>Central Line Dressing Change</i> worksheet (one per participant). 2. Prepare the <i>Central Line Dressing Change</i> slide presentation for viewing.	15 minutes
REVIEW	• <i>Central Line Dressing Change Procedure Checklist</i> • Sterile Technique Simulator • Central line dressing kits • Sterile gloves • Clean gloves	1. Print/photocopy the <i>Central Line Dressing Change Procedure Checklist</i> (one per each participant). 2. Prepare the Sterile Technique Simulator and supplies.	40 minutes

Lesson Two – Central Line Dressing Change

FOCUS: Straw Activity

5 minutes

Purpose:

Allow students to experience how difficult it can be to remove a transparent dressing from a central line.

Materials:

- Cardstock with an opening punched through it using a hole punch
- Straws
- Scotch tape

Facilitation Steps:

1. Have students place a straw through the hole in cardstock and put a piece of tape over the straw perpendicular.
2. Have students try to remove the piece of tape without touching the straw or the cardstock underneath.
3. Discuss how easy/difficult it was:
 - How did that go?
 - How many fingers did you use?
 - Did you touch the cardstock or straw?
 - When you remove the transparent dressing from the central line, you must be careful not to touch the line or skin under the dressing.
4. Let's try it again. Using a larger piece of tape works better so you can remove most of the tape before getting to the straw, which decreases the chance of breaking sterile technique.

Lesson Two – Central Line Dressing Change

LEARN: Central Line Dressing Change Slide Presentation

15 minutes

Purpose:

To review the procedure to change a central line dressing while maintaining sterile technique.

Materials:

- *Central Line Dressing Change* worksheet
- *Central Line Dressing Change – Answer Key*
- *Central Line Dressing Change* slide presentation

Facilitation Steps:

1. Have students fill out the worksheet prior to the slide presentation. As information is shared, students should cross out any incorrect answers and write the correct answer above.
2. Share the slide presentation.

Slide 1: Central Line Dressing Change

Today we will talk about central line dressing changes and sterile technique.

Slide 2: Objectives

These are the objectives. Do you have any questions about them?

Slide 3: Sterile Technique and Central Line Dressing Changes

Infections from central lines have their own name Central line-associated bloodstream infections (CLABSI).

Slide 4: CLABSI Statistics

Unfortunately, CLABSIs are common. You can see the cost associated with them, over 12 billion dollars. Think about what a difference preventing CLABSI from just 10 could make. We also need to think about the potential loss of life associated with HAIs and CLABSIs.

Slide 5: Decreasing The Risk of CLABSIs

To help reduce the risk of CLABSIs, sterile technique is used when changing the dressing. We should also evaluate if the central line is still needed or if it can be removed and a peripheral line used.

Slide 6: Central Line Dressing Kit

Slide 7: How to Change a Central Line Dressing

There are two videos we will watch on how to change a central line dressing. You may see differences in the process, but the important thing is that sterile technique is maintained. Note how sterile technique is maintained and how it could be broken.

Name: _____

Class: _____

Central Line Dressing Change

Instructions: Answer the following questions in the space provided.

1. What is the purpose of a central line?

2. Why does the central line dressing change need to be sterile?

3. What action do you take if you break sterile technique during the dressing change?

4. The nurse puts on sterile gloves in preparation for a sterile central line dressing change. They realize that the bed is too low to complete the procedure adequately. What action should the nurse take?

5. A patient has a central line for fluid management and antibiotic therapy. What interventions should the nurse use to reduce the risk of infection in the access site? Select all that apply.
 - a. Practice thorough hand hygiene
 - b. Use chlorhexidine skin asepsis
 - c. Review the continued need for the line daily
 - d. Cover the insertion site with an opaque gauze dressing
 - e. Change the dressing over the insertion site using clean technique

Central Line Dressing Change – Answer Key

What is the purpose of a central line?

To provide access to larger vessels for monitoring, medication, and fluid administration.

Why does the central line dressing change need to be sterile?

The central line enters a larger vessel, giving bacteria a portal into the bloodstream. The dressing change is sterile to decrease the risk of infection.

What action do you take if you break sterile technique during the dressing change?

Stop and assess the situation. Apply new sterile gloves, if needed. Obtain more sterile swabs, if needed. Get another transparent dressing. You may need to start over depending on what happened. It helps to have a second person present to observe that sterile technique is maintained and get new supplies, if needed.

The nurse puts on sterile gloves in preparation for a sterile central line dressing change. They realize that the bed is too low to complete the procedure adequately. What action should the nurse take?

Take off the sterile gloves. Adjust the bed without turning their back on the sterile field. Apply new sterile gloves. Have an extra set of sterile gloves with them so they do not need to leave the room to get another pair.

A patient has a central line for fluid management and antibiotic therapy. What interventions should the nurse use to reduce the risk of infection in the access site? Select all that apply.

a. Practice thorough hand hygiene

b. Use chlorhexidine skin asepsis

c. Review the continued need for the line daily

d. Cover the insertion site with an opaque gauze dressing.

e. Change the dressing over the insertion site using clean technique

Lesson Two – Central Line Dressing Change

REVIEW: Central Line Dressing Change Practice

40 minutes

Purpose:

Participants work in pairs or small groups to practice changing a central line dressing.

Materials:

- *Central Line Dressing Change Procedure Checklist*
- Sterile Techniques Simulator
- Central line dressing kits
- Sterile gloves
- Clean gloves

Facilitation Steps

1. Have students open the sterile dressing change kit and handle the supplies without worrying about sterile technique.
2. Ask students to state what is in the kit, the purpose of each item, and in what order they will be used.
3. Distribute the checklist and have students work in pairs or small groups as each student changes the central line dressing at least once on the Sterile Techniques Simulator. Others should watch, offering encouragement and feedback, as they fill out the checklist.
4. Debrief for the last five minutes of class:
 - What did you learn today?
 - What did you find most difficult about changing a central line dressing using sterile technique?
 - Why is it important to maintain sterile technique during a central line dressing change?
 - What actions can you take to decrease the risk of breaking sterile technique during the dressing change?
 - What actions do you take if sterile technique is broken?

Central Line Dressing Change Procedure Checklist

Student Performing the Central Line Dressing Change: _____

Student Filling Out the Checklist: _____

Instructions: Check off all the steps your partner or group member performs as they change the central line dressing on the simulator

Central Line Dressing Change	Student Check-off
Review the provider orders.	
Gather the supplies needed.	
Enter the room and provide for privacy.	
Identify yourself.	
Identify the patient.	
Explain the rationale and procedure to the patient.	
Position the patient with their head turned away from the access site. If the patient is not able to turn their head, cover their mouth and nose with a mask.	
Perform hand hygiene.	
Apply a mask and clean gloves.	
Carefully remove the current dressing without touching the central line or skin under the current dressing	
Assess the insertion site and note site characteristics.	
Remove the clean gloves and perform hand hygiene.	
Apply the sterile gloves.	
Clean the insertion site with sterile technique principles using manufacturer's recommendations.	
Apply a new transparent dressing.	
Remove the sterile gloves.	
Label the dressing with the date and time of the dressing change.	
Document the procedure and site.	

Lesson Three – Tracheostomy Suctioning

Lesson Overview

In this lesson, learners will review the procedure for suctioning a tracheostomy while maintaining sterile technique.

Lesson Objectives

After completing this lesson, participants will be able to:

- Explain sterile technique related to tracheostomy suctioning
- Demonstrate maintenance of sterile technique when suctioning a tracheostomy

Lesson at a Glance

Activity	Materials	Preparation	Approximate Class Time
FOCUS	• No materials needed	1. Review questions for discussion.	5 minutes
LEARN	• <i>Tracheostomy Suctioning</i> worksheet • <i>Tracheostomy Suctioning</i> – Answer Key • <i>Tracheostomy Suctioning</i> slide presentation	1. Print/photocopy the <i>Tracheostomy Suctioning</i> worksheet (one per participant). 2. Prepare the <i>Tracheostomy Suctioning</i> slide presentation for viewing.	15 minutes
REVIEW	• <i>Tracheostomy Suctioning Procedure Checklist</i> • Sterile Technique Simulator • Tracheostomy suction kits • Suction • Sterile water	1. Print/photocopy the <i>Tracheostomy Suctioning Procedure Checklist</i> (one per participant). 2. Ready the Sterile Technique Simulator and supplies for the lesson.	40 minutes

Lesson Three – Tracheostomy Suctioning

FOCUS: Breath Holding Activity

5 minutes

Purpose:

Students to gain an understanding of why they need to be efficient when suctioning a tracheostomy.

Facilitation Steps:

1. Have students try to hold their breath for at least 30 seconds.
2. Discuss the activity:
 - How did that go?
 - How did you feel as time went on?
 - Why do we need to be efficient when it comes to suctioning a tracheostomy?
 - What might patients feel if we take too long to set things up?

Lesson Three – Tracheostomy Suctioning

LEARN: Tracheostomy Suctioning Slide Presentation

15 minutes

Purpose:

Learn tracheostomy suction while maintaining sterile technique.

Materials:

- *Tracheostomy Suctioning* worksheet
- *Tracheostomy Suctioning – Answer Key*
- *Tracheostomy Suctioning* slide presentation

Facilitation Steps:

1. Have students fill out the worksheet prior to the slide presentation. As information is shared, students should cross out any incorrect answers and write the correct answer above.
2. Share the slide presentation.

Slide 1: Tracheostomy Suctioning

This presentation is focused on tracheostomy suctioning and sterile technique.

Slide 2: Objectives

These are the objectives. Do you have any questions about them?

Slide 3: Sterile Technique and Tracheostomy Suctioning

The most common infection from tracheostomy suctioning is pneumonia.

Slide 4: Ventilator-Associated Pneumonia

Frequently the pneumonia is related to a ventilator. The cost is high in terms of dollars and potential loss of life.

Slide 5: Decreasing the Risk of Pneumonia

To help reduce the risk of infections, we should suction only when necessary and use sterile technique.

Slide 6: Tracheostomy Suctioning Supplies

There are a few items in the tracheostomy suctioning kit. The package is a sterile field; the gloves may be in a separate package. The container for the sterile water/saline may look different; kits may vary depending on the manufacturer. Here is an example of a kit. We need to use equipment at the bedside along with the kit. There should be a suction, suction tubing hooked to the suction, and an oxygen supply and/or equipment such as a bag-valve mask to hyperoxygenate the patient before suctioning. The suction regulator needs to be set to less than 150 mm Hg of pressure.

Slide 7: How to Suction a Tracheostomy

There is one video we will watch on how to suction a tracheostomy. Note how sterile technique is maintained. Notice how it could be broken. You must be efficient when suctioning because you need to clear the airway.

Slide 8: Questions

What questions do you have so far?

Name: _____ Class: _____

Tracheostomy Suctioning

Instructions: Answer the following questions in the space provided.

1. What is the purpose of a tracheostomy?

2. Why do we need to use sterile technique when suctioning a tracheostomy?

3. What action do you take if you break sterile technique during suctioning?

4. The nurse is preparing to suction a patient with a tracheostomy. When should they apply sterile gloves?

5. A student is practicing suctioning a tracheostomy in the skills laboratory. Which of the following actions by the student demonstrates that they need more training? Select all that apply.
 - a. Applying suction while inserting the catheter
 - b. Wearing clean gloves when suctioning
 - c. Suctioning for a total of three times, if needed
 - d. Suctioning for only 10-15 seconds each time

Tracheostomy Suctioning – Answer Key

1. What is the purpose of a tracheostomy?

To provide an airway.

2. Why do we need to use sterile technique when suctioning a tracheostomy?

The tracheostomy enters the airway directly. Sterile technique is used to decrease the risk of introducing bacteria into the airway to prevent pneumonia.

3. What action do you take if you break sterile technique during suctioning?

In this case, it may be oxygenation versus reducing the risk of infection. How low are the oxygenation saturations? Do you need to keep suctioning to maintain the airway? If so, you may need to continue suctioning while another nurse readies a sterile suction catheter. If the patient can tolerate you stopping the procedure to open another kit or put on new gloves, then you should do so. You should have extra tracheostomy suction kits and sterile gloves in the room.

4. The nurse is preparing to suction a patient with a tracheostomy. When should they apply sterile gloves?

The nurse should make sure the suction is working and place the suction tube near the head of the patient. Then, they should open the container of sterile water. The nurse should position the tray table and kit near the bed so it can be used without the need to turn their back. They should open the kit and apply the sterile gloves.

5. A student is practicing suctioning a tracheostomy in the skills laboratory. Which of the following actions by the student demonstrates that they need more training? Select all that apply.

- a. **Applying suction while inserting the catheter**
- b. **Wearing clean gloves when suctioning**
- c. Suctioning for a total of three times if needed
- d. **Suctioning for only 10-15 seconds each time**

Lesson Three – Tracheostomy Suctioning

REVIEW: Tracheostomy Suctioning Practice

40 minutes

Purpose:

Students work in pairs or small groups to practice tracheostomy suctioning while maintaining sterile technique.

Materials:

- *Tracheostomy Suctioning Procedure Checklist*
- Sterile Technique Simulator
- Tracheostomy suction kits
- Suction
- Sterile water

Facilitation Steps

1. Have students open the tracheostomy suction kit and handle the supplies without worrying about sterile technique.
2. Ask students to state what is in the kit, the purpose of each item, and in what order they will be used.
3. Distribute the checklists and have students work in pairs or small groups as each student suctions the simulator's tracheostomy multiple times until they can do it within the timeframe you set.

For example, you may say, "By the end of this practice period, you should be able to perform the tracheostomy suctioning procedure from start to finish within three minutes."

4. Have student students who are not practicing the suctioning fill out the checklist while another student practices.
5. Debrief during the last five minutes of class:
 - What did you learn today?
 - What did you find most difficult about suctioning a tracheostomy using sterile technique?
 - Why is it important to maintain sterile technique during a suctioning a tracheostomy?
 - What actions can you take to decrease the risk of breaking sterile technique during suctioning?
 - What actions do you take if sterile technique is broken?
 - Why is it important to be able to suction a tracheostomy quickly?

Tracheostomy Suctioning Procedure Checklist

Student Performing the Tracheostomy Suctioning: _____

Student Filling Out Checklist: _____

Instructions: Check off the steps as your partner or group member performs a tracheostomy suctioning on the simulator.

Tracheostomy Suctioning	Student Check-off
Review the provider orders.	
Gather the supplies needed.	
Enter the room and provide for privacy.	
Identify yourself.	
Identify the patient.	
Explain the procedure and rationale to the patient.	
Place the patient in the semi-Fowler's position.	
Perform hand hygiene.	
Attach the suction tubing to the canister.	
Set the suction to 80-120 mm Hg (120 max).	
Hyperoxygenate.	
Open the sterile kit.	
Apply the sterile gloves.	
Assemble the solution container.	
Pick up the catheter and coil in one hand that will remain sterile.	
Designate one hand "clean" and pour saline into the basin using the clean hand.	
With the clean hand, attach the catheter to the suction tubing.	
Test the suction in the saline.	
Insert the catheter through the tracheostomy. DO NOT APPLY SUCTION.	
Insert _____ cm (depends on trach tube length).	
While withdrawing the catheter:	
• Apply intermittent suction with the non-dominant hand by occluding the port on catheter on and off.	
• Rotate/twirl the catheter.	
• Suction for no longer than 10 seconds.	
Encourage the patient to breathe deeply or hyperoxygenate (replace oxygen source) between passes.	
Assess the need to re-suction (breath sounds, oxygen saturations, respiratory effort).	
Remove the sterile gloves.	
Document the procedure and results.	

Lesson Four – Urinary Catheterization

Lesson Overview

In this lesson, learners will review the procedure for placing a urinary catheter in both males and females. The focus will be on maintaining sterile technique.

Lesson Objectives

After completing this lesson, participants will be able to:

- Explain aseptic technique related to urinary catheterization
- Demonstrate how to insert indwelling catheters in both males and females using sterile technique

Lesson at a Glance

Activity	Materials	Preparation	Approximate Class Time
FOCUS	• Cardstock with an opening punched through it using a hole punch • Toothpicks • Straws	1. Gather one of each material per participant.	5 minutes
LEARN	• <i>Urinary Catheterization</i> worksheet • <i>Urinary Catheterization – Answer Key</i> • <i>Urinary Catheterization</i> slide presentation	1. Print/photocopy the worksheet (one per participant). 2. Prepare the slide presentation for viewing.	15 minutes
REVIEW	• <i>Urinary Catheterization Procedure Checklist</i> • Sterile Techniques Simulator • Foley kits • Clean gloves • Washcloths/wipes for peri-care	1. Print/photocopy the checklist (one per participant). 2. Prepare the Sterile Techniques Simulator and supplies for the lesson.	40 minutes

Lesson Four – Urinary Catheterization

FOCUS: Urinary Catheterization

5 minutes

Purpose:

Students cath an opening with different size materials.

Materials:

- Cardstock with an opening punched through it using a hole punch
- Toothpicks
- Straws

Facilitation Steps:

1. Have students “cath” the cardstock opening with a toothpick.
2. Discuss how easy it was:
 - How did that go?
 - Were you worried about breaking sterility?
3. Have students “cath” the opening with a straw.
4. Discuss how difficult it was:
 - How did that go?
 - What was different about using the straw versus the toothpick?
 - Were you worried about breaking sterility?

Lesson Four – Urinary Catheterization

LEARN: Urinary Catheterization Slide Presentation

15 minutes

Purpose:

Learn the urinary catheterization procedure while maintaining asepsis technique.

Materials:

- *Urinary Catheterization* worksheet
- *Urinary Catheterization – Answer Key*
- *Urinary Catheterization* slide presentation

Facilitation Steps:

1. Have students fill out the worksheet prior to the slide presentation. As information is shared, students should cross out any incorrect answers and write the correct answer above.
2. Share the slide presentation.

Slide 1: Urinary Catheterization

This presentation is about urinary catheterization using sterile technique.

Slide 2: Objectives

These are the objectives. Do you have any questions about them?

Slide 3: Sterile Technique and Urinary Catheterization

We use sterile technique to decrease the risk of infection. Infections from catheters have their own name, catheter-associated urinary tract infections (CAUTIs).

Slide 4: Statistics

CAUTIs are common and cost over seven billion dollars each year. Think about what it means to prevent 20 people from developing CAUTIs. People with CAUTIs are at risk to develop sepsis and septic shock.

Slide 5: Reducing Risk of CAUTIs

The need for a urinary catheter should be assessed daily, and they should be removed as soon as possible. It is recommended to have two people present when a catheter is placed to have one observe that sterile technique is maintained. There are many initiatives to help prevent and reduce the risk of CAUTIs. The CDC, Joint Commission, and AHRQ are among organizations that have recommendations.

Slide 6: CDC Criteria for IUC Insertion

Here are the criteria from the CDC when an indwelling urinary catheter should be used.

Slide 7: Urinary Catheterization Kit Contents

There are many items in a urinary catheter kit; contents may vary depending on the manufacturer.

Slide 8: How to Insert a Urinary Catheter

You may see process differences in these videos, but the important thing is that sterile technique is maintained. Note how it is maintained and how it could be broken.

Slide 9: Discussion

What questions do you have so far?

Name: _____ Class: _____

Urinary Catheterization

Instructions: Answer the questions in the space provided.

1. What is the purpose of a urinary catheter?

2. Why do we need to use sterile technique when inserting a urinary catheter?

3. What action do you take if you break sterile technique while inserting a urinary catheter?

4. A nurse is preparing to insert a urinary catheter. When should they nurse apply sterile gloves?

5. A nurse performing urinary catheterization applies sterile gloves on both hands. When should one hand be non-sterile?

6. A student is practicing urinary catheter insertion in the skills laboratory. What action by the student demonstrates that they need more training? Select all that apply.
 - a. Placing the urinary catheterization kit at the head of the bed
 - b. Wearing clean gloves while inserting the catheter
 - c. Applying lubricant to the end of the catheter
 - d. Providing peri-care before setting up the sterile field

Urinary Catheterization – Answer Key

1. What is the purpose of a urinary catheter?

The catheter drains urine from the bladder for reasons including urinary retention, close monitoring of urine output, and urinary incontinence.

2. Why do we need to use sterile technique when inserting a urinary catheter?

The catheter enters the bladder through the urethra and can introduce bacteria into those areas, causing a urinary tract infection (UTI) and/or bladder infection. If severe, the infection can move into the kidneys.

3. What action do you take if you break sterile technique while inserting a urinary catheter?

Stop and assess the situation. Do you need new gloves, a new catheter, or a new kit? It is recommended to have a second person observe to ensure sterile technique is maintained and get new supplies, if needed.

4. A nurse is preparing to insert a urinary catheter. When should they nurse apply sterile gloves?

After the nurse preps the patient and positions and opens the kit.

5. A nurse performing urinary catheterization applies sterile gloves on both hands. When should one hand be non-sterile?

The non-dominant hand becomes non-sterile when it holds the labia open on a female patient or holds the head of the penis on a male patient to ready the area of cleaning.

7. A student is practicing urinary catheter insertion in the skills laboratory. What action by the student demonstrates that they need more training? Select all that apply.

- a. **Placing the urinary catheterization kit at the head of the bed**
- b. **Wearing clean gloves while inserting the catheter**
- c. Applying lubricant to the end of the catheter
- d. Providing peri-care before setting up the sterile field

Lesson Four – Urinary Catheterization

REVIEW: Urinary Catheterization practice

40 minutes

Purpose:

Students work in pairs or small groups to practice inserting a urinary catheter into male and female models.

Materials:

- *Urinary Catheterization Procedure Checklist*
- Sterile Techniques Simulator
- Foley kits
- Clean gloves
- Washcloths/wipes for peri-care

Facilitation Steps:

1. Have students open the urinary catheter kit and handle the supplies without worrying about sterile technique.
2. Ask students to state what is in the kit, the purpose of each supply, and in what order they will be used.
3. Distribute the checklist and have students work in pairs or small groups as each student inserts the urinary catheter at least once into both male and female models. Others should watch, offering encouragement and feedback, as they fill out the checklist.
4. Debrief for the last five minutes of class:
 - What did you learn today?
 - What did you find most difficult about inserting a urinary catheter using sterile technique?
 - Why is it important to maintain sterile technique while inserting a urinary catheter?
 - What actions can you take to decrease the risk of breaking sterile technique during urinary catheter insertion?
 - What actions do you take if sterile technique is broken?

Urinary Catheter Procedure Checklist

Student Performing the Catheterization: _____

Student Filling Out Checklist: _____

Instructions: Check off the steps as your partner or group member performs a catheterization on the simulator.

Urinary Catheter	Student Check-off
Review the provider orders.	
Gather the supplies needed.	
Enter the room and provide for privacy.	
Identify yourself.	
Identify the patient.	
Explain the procedure and rationale to the patient.	
Position the patient.	
Apply clean gloves and perform perineal care.	
Remove the clean gloves and perform hand hygiene.	
Open the catheterization kit while maintaining sterility.	
Place the drape on the bed while maintaining sterility.	
Apply sterile gloves while maintaining sterility.	
Place the fenestrated drape over the patient while maintaining sterility	
Prepare the kit while maintaining sterility:	
• Open and pour solution onto cotton	
• Open lubricant	
• Lubricate tip of catheter	
• Attach syringe to port for balloon	
Place the kit within reach during the procedure while maintaining sterility	
Place the non-dominant hand on patient and expose the urethra. This hand is no longer sterile	
Cleanse the labia or penis while maintaining sterility of the hand and cleansed areas.	
Insert the catheter until urine appears in the drainage tube.	
Insert the catheter 1-2 more inches and inflate the balloon.	
Using sterile the hand, lightly tug the catheter to ensure it is placed properly.	
Remove the syringe and hang the bag on the bed frame with no dependent loops in the tubing.	
Secure the catheter to the patient.	
Remove the drapes and clean the patient.	
Document the procedure.	

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