



Prevention of Postpartum Hemorrhage: Implementing Active Management of the Third Stage of Labor (AMTSL)

Facilitator's Guide

Additional Topic 1: Infection prevention review



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Prevention of Postpartum
Hemorrhage Initiative

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Additional Topic 1: Infection Prevention Review

105 min.

Summary

In this section, important infection prevention (IP) principles will be reviewed, focusing on handwashing, gloving, use of apron, use of needles, waste disposal, and the four steps for processing instruments and supplies. Understanding and using infection prevention practices is important to prevent major infections while providing care and to reduce the risk of transmitting serious diseases such as hepatitis B, hepatitis C, and HIV/AIDS to the woman and to staff, including those who clean up after childbirth.

Consider including some parts or the entire topic in any AMTSL training activities.

Objectives

By the end of this topic, participants will be able to:

- Explain the five basic principles of IP practices.
- Describe ways to protect oneself and others from infection, focusing on handwashing; proper waste disposal; use of gloves, aprons, and other protective gear; and injection safety.
- Describe the four steps for decontaminating instruments.
- Explain how to mix a 0.5 percent chlorine decontamination solution.

Materials/resources needed for the session

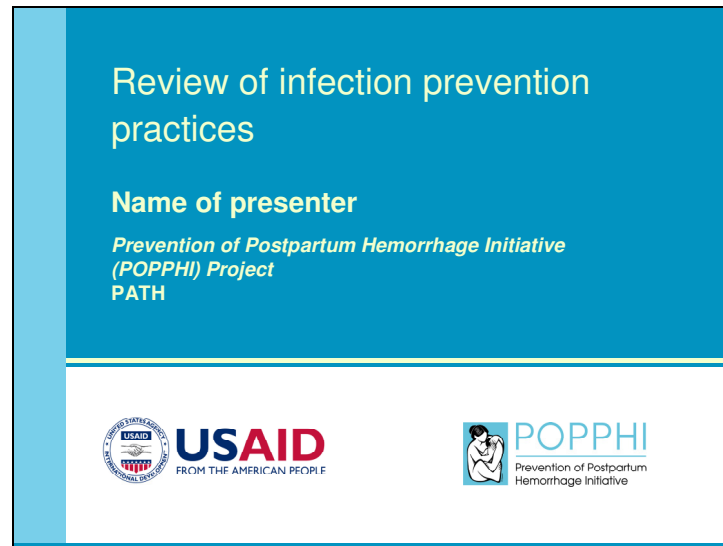
- Reference Manual, Participant's Notebook, and Facilitator's Guide.
- Flipchart, flipchart stand, markers, and flipchart tape.
- Water, 4-5 plastic containers to prepare a chlorine solution in, 4-5 measuring cups, and 4-5 bottles of chlorine (if possible get bottles with different concentrations of chlorine)

Facilitator's Note

The goal of this session is to review IP principles and practices for providers who already have a basic understanding of them. Facilitators may need to add facility-specific information and visuals—for example, types of containers used for sharps, procedures for processing gloves, types of containers used for mixing and storing chlorine decontamination solution, and procedures for sterilization and high-level disinfection.

Facilitators should use their judgment regarding when in the workshop to teach this topic and how much content to include. For example, facilitators may decide to present information on IP just before the classroom or clinical practice sessions or as part of the orientation to the clinical site.

Lesson Plan



Flipchart / Overhead / PowerPoint slide 1

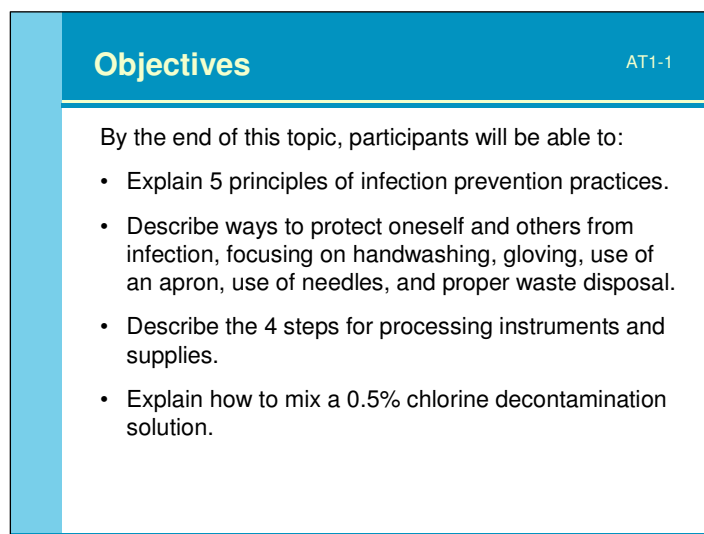
Time: 5 min.

Activities:

- Review objectives of the session.
- Present an overview of the session.

Notes to the facilitator:

- Introduce the session by presenting the objectives: read the objectives, briefly summarize or ask a participant to read them aloud.





Flipchart / Overhead / PowerPoint slide 2

Time: 5 min.

Activity: Illustrated lecture.

Objective: Explain five principles of infection prevention practices.

Notes to the facilitator:

- Begin the session by providing an illustrated lecture reviewing the principles of IP practices.
- Ask if participants have any questions before proceeding.

Principles of Infection Prevention Practices	AT1-2
<ul style="list-style-type: none"> • Every person (client or staff) is considered potentially infectious. • Handwashing is the single most important practice for preventing cross-contamination. • Wear gloves before touching anything wet. • Use protective items (aprons, face masks, eye goggles) if splashes or spills of any body fluids are expected. • Use safe work practices. 	

Flipchart / Overhead / PowerPoint slide 3

Time: 5 min.

Activity: Brainstorming to review recommendations for handwashing in the health care setting.

Objective: Describe ways to protect oneself and others from infection, focusing on handwashing, gloving, use of an apron, use of needles, and proper waste disposal.

Brainstorming	AT1-3
<p>When should health care providers wash their hands?</p>	

Notes to the facilitator:

- Facilitate a brainstorming session to make a complete list of when providers need to wash their hands in health care settings. Complete the list from information in the section on handwashing in Additional Topic 1: Infection prevention in the **Reference Manual**.
- Emphasize the fact the providers need to wash their hands for 15–30 seconds for handwashing to be effective.

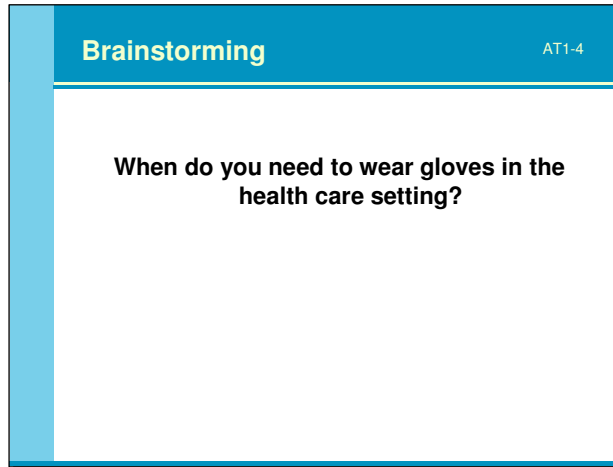
Flipchart / Overhead / PowerPoint slide 4

Time: 5 min.

Activity:

- Brainstorming to review recommendations for wearing gloves in the health care setting.
- Facilitated discussion to review difficulties in decontaminating, cleaning, and sterilizing or HLD processing of gloves.

Objective: Describe ways to protect oneself and others from infection, focusing on handwashing, gloving, use of an apron, use of needles, and proper waste disposal.



Notes to the facilitator:

- Facilitate a brainstorming session to make a complete list of when providers need to wear gloves in health care settings. Complete the list from information in the section on gloves in Additional Topic 1: Infection prevention in the **Reference Manual**.
- Emphasize the fact it is preferable to dispose of gloves after one use rather than trying to reuse them.
- Facilitate a discussion on difficulties in decontaminating, cleaning, and sterilizing or HLD processing of gloves.

- Remind participants of the dangers in using gloves that are cracked, peeling, or have visible tears or holes.

Flipchart / Overhead / PowerPoint slide 5

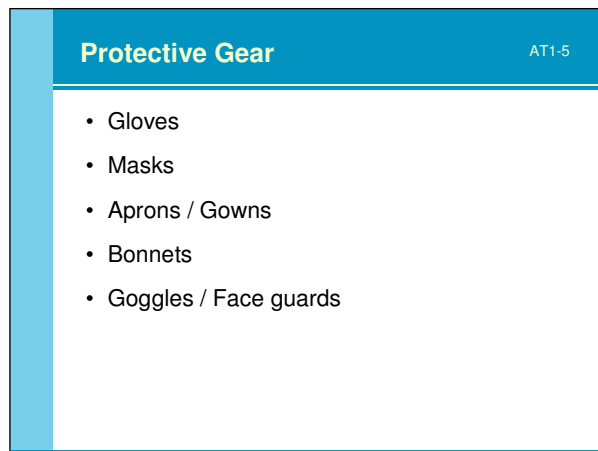
Time: 5 min.

Activity: Question-and-answer to review protective gear.

Objective: Describe ways to protect oneself and others from infection, focusing on handwashing, gloving, use of an apron, use of needles, and proper waste disposal

Notes to the facilitator:

- Present the flipchart with the different types of protective gear.
- Ask participants to describe:
 - Who (client or provider) is protected by each type of gear.
 - How each type of gear protects either the client or the provider.
- Ask participants which types of protective gear they use regularly at their worksites.



**Flipchart / Overhead / PowerPoint slide 6****Time: 5 min.****Activity:** Illustrated lecture to review handling sharp instruments.**Objective:** Describe ways to protect oneself and others from infection.**Notes to the facilitator:**

Handling sharp instruments	AT1-6
<ul style="list-style-type: none">• Do not leave sharp instruments or needles (sharps) in places other than safe zones.• Use a tray or basin to carry and pass sharp items.• Pass instruments with the handle (not the sharp end) pointing toward the receiver.• Tell other workers before passing sharps to another person.	

- Present an illustrated lecture on handling sharp instruments to prevent injuries in the workplace.
- Ask for questions before proceeding.

Flipchart / Overhead / PowerPoint slide 7**Time: 5 min.****Activity:** Illustrated lecture to review ways to prevent accidental needle sticks.**Objective:** Describe ways to protect oneself and others from infection, focusing on handwashing, gloving, use of an apron, use of needles, and proper waste disposal.**Notes to the facilitator:**

- Present an illustrated lecture on preventing injuries in the workplace due to accidental needle sticks.

Preventing needle sticks	AT1-7
<ul style="list-style-type: none">• Use each needle and syringe only once.• Do not take needle and syringe apart after use.• Do not recap, bend, or break needles before disposal.• Dispose of needles and syringes in a puncture-proof container.	

Flipchart / Overhead / PowerPoint slide 8

Time: 5 min.

Activity: Brainstorming to review how to minimize splashes.

Objective: Describe ways to protect oneself and others from infection when providing maternal and newborn care.

Notes to the facilitator:

BrainstormingAT1-8

How can health workers prevent / minimize splashes of blood or amniotic fluid when providing maternal and newborn care?

- Facilitate a brainstorming session to make a list of how to prevent splashes of blood and body fluids in health care settings. Complete the list from information in the section on preventing splashes in Additional Topic 1: Infection prevention in the **Reference Manual**.
- Review steps to take if blood or body fluids get in the provider's mouth, on the skin, or in the eyes.
- Finish this part of the session by emphasizing the fact that it is much easier to prevent exposure to viruses/microbes than to treat providers with post-exposure prophylaxis.

Flipchart / Overhead / PowerPoint slide 9

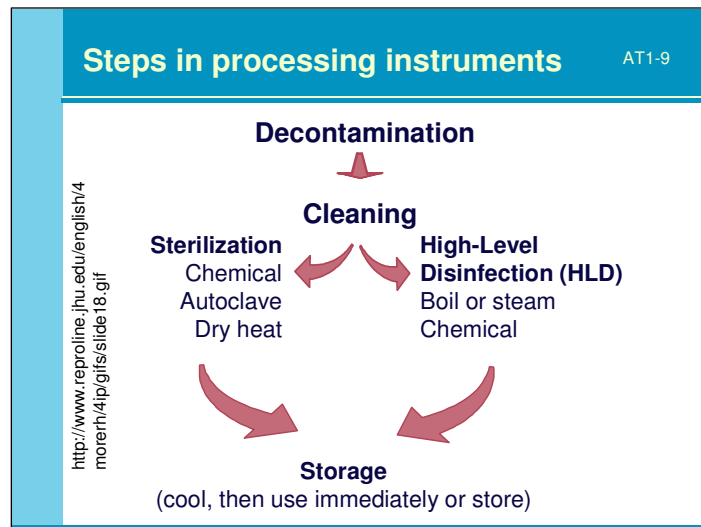
Time: 10 min.

Activity: Question-and-answer to review steps in processing.

Objective: Describe the 4 steps for processing instruments.

Notes to the facilitator:

- Present the diagram showing the four steps for processing instruments.
- Ask participants to refer to Table 6, Steps and benefits for processing instruments for reuse, in the **Reference Manual**.
- For each step, ask a volunteer to explain how the step helps to prevent infection.
- Ask a participant to briefly describe the difference between *high-level disinfected* and *sterile*.



**Flipchart / Overhead / PowerPoint slides 10, 11, and 12****Time: 15 min.****Activity:**

- Illustrated lecture to review preparation of a decontamination solution.
- Mini case studies to practice calculating how to prepare a 0.5% chlorine decontamination solution.

Objective: Explain how to mix a 0.5% chlorine decontamination solution.**Notes to the facilitator:**

- Present and explain how to prepare a 0.5% chlorine solution using liquid household bleach.
- Ask if there are questions.

**Preparing a 0.5% chlorine solution:
Using liquid household bleach** AT1-10

- **[% chlorine in liquid bleach divided by 0.5%] minus 1 = parts of water for each part bleach**
Example: To make a 0.5% chlorine solution from a 3.5% chlorine concentrate, you must use 1 part chlorine and 6 parts water:

$[3.5\% \text{ divided by } 0.5\%] \text{ minus } 1 = [7] \text{ minus } 1 = 6$ parts water for each part chlorine

Water Water Water Water Water Water
Chlorine

EngenderHealth. Online course for Infection Prevention. Available at: www.engenderhealth.org/IP/instrum/in4a.html. Accessed April 2, 2007

Notes to the facilitator:

Mini Case Studies AT1-11

- Calculate the appropriate dilution to prepare a 0.5% chlorine solution using each of the chlorine preparations below:

Chlorine Preparation	Parts Water	Parts Chlorine
2.4%		
5%		
15%		

- Give participants 5 minutes to calculate how to prepare a 0.5% chlorine solution with the chlorine preparations provided in the mini case studies.
- Then ask volunteers to explain how to prepare a 0.5% chlorine decontamination solution using each of the different preparations.

Notes to the facilitator:

- The answers for the calculations are on the slide (also refer to Table 7. Mixing a 0.5 percent chlorine decontamination solution in the **Reference Manual**).
- After going through the calculations, divide the participants into groups of 3-4 people. Give each group a bottle of chlorine, an empty plastic container, and a measuring cup. Ask each group to prepare a 0.5% chlorine solution with the chlorine they were given.

ANSWERS AT1-12

Chlorine Preparation	Parts Water	Parts Chlorine
2.4%	4 parts water	1 part bleach
5%	9 parts water	1 part bleach
15%	29 parts water	1 part bleach

**Flipchart / Overhead / PowerPoint slides 13, 14 and 15****Time: 10 min.****Activity:**

- Illustrated lecture to review preparation of a decontamination solution.
- Mini case studies to practice calculating how to prepare a 0.5% chlorine decontamination solution.

Objective: Explain how to mix a 0.5% chlorine decontamination solution using bleach powder.

Notes to the facilitator:

- Present and explain how to prepare a 0.5% chlorine solution using bleach powder.
- Ask if there are questions.

**Preparing a 0.5% chlorine solution:
Using bleach powder** AT1-13

- **[% chlorine desired divided by % chlorine in bleach powder] times 1000 = Grams of powder for each liter of water**
- **Example:** To make a 0.5% chlorine solution from calcium hypochlorite powder containing 35% available chlorine:
[0.5% divided by 35%] times 1000 = [0.0143] times 1000 = 14.3
Therefore, you must dissolve 14.3 grams of calcium hypochlorite powder in 1 liter of water in order to get a 0.5% chlorine solution.

Notes to the facilitator:

Mini Case Studies AT1-14

Calculate the appropriate dilution to prepare a 0.5% chlorine solution using each of the chlorine preparations below :

Preparation	% Active Chlorine	Gms / Liter
Calcium hypochlorite	70%	
Calcium hypochlorite	35%	

- Give participants 5 minutes to go through the calculations.
- Then ask volunteers to explain how to prepare a 0.5% chlorine decontamination solution using each of the different preparations.

Notes to the facilitator:

- The answers for the calculations are on the slide (also refer to Table 7. Mixing a 0.5 percent chlorine decontamination solution in the **Reference Manual**).

Preparing a 0.5% chlorine solution: Answers AT1-15

Preparation	% Active Chlorine	Gms / Litre
Calcium hypochlorite	70%	7.1 grams per liter
Calcium hypochlorite	35%	14.2 grams per liter



Flipchart / Overhead / PowerPoint slide 16

Time: 30 min.

Activities:

- Summary.
- Review content by playing the IP interactive knowledge game.

Interactive Game: Infection Prevention (IP) knowledge interactive game
AT1-16

Turn to classroom learning activities for Additional Topic 1: Infection Prevention in the **Participant's Notebook**.



Notes to the facilitator:

- Refer to the following pages of the **Facilitator's Guide** for instructions on how to play this game. Refer to the pages following instructions for the game to find answers to the questions. The questions, without the answers, are located in the **Participant's Notebook**.

Flipchart / Overhead / PowerPoint slide 17

Notes to the facilitator:

- Encourage participants to work on learning activities found in the **Participant's Notebook** for Additional Topic 1.
- Participants may work individually or in groups on the learning activities during breaks, in the evening, or in the clinical area when there are no clients.
- Participants may correct their learning activities by referring to suggested answers found in the **Participant's Notebook**. Facilitators should make themselves available to work with the participants to review answers for learning activities.

Learning activities
AT1-17

- Please complete learning activities found in the **Participant's Notebook** for Additional Topic 1.
- You may work individually or in groups on the learning activities during breaks, in the evening, or in the clinical area when there are no clients.
- You may correct your answers individually or with another participant or the facilitator.
- See a facilitator if you have questions.

Infection Prevention (IP) knowledge interactive game

Purpose	To present basic information on IP in an easy and enjoyable way while allowing participants an opportunity to demonstrate what they know.
Duration	30 minutes
Introduction	<p>Set up round tables that will accommodate 4–6 participants at each table. Divide the group into two to four teams of equal size, depending on the size of the group and the amount of time you have. The more teams there are, the longer the game will take.</p> <p>Distribute the groups somewhat evenly by discipline, so that each group has the same number of nurses, doctors, and so on. Number the teams 1, 2, 3, and 4 and ask the participants to sit with their teams.</p> <p>Prepare a flipchart that has a circle divided into 6 parts for each team. Write a team’s number on top of each circle.</p> <p>Start the exercise by explaining that the objective is to be the first team to complete the circle. Each team can fill in one-sixth of the circle each time the team gets a correct answer in six of the following categories:</p> <ul style="list-style-type: none"> ▪ Handwashing ▪ Protective gear ▪ Handling sharps ▪ Preventing splashes ▪ Waste disposal ▪ Instrument processing <p>Ask participants to turn to classroom learning activities for Additional Topic 1: Infection Prevention in the Participant’s Notebook that has a copy of the questions without the answer key.</p>
Activities	<p>Give the participants 15–20 minutes to answer the questions, working together in their teams.</p> <p>Remind the teams to record their answers on the question sheet. Suggest that they keep the answers simple and not linger on any one question.</p> <p>To begin play, the first team chooses a category and a question, then reads the question aloud and gives the answer. The team has 10 seconds to answer.</p> <p>If correct, the team colors in one-sixth of its circle and records next to the circle the name of the category from which the question came.</p> <p>A team may only answer one question per category.</p>



Infection Prevention (IP) knowledge interactive game

	<p>If incorrect, the next team gets to answer that question or another question of its choosing.</p> <p>Once a team correctly answers a question, no other team may use it. The facilitator should clarify any misconceptions that may have surfaced during the discussion once a team has answered a question. The next team takes a turn.</p> <p><i>The first team to fill its circle by coloring in all six pieces (representing six correct answers in six different categories) is the winner and receives the prize.</i></p>
Debriefing	<p>Point out that each participant brings a great deal of knowledge and expertise to the training activity and that by working together, they are able to respond correctly to many of the IP questions in the Knowledge Game.</p>

Answers to IP Knowledge Game

Category 1: Handwashing

For each practice or situation described below, select whether it is an acceptable or unacceptable handwashing practice.

Practice	Answer (circle one)
1. A doctor washes his hands by dipping them in a basin of water before examining a patient.	Unacceptable: Hands can be contaminated by dipping them in a basin of water. Standing water can easily become contaminated even if antiseptic is added.
2. If there is no running water at a clinic, one staff member pours water over the other's hands for handwashing.	Acceptable: If there is no running water, this practice is an acceptable substitute, as long as the water being poured is clean.
3. A large bar of soap is kept in a saucer for use by all personnel in the examination room.	Unacceptable: Small pieces of soap kept in a dish that allows drainage are best. A large bar of soap in a dish with no drainage can become contaminated easily.
4. Staff members wash their hands for approximately five seconds.	Unacceptable: Staff must wash their hands for 10–15 seconds.
5. A staff member arrives at the clinic to find many people waiting for her, so she immediately begins seeing clients without washing her hands.	Unacceptable: Staff should wash their hands when they arrive and before they leave a health facility.



Category 2: Protective gear

For each practice or situation described below, select whether it is an acceptable or unacceptable infection prevention practice.

Practice	Answer (circle one)
1. Put gloves in the labor room sink after use.	Unacceptable: Gloves should be decontaminated immediately after use and then cleaned and high level disinfected or sterilized.
2. Rub the fundus after delivery of the placenta without using gloves.	Unacceptable: The woman's abdomen can be contaminated by body fluids and blood during countertraction and skin-to-skin contact with the newborn and exam gloves should be worn to protect the provider.

In the space provided, circle *true* or *false* for each statement.

3. Protective gear should be worn when handling a baby after delivery, before the infant is bathed.	True
4. Gloves provide a barrier against possible infectious microorganisms that can be found in blood, other body fluids, and waste.	True: Gloves act as a barrier.
5. Even when gloves are decontaminated, cleaned, and high level disinfected, they should not be used if there are holes in them.	True

Category 3: Handling sharps

In the space provided, circle *true* or *false* for each statement.

Practice	Answer (circle one)
1. Injuries with sharp objects occur when sharps are left on surgical drapes or bed linens.	<i>True: Sharp objects left on drapes or bed linen can cause injuries.</i>
2. To reduce the risk of a needlestick, recap a needle by holding the syringe in one hand and holding the needle in the other hand.	<i>False: You should avoid recapping needles.</i>
3. Housekeeping staff are rarely at risk of injury or infections caused by sharps—such as hypodermic needles or scalpel blades—because they are not directly involved in client-care activities.	<i>False: Housekeeping staff are often at risk of injury or infection by sharps.</i>

For each of the practices described below, select whether it is an acceptable or unacceptable infection prevention practice:

4. Break a hypodermic needle before disposal.	<i>Unacceptable: Providers are at risk when breaking a needle after using it and before disposal. Sharps can cause injury and transmission of serious infections, including HIV and hepatitis B.</i>
5. Wash a needlestick or cut with soap and water.	<i>Acceptable: A needlestick or cut may be washed with soap and water.</i>



Category 4: Preventing splashes

For each practice or situation described below, select whether it is an acceptable or unacceptable infection prevention practice.

Practice	Answer (circle one)
1. The provider drops instruments into a bucket with decontamination solution to avoid contact with the solution.	<i>Unacceptable: Place items in the decontamination bucket without splashing the solution.</i>
2. The provider artificially ruptures membranes during a contraction to prevent splashes.	<i>Unacceptable: Avoid rupturing membranes during a contraction to prevent splashes.</i>
3. Irrigate eyes well with water when blood or body fluids splash in them.	<i>Acceptable</i>
4. If you accidentally get blood or body fluids on your hands, wash with a 0.5 percent chlorine solution.	<i>Unacceptable: If blood or body fluids get in your mouth or on your skin, wash with plenty of water and soap as soon as it is possible and safe for the woman and baby. Chlorine is very abrasive and can cause small wounds on your hands which increase your risk of exposure to blood-borne pathogens.</i>
5. Hold contaminated instruments under the water while scrubbing.	<i>Acceptable: Holding instruments and other items under the surface of the water while scrubbing and cleaning will help prevent splashing.</i>

Category 5: Waste disposal

In the space provided, circle *true* or *false* for each statement.

Practice	Answer
1. Everyone who handles medical waste—from the point generated until final disposal—is at risk of infections and injury.	<i>True: A large percentage of staff report having experienced waste-related injuries and infection.</i>
2. If medical waste is stored at the health facility before being burned, it can be placed in a pile behind the clinic.	<i>False: Place waste in a container in a closed area that is minimally accessible, and make sure all containers have lids.</i>
3. Liquid medical waste can be disposed down a sink, drain, toilet, or latrine.	<i>True: If this is not possible, bury it along with solid medical waste.</i>
4. Burial sites for medical waste should not be located near water sources because of the potential to contaminate the water.	<i>True</i>
5. Scavenging of medical waste is rarely a problem in low-resource settings.	<i>False</i>



Category 6: Instrument processing

In the space provided, circle *true* or *false* for each statement.

Practice	Answer (circle one)
1. Decontamination kills all microorganisms on soiled instruments and other items.	<i>False: Decontamination kills viruses such as HIV and many—but not all—other microorganisms.</i>
2. When preparing a chlorine solution for decontamination, it is important to know the amount of active chlorine in the product used.	<i>True: It is important to know the amount of active chlorine in order to make a solution of the correct strength for decontamination.</i>
3. Cleaning instruments before sterilizing them is not necessary if they were soaked in a 0.5 percent chlorine solution for 10 minutes.	<i>False: Although decontamination makes items safer to handle, cleaning is still necessary to remove organic material, dirt, and other matter that can interfere with further processing.</i>
4. Sterilizing may not be effective if blood and other organic material are not cleaned from instruments before sterilizing.	<i>True: It is important to clean items before sterilization; microorganisms trapped in blood and other matter can survive the sterilization process.</i>
5. High-level disinfection kills all microorganisms.	<i>False: High-level disinfection does not reliably kill all bacterial endospores.</i>

Slide References

AT1-9: JHPIEGO. Infection Prevention Presentation Graphics. Copied from www.reproline.jhu.edu, website of the JHPIEGO Corporation:

<http://www.reproline.jhu.edu/english/4morerh/4ip/gifs/slide18.gif>. Accessed April 2, 2007.

AT1-10: EngenderHealth. Online course for Infection Prevention. Available at: www.engenderhealth.org/IP/instrum/in4a.html. Accessed April 2, 2007.