



# Long-Acting Reversible Contraceptives Learning Package

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## Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

**Facilitator Version**

The Maternal and Child Survival Program (MCSP) is a global, United States Agency for International Development (USAID) Cooperative Agreement to introduce and support high-impact health interventions with a focus on 24 high-priority countries with the ultimate goal of ending preventable child and maternal deaths within a generation. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

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# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Module Overview

Module Overview for Facilitator

## Assessments

Pre and Post Test Answer Key

## Activities

Activity 5-1: Instructions: What's Right or Wrong with These Pictures?

Activity 5-2: What's Right or Wrong with These Pictures?

Activity 5-3: Hand Hygiene and Putting on and Removing Gloves

Activity 5-4: Waste Management

## Handouts

Handout 5-1: Hand Hygiene

Handout 5-2: Steps in Processing Surgical Instruments and Other Items

Handout 5-3: High-Level Disinfection

Handout 5-4: Infection Prevention Practices for Specific Clinical Situations (Interval, Postpartum, and Post Abortion)

Handout 5-5: Types of Waste, Waste Containers, and Disposal Process

Handout 5-6: Guidelines for Waste Disposal

Handout 5-7: Sample Action Plan

## Job Aids

Job Aid 5-1: Making Chlorine Solution

Job Aid 5-2: Performance Standards

Job Aid 5-3: Putting on and Removing Gloves

## Skill Stations

Skill Station Instructions: How to Use the Infection Prevention Station Checklists

Skill Station 5-1: Preparing 0.5% Chlorine Solution for Decontamination

Skill Station 5-2: Cleaning of Instruments and Other Items

Skill Station 5-3: High-Level Disinfection

Skill Station 5-4: Disposal of Sharps

## Posters

Poster 5-1: Steps for Handwashing

Poster 5-2: Steps for Handrubbing

## Presentations

Presentation 5-1: Infection Prevention: An Overview

## Facilitator Tools

Facilitator Tool 5-1: Key Points Discussion Guide: Infection Prevention

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Module Overview for Facilitators

Time: 9:00 hours

### Module Objectives

By the end of session, learners will be able to:

- Describe the disease transmission cycle
- Explain how to stop the spread of infectious disease
- Identify risks to health care workers who provide long-acting reversible contraceptive (LARC) services
- List all Standard Precautions for infection prevention
- Describe safe practices while inserting and removing the IUD/intrauterine system (LNG-IUS) and implants in a variety of clinical situations
- Explain how to handle, segregate, and dispose of contaminated and non-contaminated waste

### Session Plans

- Session 1: Disease Transmission and Standard Precautions
- Session 2: Safe Practices for Infection Prevention
- Session 3: Demonstration and Practice of Safe Practices for Infection Prevention
- Session 4: Improving Infection Prevention Practices—Facility Visit

### Recommended Learners

- All staff from the administrative and clinical services; managers, doctors, nurses, midwives, and pharmacists should be invited to attend the sessions in this module.
- A step-down training is recommended for cleaners.

### Special Considerations

Please refer to in-country infection prevention guidelines before the start of training and adapt the materials in this session accordingly.



## Materials and Supplies

Category	Name	Materials to Print	
		Facilitator	Learner
Assessments	Pre and Post Test Questionnaire		X
	Pre and Post Test Answer Sheet		X
	Pre and Post Test Answer Key	X	
Activities	Activity 5-1: Instructions: What's Right or Wrong with These Pictures	X	
	Activity 5-2: What's Right or Wrong with These Pictures	X	
	Activity 5-3: Hand Hygiene and Putting on and Removing Gloves	X	
	Activity 5-4: Waste Management	X	
Handouts	Handout 5-1: Hand Hygiene	X	X
	Handout 5-2: Steps in Processing Surgical Instruments and Other Items	X	X
	Handout 5-3: High-Level Disinfection	X	X
	Handout 5-4: Infection Prevention Practices for Specific Clinical Situations (Interval, Postpartum, and Post Abortion)	X	X
	Handout 5-5: Types of Waste, Waste Containers, and Disposal Process	X	X
	Handout 5-6: Guidelines for Waste Disposal	X	X
	Handout 5-7: Sample Action Plan	X	X
Job Aids	Job Aid 5-1: Making Chlorine Solution	X	X
	Job Aid 5-2: Performance Standards	X	X
	Job Aid 5-3: Putting on and Removing Gloves	X	X
Skills Station	Skill Station Instructions: How to Use the Infection Prevention Station Checklists	X	X
	Skill Station 5-1: Preparation of 0.5% Chlorine Solution for Decontamination	X	X
	Skill Station 5-2: Cleaning of Instruments and Other Items	X	X
	Skill Station 5-3: High-Level Disinfection	X	X
	Skill Station 5-4: Disposal of Sharps	X	X
Posters	Poster 5-1: Steps for Handwashing	X	X
	Poster 5-2: Steps for Handrubbing	X	X
Presentations	Presentation 5-1: Infection Prevention: An Overview	X	
Facilitator Tools	Facilitator Tool 5-1: Key Points Discussion Guide: Infection Prevention	X	
Supplies	IP Supplies: please refer to the detailed list of supplies in the <i>Skill Station Instructions: How to Use the Infection Prevention Station Checklists</i>		
	Projector		

# Session Plans

## Module 5—Session I

Date	Venue	Session number: I	Duration: 140 min
<b>Topic:</b> Infection Prevention—Disease Transmission and Standard Precautions			
<b>Session Objectives:</b> By the end of this session, learners will be able to: <ul style="list-style-type: none"> <li>• Describe the disease transmission cycle</li> <li>• Explain how to prevent the spread of infectious diseases</li> <li>• Identify risks to health care workers who provide long-acting reversible contraceptive (LARC) services</li> <li>• List all Standard Precautions for infection prevention</li> <li>• Demonstrate the steps of proper handwashing</li> </ul>			
Methods and Activities			Materials/Resources
<b>Introduction (5 min)</b> <ul style="list-style-type: none"> <li>• Review the session objectives with learners</li> </ul>			<ul style="list-style-type: none"> <li>• Flip chart of Session Objectives</li> </ul>
<b>Pre Test (10 min)</b> <ul style="list-style-type: none"> <li>• Distribute copies of the Pre Test Questionnaire and instruct learners how to take the test.</li> <li>• Collect the answer sheets.</li> </ul>			<ul style="list-style-type: none"> <li>• Pre/Post Test Questionnaire and Answer Sheet (for learners)</li> <li>• Pre/Post Test Questionnaire Answer Key (for the facilitator)</li> </ul>
<b>Discussion: Risks for clients and providers during provision of services (20 min)</b> <ul style="list-style-type: none"> <li>• Ask learners to describe any problems they have had as a result of poor infection prevention practices.</li> <li>• Show pictures of good and bad IP practices.</li> <li>• Ask learners to explain the risks related to each of the practices shown in the pictures.</li> </ul>			<ul style="list-style-type: none"> <li>• Activity 5-1: Instructions: What's Right or Wrong with These Pictures</li> <li>• Activity 5-2: What's Right or Wrong with These Pictures</li> </ul>
<b>Interactive Presentation: Overview of infection prevention (50 min)</b> <ul style="list-style-type: none"> <li>• Show the PPT presentation: Presentation 5-1: Infection Prevention: An Overview</li> <li>• Ensure that the following points come out in the discussion:               <ul style="list-style-type: none"> <li>• Disease transmission cycle</li> <li>• Mode of transmission</li> <li>• Point of intervention</li> <li>• Standard precautions</li> </ul> </li> <li>• Ask learners to list all the standard precautions in their notebooks</li> <li>• Invite one learner to read her or his list</li> <li>• Ask other learners to comment on the list (what's missing, what should not be there, etc.)</li> <li>• Show the PPT slide about the list of standard precautions and invite all learners to make sure their list includes all of the precautions               <ul style="list-style-type: none"> <li>• Lead a discussion using Facilitator Tool 5-1: Key Points Discussion Guide</li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>• Projector</li> <li>• Presentation 5-1: Infection Prevention: An Overview</li> <li>• Flip charts</li> <li>• Facilitator Tool 5-1: Key Points Discussion Guide</li> </ul>

Methods and Activities	Materials/Resources
<b>Practice Simple Hand Hygiene (30 min)</b> <ul style="list-style-type: none"> <li>Use the Instructions for Activity 5-3: Hand Hygiene and Putting on and Removing Gloves to prepare and lead this activity.</li> <li>Demonstrate correct handwashing techniques using Poster 5-1: Steps for Handwashing</li> <li>Demonstrate handwashing with alcohol-based hand rub using Poster 5-2: Steps for Handrubbing</li> <li>Lead the learners in practicing correct handwashing techniques</li> <li>Distribute and review with the learners Handout 5-1: Hand Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>Activity 5-3: Hand Hygiene and Putting on and Removing Gloves</li> <li>Job Aid 5-3: Putting on and Removing Gloves</li> <li>Handout 5-1: Hand Hygiene</li> <li>Poster 5-1: Steps for Handwashing</li> <li>Poster 5-2: Steps for Handrubbing</li> <li>Talcum powder/chalk powder</li> <li>Paper to cover table</li> <li>Plastic waste bags</li> </ul>
<b>Putting On/Removing Gloves (15 min)</b> <ul style="list-style-type: none"> <li>Demonstrate the correct technique for putting on and removing sterile/HLD gloves</li> <li>Lead the learners in practicing the correct technique for putting on and removing sterile/HLD gloves</li> </ul>	<ul style="list-style-type: none"> <li>Activity 5-3: Hand Hygiene and Putting on and Removing Gloves</li> <li>Sterile/high-level disinfected (HLD) gloves</li> </ul>
<b>Summary (5 min)</b> Ask for volunteers to do the following: <ol style="list-style-type: none"> <li>Describe the disease transmission cycle</li> <li>Explain how to stop the spread of infectious disease</li> <li>Identify risks to health care workers who provide LARC services</li> </ol>	

## Module 5—Session 2

Date	Venue	Session number: 2	Duration: 130 min
<b>Topic:</b> Infection Prevention—Safe Practices for Infection Prevention			
<b>Session Objectives:</b> By the end of this session, learners will be able to: <ul style="list-style-type: none"> <li>Explain the 3 steps for processing used instruments</li> <li>Describe safe practices while inserting and removing the IUD/intrauterine system (LNG-IUS) in a variety of clinical situations</li> <li>Explain how to handle sharps and segregate and dispose of contaminated and non-contaminated waste</li> </ul>			
<b>Advanced Preparation</b> <ul style="list-style-type: none"> <li>Prepare a flip chart paper with 5 questions as mentioned in the small group session</li> <li>Prepare a flip chart with headings for PPE requirements in special clinical situations (see Handout 5-3)</li> <li>Use the Instructions for Activity 5-4: Waste Management to prepare for that activity.</li> </ul>			

Methods and Activities	Materials/Resources
<b>Introduction (5 min)</b> Review session objectives with learners	<ul style="list-style-type: none"> <li>Flip chart of Session Objectives</li> </ul>
<b>Four Steps for Processing Used Instruments (20 min)</b> <ul style="list-style-type: none"> <li>Ask learners how they process used instruments in their facility</li> <li>Write their responses on the flip chart</li> <li>Ask learners to open Handout 5-2: Steps in Processing Surgical Instruments and Other Items and Handout 5-3: High-Level Disinfection</li> <li>Review Handouts 5-2 and 5-3 with the learners</li> </ul>	<ul style="list-style-type: none"> <li>Flip chart and markers</li> <li>Handout 5-2: Steps in Processing Surgical Instruments and Other Items</li> <li>Handout 5-3: High-Level Disinfection</li> </ul>

Methods and Activities	Materials/Resources
<p><b>Small Group Work: Overview of Infection Prevention (20 min)</b></p> <ul style="list-style-type: none"> <li>• Divide learners into 3 small groups and assign each group a number (1, 2, or 3).</li> <li>• Show the flip chart sheet(s) that you have prepared ahead of time with the 5 questions.</li> <li>• Explain that each group will have 5 minutes to answer one or two questions about IP; and then will share their answers with everyone else.</li> <li>• Assign: <ul style="list-style-type: none"> <li>• Questions 1 &amp; 2 to group 1</li> <li>• Questions 3 &amp; 4 to group 2</li> <li>• Question 5 to group 3</li> </ul> </li> <li>• Explain that they have 5 minutes to work, and they will present their answers out loud to their colleagues.</li> </ul> <p><b>Note:</b> The expected answers are in <b>bold</b> here:</p> <ol style="list-style-type: none"> <li>1. What are the 3 types of barriers we can use to prevent infection? <b>(Answers: physical, mechanical, and chemical)</b></li> <li>2. What are the 3 levels for processing instruments and other items? <b>(Answers: cleaning, high-level disinfection/ sterilization, and storage)</b></li> <li>3. What are 3 ways to protect ourselves when using needles and sharps? <b>(Answers: Agree on a plan of how to handle them; use a safe or neutral zone to pass them to someone else; say “pass” when you pass one)</b></li> <li>4. How should you dispose of contaminated waste? <b>(Answers: Put it into a leak-proof container and either incinerate, encapsulate, or bury it)</b></li> <li>5. What can you do to improve infection prevention practices in families and communities? <b>(Answers: Teach patients and families, especially about hand hygiene; involve community members in preventing infection at the health facility)</b></li> </ol>	<ul style="list-style-type: none"> <li>• Flip chart sheet(s) on which you have written the following questions: <ol style="list-style-type: none"> <li>1. What are the 3 types of barriers we can use to prevent infection?</li> <li>2. What are the 3 levels for processing instruments and other items?</li> <li>3. What are three ways to protect ourselves when using needles and sharps?</li> <li>4. How should you dispose of contaminated waste?</li> <li>5. What can you do to improve infection prevention practices in families and communities?</li> </ol> </li> </ul>
<p><b>Infection Prevention Practices for Specific Clinical Situations—Interval, Postpartum, and Post Abortion (40 min)</b></p> <ul style="list-style-type: none"> <li>• Ask learners if there are any differences in IP practices while inserting IUD during interval, post abortion, and postpartum periods</li> <li>• Ask learners what challenges they might be facing for following IP practices during IUD outreach camp</li> <li>• Ask learners to refer to Handout 5-4: Infection Prevention Practices for Specific Clinical Situations (Interval, Postpartum, Post Abortion) and read: what are the common IP practices during all 3 situations</li> </ul> <p><b>Activity:</b></p> <ul style="list-style-type: none"> <li>• Post the flip chart paper you have prepared ahead of time: “Requirements of Personal Protective Equipment” for different situations</li> <li>• For each item in the first column, ask learners to find what PPE are required for: <ul style="list-style-type: none"> <li>• Interval IUD insertion and removal</li> <li>• Inserting Postpartum IUD insertion and removal</li> <li>• Inserting Post Abortion IUD insertion and removal</li> <li>• Implant insertion and removal</li> </ul> </li> <li>• Discuss why there are special needs for postpartum and post abortion period.</li> </ul>	<ul style="list-style-type: none"> <li>• Handout 5-4: Infection Prevention Practices for Specific Clinical Situations (Interval, Postpartum, Post Abortion)</li> <li>• Flip chart with the same headings as “Requirements for Personal Protective Equipment (PPE)” found in Handout 5-4 (keep the boxes blank and fill in during activity)</li> </ul>

Methods and Activities	Materials/Resources
<p><b>Waste Management (40 min)</b></p> <ul style="list-style-type: none"> <li>Ask learners how they dispose of the following items at their facility:</li> <li>Used disposable gloves</li> <li>Placenta</li> <li>Regular disposable syringes</li> <li>Bloody cotton or gauze</li> <li>Sharps</li> </ul> <p><b>Activity:</b> Use the Instructions for Activity 5-4: Waste Management to prepare for and facilitate this activity</p> <ul style="list-style-type: none"> <li>Ask learners to open Handout 5-5: Types of Waste, Waste Containers, and Disposal Process and Handout 5-6: Guidelines for Waste Disposal</li> <li>Review Handouts 5-5 and 5-6 with the learners</li> </ul>	<ul style="list-style-type: none"> <li>Activity 5-4: Waste Management</li> <li>Sharps disposal boxes</li> <li>Wastepaper baskets with liners</li> <li>Index cards of different colors</li> <li>Simulated samples of different types of waste (e.g., gauze, cotton painted with ink, IUD plastic wrapper, removed implant rods)</li> <li>Handout 5-5: Types of Waste, Waste Containers, and Disposal Process</li> <li>Handout 5-6: Guidelines for Waste Disposal</li> </ul>
<p><b>Summary (5 min)</b></p> <p>Ask for volunteers to do the following:</p> <ol style="list-style-type: none"> <li>Explain the 4 steps for processing used instruments</li> <li>Describe safe practices while inserting and removing the IUD/intrauterine system (LNG-IUS) in a variety of clinical situations</li> <li>Explain how to handle sharps and segregate and dispose of contaminated and non-contaminated waste</li> </ol>	

## Module 5—Session 3

Date	Venue	Session number: 3	Duration: 145 min
<b>Topic:</b> Infection Prevention—Demonstration and Practice of Safe Practices for Infection Prevention			
<p><b>Session Objectives:</b> By the end of this session, learners will be able to:</p> <ul style="list-style-type: none"> <li>Demonstrate safe practices for infection prevention</li> </ul>			
<p><b>Advanced Preparation</b></p> <ul style="list-style-type: none"> <li>Set up all Skill Stations before the learners arrive</li> <li>Position the Posters and Job Aids as needed</li> </ul>			

Methods and Activities	Materials/Resources
<p><b>Introduction (5 min)</b></p> <ul style="list-style-type: none"> <li>Review session objective with learners</li> </ul>	<ul style="list-style-type: none"> <li>Flip chart of Session Objectives</li> </ul>
<p><b>Infection Prevention Practices (IUD/LNG-IUS and Implants) (100 min)</b></p> <ul style="list-style-type: none"> <li>Ask learners to open Activity: Skill Station Instructions</li> <li>Review the instructions with the learners</li> <li>Divide learners into groups</li> <li>Ensure that each group rotates through all 4 Skill Stations</li> <li>Demonstrate the skill of the first station while the learners follow the steps using the Checklist for that skill</li> <li>Ask learners to follow the instructions listed in the “Using the Station” section of each Skills Station document during their practice</li> </ul>	<ul style="list-style-type: none"> <li>Skill Station Instructions</li> <li>Skill Station 5-1: Preparation of 0.5% Chlorine Solutions for Decontamination (if recommended by country guidelines)</li> <li>Skill Station 5-2: Cleaning of Instruments and Other Items</li> <li>Skill Station 5-3: High-Level Disinfection</li> <li>Skill Station 5-4: Disposal of Sharps</li> </ul>

Methods and Activities	Materials/Resources
<ul style="list-style-type: none"> <li>• Ensure that the learners practice in pairs—one performs the skill and the other follows the checklist</li> <li>• Repeat these steps for the remaining skills</li> <li>• Ensure that each learner practices at each station using the appropriate checklist</li> <li>• Supervise learners during practice</li> </ul>	<ul style="list-style-type: none"> <li>• Job Aid 5-1: Making Chlorine Solution</li> <li>• Poster 5-1: Steps for Handwashing</li> <li>• Poster 5-2: Steps for Handrubbing</li> <li>• Handout 5-3: High-Level Disinfection</li> <li>• Plastic buckets</li> <li>• Basins</li> <li>• Soft brushes</li> <li>• Instruments</li> <li>• Liquid bleach</li> <li>• Gloves</li> <li>• Measuring cup</li> <li>• Detergent</li> <li>• Boiler</li> <li>• Cheatele forceps</li> </ul>
<b>Introduction of Performance Standards (20 min)</b> <ul style="list-style-type: none"> <li>• Ask learners to open Job Aid 5-2: Performance Standards</li> <li>• Explain that you are sharing these standards with them today so that they can use them for improving IP practices at their facility</li> <li>• Review the Performance Standards with the learners. Adapt them as per in-country IPC guidelines.</li> <li>• Identify 5 to 8 key infection prevention standards to be implemented in their facility</li> </ul>	<ul style="list-style-type: none"> <li>• Job Aid 5-2: Performance Standards</li> </ul>
<b>Summary (5 min)</b> <ul style="list-style-type: none"> <li>• Lead a debriefing of the module with the learners.</li> </ul>	
<b>Post Test (10 min)</b> <ul style="list-style-type: none"> <li>• Distribute copies of the Post Test Questionnaire and instruct learners how to take the test.</li> <li>• Collect the test sheets.</li> </ul>	<ul style="list-style-type: none"> <li>• Pre/Post Test Questionnaire and Answer Sheet (for learners)</li> <li>• Pre/Post Test Questionnaire Answer Key (for the facilitator)</li> </ul>
<b>Summary (5 min)</b>	

## Module 5—Session 4

Date	Venue	Session number: 4	Duration: 130 min
<b>Topic:</b> Infection Prevention—Improving Infection Prevention Practices—Facility Visit			
<b>Session Objectives:</b> By the end of this session, learners will be able to: <ul style="list-style-type: none"> <li>• Set standards for implementing infection practices at their facility</li> <li>• Identify gaps in infection prevention practices in their facility</li> <li>• Make an action plan for improving the infection prevention practices for provision of LARC services</li> </ul>			
<b>Advanced Preparation:</b> <ul style="list-style-type: none"> <li>• Meet the in-charge of the facility and inform him/her about the purpose of visit</li> <li>• Make copies of Handout 5-7: Sample Action Plan</li> </ul>			

Methods and Activities	Materials/Resources
<b>Introduction (5 min)</b> <ul style="list-style-type: none"> <li>Review session objective with learners</li> </ul>	<ul style="list-style-type: none"> <li>Flip chart of Session Objectives</li> </ul>
<b>Facility Visit: (120 min)</b> <ul style="list-style-type: none"> <li>Identify the units (FP and delivery room) to be visited by the learners in their facility</li> <li>Identify one person who will be responsible for implementation of key standards at their unit</li> <li>Observe good and poor infection prevention practices at the unit</li> <li>Discuss and make an action plan for improving infection prevention practices using Handout 5-7: Sample Action Plan as a template</li> </ul>	<ul style="list-style-type: none"> <li>Performance standards</li> <li>Flip chart</li> <li>Markers</li> <li>Handout 5-7: Sample Action Plan</li> </ul>
<b>Summary &amp; Closing (5 min)</b>	

## Sample Schedule

Facility-based delivery: Four consecutive days

Day 1 (2 hrs 15 min)		Day 2 (2 hrs 10 min)		Day 3 (2 hrs 25 min)		Day 4 (2 hrs 10 min)	
Time	Session: Activity	Time	Session: Activity	Time	Session: Activity	Time	Session: Activity
5 min	One: Introduction Session Objective	5 min	Two: Introduction Session Objectives	5 min	Three: Introduction Session Objectives	5 min	Four: Recap
10 min	One: Pre Test	20 min	Two: Four steps of processing instruments (Discussion)	100 min	Three: Infection Prevention Practices (Skills Lab)	120 min	Four: Facility Visit and Action Planning
20 min	One: Risks for clients and providers during provision of services (Discussion)	20 min	Two: Overview of IP (Small Group Work)	20 min	Three: Introduction to IP performance standard	5 min	Four: Summary & Closing
50 min	One: Overview of IP (Interactive Presentation)	40 min	Two: Infection Prevention practices for specific clinical situations (Interval, Postpartum, and Post Abortion)	5 min	Three: Summary		
30 min	One: Practice Hand Hygiene (Demonstration & Practice)	40 min	Two: Waste Management & Disposal Activity	10 min	Three: Post Test		
15 min	One: Putting on and Removing Gloves	5 min	Two: Summary	5 min	Three: Summary		
5 min	One: Summary						



# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Pre and Post Test Answer Key

1. Asepsis or aseptic technique is a general term used to:
  - a. Treat infections with antibiotics
  - b. Kill microorganisms causing infections in the body
  - c. **Prevent entry of microorganisms into any area of the body where they are likely to cause infection**
  - d. Make instruments safe for handling
2. Infection prevention practices are recommended for:
  - a. Surgeons only
  - b. **Everyone**
  - c. Patients only
  - d. Postpartum clients only
3. Which is the first step in processing instruments:
  - a. Sterilization
  - b. Cleaning
  - c. Boiling
  - d. **Decontamination**
4. To minimize the risk of staff contracting hepatitis B or HIV/AIDS during the cleaning process, instruments and gloves **first** should be soaked for:
  - a. **10 minutes in 0.5% chlorine solution**
  - b. 20 minutes in formaldehyde solution
  - c. 10 minutes in an antiseptic solution (Dettol/Savlon)
  - d. 2 hours in alcohol solution
5. Surgical (metal) instruments used for IUD insertion, (i.e., the vaginal speculum, uterine sound, and tenaculum) can be safely used if, after decontamination and thorough cleaning, they are:
  - a. Dried and stored in a sterile container
  - b. **High-level disinfected**
  - c. Soaked in Savlon or Zephiran for 30 minutes
  - d. Used immediately

6. Which antiseptic can be safely used for cervical or vaginal preparation?
  - a. 40% alcohols
  - b. .01% dilute chlorine solution
  - c. Tincture of iodine
  - d. **Povidone iodine**
  
7. In order to reduce the risk of infection, prior to insertion or removal of a contraceptive implant:
  - a. Prepare the surgical site with antiseptic only
  - b. **Clean the surgical site with soap and water followed by antiseptic**
  - c. Prepare the site with an antiseptic and give a 3-day course of antibiotics
  - d. Clean the surgical site with 20% alcohol solution
  
8. While conducting immediate postpartum IUD (PPIUD) insertion, it is safe to:
  - a. Use surgical (metal) instruments that have been decontaminated and thoroughly cleaned for inserting the PPIUD
  - b. Use sterile surgical gloves for loading the IUD in the sterile package
  - c. **Place PPIUD instruments on a separate table or stand to avoid cross contamination with dirty instruments used during delivery**
  - d. Place all instruments used for PPIUD insertion on one side of the same delivery table
  
9. Who in the health facility is responsible for complying with infection prevention standards?
  - a. Health facility in-charge
  - b. Cleaners
  - c. **All staff**
  - d. Nurses
  
10. The purpose of proper waste management is to:
  - a. Protect people who handle waste items from injuries
  - b. Prevent the spread of infections to health care workers who handle waste
  - c. Prevent the spread of infection to the community
  - d. **All of the above**

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Activity 5-I: Instructions: What's Right or Wrong with These Pictures?

Time: 20 minutes

### Objectives

- To help learners start seeing things with “different eyes”
- To enable learners to identify correct or incorrect/incomplete practices in each photograph presented, and discuss how to implement correct practices at their own sites or how to improve incorrect/incomplete practices

### Materials

Photograph. Real pictures, or overhead transparencies.

### Instructions for the Trainer

This activity should be conducted at the start of the session to “train” learners how to observe infection prevention (IP) practices and also how to find positive and negative things in the photographs. You can add your own photographs to be specific to the country or program.

### Activity 5-I

1. Draw small boxes labeled as right and wrong on a flip chart
2. Paste the chart on the wall or on the board
3. Put the photographs in a basket
4. Pass the basket with photographs among the learners
5. Ask the learners to pick one photo from the basket
6. Ask the learners to look at the photo and assess if the picture is showing right or wrong infection prevention practice
7. Tell the learners to paste the picture in one of the labeled boxes (right or wrong) on the flip chart
8. Ask them why do they think it is right or wrong?
9. Encourage group discussion about what they see or do not see
10. Ask learners to start with the positive things and then move on to discuss practices that could be improved
11. Ask learners to think about how to improve the poor practices and how to implement the positive practices at their sites


## Discussion Questions

- How does it relate to your facility? Is it similar or different? How?
- What can we do to improve IP practices at our sites?
- Do people (including us) give feedback when they/we find positive things? Why and how? What is the outcome? Are you rewarded or punished? What happens when negative feedback is given?

## Summarize the Main Points

- There are always good practices to be recognized and bad practices to be improved.
- It is very important to know how to observe both (positive and negative practices) and to learn how to give feedback.
- Many times we are so used to our problems or poor practices that we cannot even see them, much less look for solutions to improve them. The same is true for the good practices.

## Activity 5-2: What's Right or Wrong with These Pictures?

**USAID**  
FROM THE AMERICAN PEOPLE

Maternal and Child  
Survival Program



### Activity 5-2: Pictures: What's Right or Wrong with These Pictures?

Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

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**Is Infection Prevention an Issue  
at Your Facility?**



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For more information, please visit  
**[www.mcspprogram.org](http://www.mcspprogram.org)**

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# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Activity 5-3: Hand Hygiene and Putting on and Removing Gloves

Time: 45 minutes

### Objectives

Learners will understand the importance of how to:

- Wash all surfaces of their hands correctly
- Put on and take off sterile gloves correctly
- Increase their awareness of breaks in aseptic technique and of how easily they can contaminate themselves

### Materials

- Plastic waste bag
- Talcum/chalk powder
- Sterile gloves
- A table of sufficient size for the number of learners
- Flip chart or newsprint paper to cover the table (if needed)
- Paper towel

### Instructions for the Trainer

Prepare the table with sterile gloves in sterile wrappings (or high-level disinfected gloves), talcum powder/chalk powder in the center of each table or in front of each learner. Position the waste container near the table. All learners should take off their jewelry, roll up their sleeves.



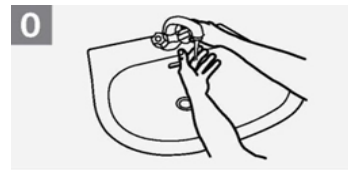
## Activity I: Demonstrate and practice handwashing with soap and water and using Alcohol Based Hand Rub (ABHR)

(Time: 30 minutes)

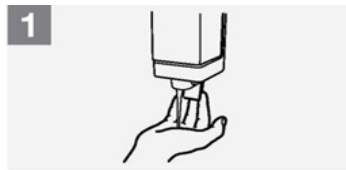
### Correct hand hygiene using soap and water

1. Ask learners to close their eyes and sprinkle talcum powder/chalk powder onto palms of their hands. With their eyes closed, they should begin the ordinary handwashing technique.
2. Tell learners to stop washing their hands after 10–15 seconds and to open their eyes and examine their hands. Ask them to point to those parts of the hands without powder and describe the areas (usually between the thumb and index finger, between fingers, “under nails,” or the backs of hands).
3. Discuss and make them realize in routine handwashing, if not performed correctly, how easily we can miss areas that are not washed properly and can cause infections.
4. Demonstrate correct handwashing technique with soap and water as learners observe:
  - Wet hands with water
  - Apply enough soap to cover all hand surfaces
  - Rub hands palm to palm
  - Rotational rub of right palm over left dorsum with interlaced fingers and vice versa
  - Fingers interlaced and palm to palm
  - Back of fingers to opposing palms with interlocked fingers (right and left)
  - Rotational rubbing of left thumb clasped in the right palm and vice versa
  - Rotational rubbing, backward and forward, with clasped fingers of right hand in left palm and vice versa
  - Rinsing of hands with water
  - Dry hands thoroughly with single use towel or paper towel
  - Use paper towel to turn off the faucet
  - Your hands are safe now (total recommended time for handwashing: 40 seconds)
5. Allow learners to repeat the handwashing with their eyes open, and follow the steps described above while the trainer reads them aloud.
6. Alternatively, brainstorm with the group why the first handwashing did not remove all the powder and how to improve their handwashing technique.
7. Inspect hands, forearms, clothes, and work area for powder.
8. Ask learners to clean their hands with a paper towel at the end of activity.

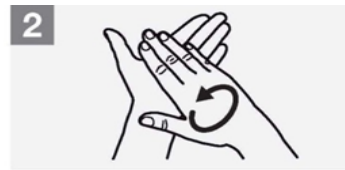
## WHO Recommendation on How to Perform Hand Hygiene with Soap and Water



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



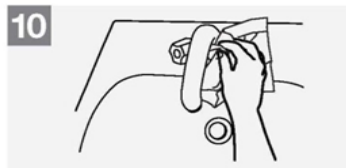
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



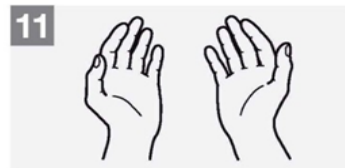
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

Reprinted from: "How to Handwash," © World Health Organization (2009). [http://www.who.int/gpsc/5may/How\\_To\\_HandWash\\_Poster.pdf](http://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf). Accessed May 6, 2016.

## Correct hand hygiene using Alcohol Based Hand Rub (ABHR)

1. Apply palmful of hand rub solution (3 ml to 5 ml) into cupped palm of hand, covering all surfaces
2. Rub palm to palm
3. Right palm over left dorsum with interlaced fingers and vice versa
4. Palm to palm with fingers interlaced
5. Back of fingers to opposing palms with fingers interlocked
6. Rotational rubbing of left thumb clasped in right palm and vice versa
7. Rotational rubbing, backward and forward, with clasped fingers of right hand in left palm and vice versa
8. Once dry, your hands are safe (total recommended time: 20 seconds to 40 seconds)
9. Allow the learners to practice hand hygiene using alcohol hand rub solution, and follow the steps described above while the trainer reads them aloud.

### WHO Recommendation on How to Perform Hand Hygiene with ABHR



Reprinted from: "How to handrub," © World Health Organization (2009). [http://www.who.int/gpsc/5may/How\\_To\\_HandRub\\_Poster.pdf](http://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf). Accessed May 6, 2016

## Activity 2: Demonstrate and Practice putting on and removing gloves

(Time: 15 minutes)

1. Demonstrate how to put on/remove gloves to the learners
2. Let the learners practice to put on the sterile or high-level disinfected gloves using aseptic technique, as follows:
  - Pick up the sleeve of the left glove with the right thumb and index finger.
  - Lift the glove and insert the pointed fingers of the left hand.
  - Pull the sleeve to the wrist.
  - Point and insert fingers 2–5 of the gloved left hand under the inverted sleeve of the right glove and lift the right glove.
  - Carefully insert the pointed fingers of the right hand into the right glove—avoid touching the gloved left thumb with the ungloved fingers of the right hand.
3. Learners must avoid touching anything with their now-sterile gloved hands. Ask learners to remove their gloves, using aseptic technique, over the waste bag or over the glove wrappers.
  - Gently peel off the cuff toward the fingertips of one hand—but not completely off—and then use those still-covered fingers to grasp the glove on the other hand and remove both gloves together.
  - Try to drop both gloves into the waste bag, or over the wrapper, at the same time.

## Discussion Questions

1. What can we learn from this exercise?
2. What are the two methods for hand hygiene?
3. What are the risks for health care providers and clients or patients from breaking aseptic technique while gloving or by not washing hands correctly?
4. What difference does proper aseptic technique make in handwashing and gloving?
5. Distribute and read Handout 5-1: Hand Hygiene with learners.

## Summarize the Main Points

- Time, technique, and careful handwashing are the best ways to protect ourselves and other people from the spread of infectious diseases.
- “The hands of health care workers are a major source of transmission of nosocomial pathogens.”
- Since ABHR does not remove soil or organic matter, if hands are visibly soiled or contaminated with blood or body fluids, handwashing with soap and water should be completed first.
- Use of proper aseptic techniques when using sterile or high-level disinfected gloves is essential to avoid contamination and spread of infections.
- Gloves, even new gloves, can have holes that cannot be seen. This is why it is so important to wash your hands thoroughly with soap and water after removing gloves.

Source: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpigo Corporation, 2004. *Infection Prevention and Control Guidelines for Healthcare Facilities with Limited Resources*. Baltimore, MD: Jhpigo Corporation, 2017

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Activity 5-4: Waste Management

Time: 30 minutes

### Objectives

By the end of this exercise, learners will be able to:

- Identify different types of waste (non-contaminated, contaminated, and hazardous)
- Explain how, where, and why to segregate
- Describe personal protective equipment needed to handle waste

### Materials

- Flip chart and markers
- Different types of waste containers or paper bags
- Simulated waste such as cotton, gauze, bandages marked with colored ink to simulate contaminated waste
- Index cards or colored or white card sheets and scissors to cut them into small cards

### Instructions for the Trainer

Before starting this activity, make cards to identify:

- Waste containers
- Different types of wastes
- Disposal processes

**Remember:** Staff from different facilities might need different examples. Select the containers, waste, and disposal processes as per local needs.

### Activity 5-4

1. Set up the containers in front of the room on the floor. Label them with the cards for different types of waste receptacles.
2. Lay out final disposal process cards on a separate table or floor
3. Distribute the waste cards or simulated waste samples to the learners
4. Ask learners to place the simulated waste or waste cards in the appropriate waste container
5. After all the waste cards or simulated waste samples are placed inside the containers, go through each container with the learners, and ask the group if waste has been placed in the proper container
6. Then ask the group to identify the correct final disposal process for each type of waste, and place the cards or simulated waste in the appropriate final disposal bin

7. Discuss the need for personal protective equipment (PPE). Ask learners to identify which type of PPE is needed while handling, transporting, and disposing of each type of waste.
8. Use Handout 5-5: Types of Waste, Waste Containers, and Disposal Process for reference

## Discussion

- Why is segregation of waste important?
- Is segregating waste possible at your facility? Who is responsible for doing it?
- What can you do to improve waste management at your facility?
- What are the barriers to improving waste management at your facility? How can you overcome those barriers?
- Who will benefit from improved waste management processes and why?

## Summarize the Main Points

- Segregating waste in appropriate containers at the point of use minimizes the volume of contaminated/hazardous waste, which requires special processing for final disposal. Segregating waste also decreases the risk of exposure to contaminated/hazardous waste among health care workers and community members.
- Reprocessing/recycling correctly is safe; it saves money; and it protects the environment from pollution.
- It is important to involve all staff members, including managers, in infection prevention processes in order to maintain a functional system that will keep the facility and its surroundings clean. Community members can also be involved in this process.

Source: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpiego Corporation, 2004, pp. 153–158.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-1: Hand Hygiene

**Handwashing** is the process of mechanically removing soil, debris, and transient flora from hands using soap and clean water. Hand hygiene is the single most important measure to prevent transmission of infection and is the cornerstone of infection prevention.

The goal of hand antisepsis is to remove soil, dirt, and debris and reduce both transient and resident flora. Hand antisepsis can be performed using alcohol based handrub or by washing hands with water and soap (bar or liquid) that contains an antiseptic agent (i.e., hygienic handwash) such as chlorhexidine, iodophors, and triclosan. (WHO 2009)

Traditionally, handwashing with soap and water has been the primary method of hand hygiene; however, alcohol based handrub has been shown to be more effective for standard hand hygiene than plain or antimicrobial soaps. (CDC 2002)

### Handwashing Opportunities

The World Health Organization has five recommended points of time for hand hygiene to increase patient safety and prevent transmission of hospital acquired infections. These recommendations are called the “**My 5 Moments for Hand Hygiene**” and focus on the following areas:

- Before making contact with a patient
- Before performing a clean/aseptic task/procedure, including touching invasive devices
- After performing a task/procedure involving the risk of exposure to a body fluid, including touching invasive devices
- After patient contact
- After touching equipment in the patient’s surrounding areas (WHO 2006a)
- The “5 Moments” are numbered according to health care workflow in an attempt to ease recall for health care workers:



# Your 5 moments for HAND HYGIENE



## Hand Hygiene Methods

### Handwashing with Soap and Water

The purpose of routine handwashing in health care is to remove dirt and organic material, as well microbial contaminants from the hands. Clean water must be used to prevent microorganisms in the water from contaminating the hands, but water alone is not effective at removing substances containing fats and oils, which are often present on soiled hands. Proper handwashing requires clean water and soap, which is rubbed on all hand surfaces, followed by thorough rinsing and drying.

The cleansing activity of handwashing is achieved by the detergent properties of the soap, which assists the mechanical removal of debris and loosely adherent microbes. Plain soap has minimal antimicrobial properties, but the mechanical action removes some bacteria from hands. Time is also an important factor—handwashing for 30 seconds has been shown to remove 10 times the amount of bacteria as handwashing for 15 seconds. The entire handwashing procedure (steps 1-11), if completed properly, should take 40–60 seconds. (CDC 2002; WHO 2009a)

### Alcohol-Based Handrub (ABHR)

The use of an alcohol based hand rub solution ABHR is more effective in killing transient and resident flora than handwashing with antimicrobial agents or plain soap and water. It also has persistent (long lasting) activity. ABHR is quick and convenient to use and can easily be made available at the point of care. ABHR also contains a small amount of an emollient (e.g., glycerin, propylene glycol, or sorbitol) that protects and softens skin. To be effective, approximately 3–5 ml (i.e., 1 teaspoon) of ABHR should be used for approximately 20-30 seconds. The ideal volume of ABHR to apply to the hands varies according to different formulations of the product and hand size. ABHR does not remove soil or organic matter. If hands are visibly soiled or contaminated with blood or body fluids, handwashing with soap and water should be



completed first. To reduce the buildup of emollients on hands after repeated use of ABHR, washing hands with soap and water after every 5–10 applications of ABHR is recommended.

## Prevent Contamination of hands during handwashing

Since microorganisms grow and multiply in moisture and in standing water, the following are recommended to prevent contamination of hands during handwashing:

- Avoid bar soaps when possible because they can become contaminated, leading to colonization of microorganisms on hands. If bar soap is used, provide small bars and use soap racks that drain the water after use. (WHO 2009a)
- Do not add liquid soap to a partially empty liquid soap dispenser, known as “topping off.” The practice of topping off dispensers may lead to bacterial contamination of the soap. Although it is best not to refill soap dispensers (but rather use refill packets), when soap dispensers are refilled, they should be thoroughly cleaned and dried before refilling. (WHO 2009a)
- Filter and/or disinfect water if a health care facility’s water is suspected of being contaminated; this will make the water microbiologically safer. (WHO 2009a)
- Use running water for hand hygiene, but in settings where no running water is available, water “flowing” from a pre-filled container with a tap is preferable to still-standing water in a basin. Use a container with a tap that can be turned off preferably with the back of the elbow (when hands are lathered) and turned on again with the back of the elbow for rinsing. As a last resort, use a bucket with a lid or a pitcher and a mug to draw water from the bucket, with the help of an assistant, if available. (WHO 2009a)
- Avoid dipping hands into basins of standing water. Even with the addition of an antiseptic agent (e.g., Dettol or Savlon), microorganisms can survive and multiply in these solutions. (Rutala 1996)
- Collect previously used water in a basin and discard it in a drain or in a latrine if a drain is not available.
- Dry hands properly because wet hands can more readily acquire and spread microorganisms. Paper towels or single-use clean cloths/towels are an option. Make sure that towels are not used multiple times or by multiple individuals because shared towels quickly become contaminated. (WHO 2009a)
- Handwashing with soap and water is recommended (rather than using ABHR) in the following situations:
  - If hands are visibly soiled or contaminated with blood or body fluids
  - After using the toilet
  - Before eating
  - To remove the buildup of emollients (e.g., moisturizer, creams, oils, lotions) on hands after repeated use of antiseptic handrubs
  - In outbreaks of *C. difficile* (i.e., a bacterial infection that causes severe diarrhea), but not in settings with only a few cases of *C. difficile* (Cohen et al. 2010; Siegel et al. 2007)

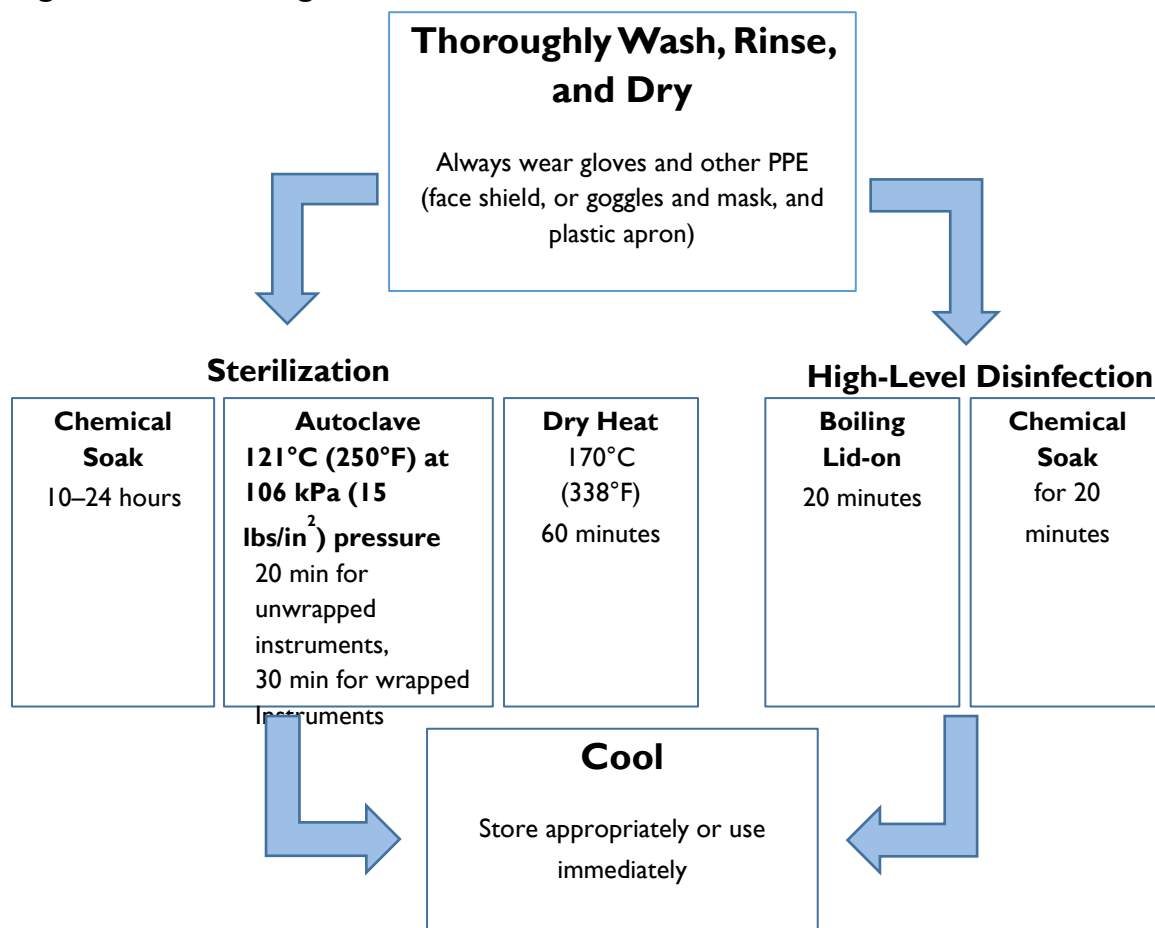
Source: Infection Prevention and Control Reference Manual, Jhpiego 2017

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-2: Steps in Processing Surgical Instruments and Other Items

The recommended basic infection prevention processes to reduce disease transmission from soiled instruments and other reusable items are thorough cleaning followed by either sterilization or high-level disinfection (HLD). Regardless of the type of operative procedure for which surgical instruments and other medical devices are used, the steps in processing the instruments are the same as those illustrated in Figure 1-1.

**Figure 1-1. Processing Instruments and Other Medical Devices**



Adapted from: Tietjen et al. 2003.

- **Decontamination** is the use of physical or chemical means to remove, inactivate, or destroy blood borne pathogens on a surface or item to the point where the object is no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal. In health care facilities, the term generally refers to all pathogenic organisms. WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for this step.
- **Cleaning** is the removal of visible dirt (e.g., organic and inorganic material) from objects and surfaces, normally accomplished manually or mechanically, using water with detergents or enzymatic cleaners. Cleaning is required before high-level disinfection or sterilization because dirt and debris reduce the effectiveness of the cleaning process. Studies have shown that a thorough manual cleaning results in 99.99% reduction in microbial load on the instruments (Rutala 2004), whereas mechanical washer-disinfectors result in 99.999% reduction (Ransjo 2001).
- **High-level disinfection (HLD)** is a process that kills all vegetative microorganisms and inactivates all viruses, but not necessarily high numbers of bacterial spores. HLD is achieved by soaking items in liquid chemicals classified as high-level disinfectants. HLD can also be carried out by boiling for 20 minutes.
- **Sterilization** is the process used to render an item free from viable microorganisms, including spores.

Adapted from draft Jhpiego document: *Infection Prevention and Control Learning Resource Package* [working title].

Process				
Instruments/ Items	Decontamination The first step in handling used items; it reduces risk of hepatitis B (HBV) and HIV/AIDS.	Cleaning Removes all visible blood, body fluids, and dirt.	Sterilization Destroys all microorganisms, including endospores.	High-Level Disinfection Destroys all viruses, bacteria, parasites, fungi, and some endospores.
Procedure table top, or other large surface areas	Wipe off with 0.5% chlorine solution.	Wash with liquid soap or detergent and water if organic material remains after decontamination.	Not necessary	Not necessary
Surgical drapes	Not necessary (Laundry staff should wear protective gowns, gloves, and eyewear when handling soiled linens.)	Wash with liquid soap or detergent and water. Rinse with clean water; air- or machine- dry.	Autoclave at 121° C (250° F) and 106 kPa (15 lb/in <sup>2</sup> ) for 30 minutes.	Not practical
Surgical instruments	*Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately.	Using a brush, wash with liquid soap or detergent and water. Rinse with clean water. If they will be sterilized, air- or towel-dry.	Preferable: Dry heat for 1 hour after reaching 170° C (340° F), or autoclave at 121° C (250° F) and 106 kPa (15 lb/in <sup>2</sup> ) for 20 minutes if unwrapped, 30 minutes if wrapped.  For sharp instruments: Dry heat for 2 hours after reaching 160° C (320° F)	Acceptable: Steam or boil for 20 minutes  Chemically high-level disinfect by soaking for 20 minutes. Rinse well with boiled water and air-dry before use or storage.

Process				
Instruments/ Items	Decontamination The first step in handling used items; it reduces risk of hepatitis B (HBV) and HIV/AIDS.	Cleaning Removes all visible blood, body fluids, and dirt.	Sterilization Destroys all microorganisms, including endospores.	High-Level Disinfection Destroys all viruses, bacteria, parasites, fungi, and some endospores.
Surgical gloves	*Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately.	Wash with liquid soap or detergent and water. Rinse with clean water and check for holes. If gloves will be sterilized, dry them inside and out (air- or towel- dry) and package.	Preferable: Autoclave at 121° C (250° F) and 106 kPa (15 lb/in2) for 30 minutes.  Do not use for 24 to 48 hours.	Acceptable: Steam for 20 minutes and allow to air-dry in steamer for 4–6 hours.  Boil in water for 20 minutes. After cooling, gloves should be worn “wet.” (Drying and storing without contaminating them is difficult.)
Storage containers for instruments	*Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately.	Wash with liquid soap or detergent and water. Rinse with clean water, air- or towel-dry.	Preferable: Dry heat for 1 hour after reaching 170° C (340° F), or autoclave at 121° C (250° F) and 106 kPa (15 lb/in2) for 20 minutes if unwrapped, 30 minutes if wrapped.  Sterilize when empty or contaminated, or weekly.	Acceptable: Boil container and lid for 20 minutes OR chemical high level disinfectant with 0.5% chlorine solution and soak for 20 minutes. Rinse with boiled water and air-dry before use.  High-level disinfect when empty or contaminated, or weekly.

\* WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for this step.

Adapted from Perkins JJ. 1983. *Principles and Methods of Sterilization in Health Sciences*, 2nd ed. Charles C. Thomas Publisher Ltd.: Springfield, IL, pp 95–166; 286–311.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-3: High-Level Disinfection

High-level disinfection (HLD) is a process that kills all vegetative microorganisms and inactivates all viruses, but not necessarily high numbers of bacterial spores. When sterilization equipment is neither available nor suitable, high-level disinfection (HLD) is the only acceptable alternative. HLD destroys all microorganisms, including viruses causing hepatitis B and AIDS, but does not reliably kill all bacterial endospores.

HLD is achieved by soaking items in liquid chemicals classified as high-level disinfectants (for 12-30 minutes depending on type of item). HLD can also be carried out by boiling or steaming for 20 minutes. The commonly recommended disinfectants for HLD are as follows:

- Glutaraldehyde 2% or higher
- Orthophthalaldehyde (OPA) 0.55%
- Hydrogen peroxide (7.5%)
- Peracetic acid >0.2% at 50-65°C
- Hydrogen peroxide (7.35%) and peracetic acid (0.23%)
- Hypochlorite, chlorine generated onsite by electrolyzing saline containing more than 650-675 parts per million (ppm) of active free chlorine (will corrode metal instruments)

Boiling and steaming require only inexpensive equipment, which usually is readily available, they are the preferred methods for small clinics or those located in remote areas. Regardless of the method selected, however, HLD is effective only when instruments and other items first are decontaminated and then thoroughly cleaned and rinsed before HLD.

Moist heat at 80° C kills essentially all bacteria, viruses, parasites, and fungi in 20 minutes. Unless the altitude of the health facility is more than 5,500 meters (18,000 feet), it is not necessary to increase the steaming or boiling time (Favero 1985i).

### Instructions for High-Level Disinfection by Boiling

- **Step 1.** Clean all used instruments and other items to be high-level disinfected.
- **Step 2.** If possible, completely immerse items in water. Adjust the water level so that there is at least 2.5 cm (1 inch) of water above the instruments. Make sure that all bowls and containers to be boiled are full of water.
- **Step 3.** Close the lid over the pan and bring the water to a gentle, rolling boil.
- **Step 4.** Start the timer when a rolling boil begins.
- **Step 5.** Boil all items for 20 minutes.

Use instruments and other items immediately or leave them in a covered, **dry**, high-level disinfected container. (The container used for drying the instruments can be used for storage only if there is no water in the bottom of the container.) Store for up to 1 week.

## Boiling Tips

- Always steam or boil for 20 minutes using a pot with a lid.
- Start timing when the water begins to boil.
- Items should be covered completely with water.
- Do not add anything to the pot after the water begins to boil.

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<sup>i</sup> Tietjen, L. D. Bossemeyer, N. McIntosh. 2004. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Jhpiego: Baltimore, MD.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-4: Infection Prevention Practices for Specific Clinical Situations (Interval, Postpartum, and Post Abortion)

### Common Infection Prevention Measures for Inserting/Removing IUDs and Implants

- Ensure that the procedure room is well lighted and offers privacy.
- Ensure that the insertion table and mattress are clean and free of dust.
- Ensure that there are adequate handwashing facilities, including a supply of clean water (i.e., clear, not cloudy or with sediment) and a toilet or latrine nearby.
- Ensure that the IUD/implant package is unopened and undamaged. The IUD/implant package should not be opened until the final decision to insert the IUD/implant has been made.
- Wash hands thoroughly with soap and water before and after the procedure.
- Use high-level disinfected (HLD)/sterilized equipment, with appropriate disposal of waste after every procedure.
- Using sterile gauze and a sterile sponge/ring clamp, apply an appropriate water-based antiseptic agent to the vagina and cervix two or more times before IUD insertion. Cleanse from the inside of the cervical opening outward.
- Use the “no-touch” technique while removing the IUD from its sterile package and throughout the procedure, to reduce the risk of infection.
- Avoid injuries from needle sticks or sharps.
- Wipe the procedure table with 0.5% chlorine solution after the client has left.
- Ensure that all instruments, gloves, and other reusable items are further processed according to recommended infection prevention practices.

### Special considerations for following good infection prevention practices

#### Suitable Setting for the Procedure

**Interval IUD/implant insertion or removal** is done in an examination room in an outpatient clinic or a minor surgery room in a hospital. If possible, the room should be located away from heavily used areas of the facility, should have limited traffic flow, and should offer privacy. The room should be clean, orderly, and free of dust. The room should have an examination table with a mattress, adequate light, and a trolley for keeping and transporting instruments.

**Postpartum (postplacental) and post abortion IUD/implant insertion** is done immediately after the delivery in the labor or delivery ward or procedure room, which might be overcrowded and may need special arrangements. All sterile instruments and supplies should be opened and arranged on a dry, sterile surface (sterile field) such as a drape/towel or a steel basin. Particular care is required immediately after delivery or evacuation to ensure an adequate sterile field. Use of a separate table or stand is recommended to prevent cross-contamination with instruments used during delivery or MVA. Keep the IUD/implant to the side of the sterile field.

## Client Preparation

### *Interval IUD/Implant*

- The client is instructed to wash her perineal area/upper arm thoroughly with soap and water before the interval IUD or implant insertion, respectively.

### *Postpartum and Post Abortion IUD*

- For early postpartum (within 48 hours) or post abortion IUD insertion, wash or have the woman wash her perineal area with soap and water before prepping the vagina and cervix and beginning insertion.
- Place a dry, sterile cloth on the woman's abdomen, just above the symphysis pubis. This will protect the provider's non-dominant hand from contamination as it applies upward pressure to "elevate" the uterus.
- When available, place another dry, sterile cloth between the woman's genital area and the surface of the examination table for patient comfort and to minimize the risk of contamination of sterile instruments and the IUD during insertion.
- **Postpartum IUD insertion** requirements differ depending upon the timing and the setting where the IUD is inserted. (See the chart below.)

Timing	Setting	Staff Attire
Postplacental	Delivery room, the same bed/table used for labor and birth	Personal protective equipment appropriate for vaginal delivery (e.g., impermeable or long-sleeved gowns with rubber or plastic aprons, eye and mouth protection) Sterile gloves do not need to be changed before insertion if not contaminated.
Intracesarean	Operating theater, procedure table	Personal protective equipment Sterile gloves do not need to be changed before insertion if not contaminated
Early postpartum	Clinical procedure room, procedure table	The arms of the health care provider should be covered by a long-sleeved gown Use of eye and mouth protection is optional When using the "no-touch" technique, use of clean exam gloves is sufficient



## Requirements for Personal Protective Equipment (PPE) in Different Situations

Items	Interval	Post Abortion		Postpartum		
		Immediate	Delayed	Within 10 min.	Within 48 hours	Intra-cesarean
Cap	N	N	N	Y	N	Y
Mask	N	Y	N	Y	N	Y
Goggles	N	Y	N	Y	N	Y
Sterile gown	N	N	N	Y	N	Y
Plastic apron	N	Y	Y	Y	N	Y
Protective footwear	N	Y	N	Y	N	Y
New, clean examination gloves	Y	Y	Y	N	Y	N
Sterile/HLD gloves	N	N	N	Y	N	Y

## Glove Requirements for IUD or Implant Insertion/Removal

Task or Activity	Are Gloves Needed?	Preferred Gloves
Pelvic examination (if necessary)	Yes	New clean examination gloves
Interval IUD insertion/removal (“no-touch” technique)	Yes	New clean examination gloves
Postpartum IUD	Yes	HLD/sterile
Implant insertion and removal		
Two-rod insertion	Yes	Sterile surgical
One-rod insertion		New clean exam
Removal (one-rod and two-rod)		Sterile surgical
Handling and cleaning instruments	Yes	Utility
Handling contaminated waste	Yes	Utility
Cleaning blood or body fluid spills	Yes	Utility

## IP Steps for IUD Insertion

- Use the “no-touch” technique when inserting an IUD during the interval period. This means that the uterine sound and the loaded IUD:
  - Are not allowed to touch the vaginal walls or the blades of the speculum (or any other nonsterile surface that may contaminate them); and
  - Are not passed through the cervical os more than once.
- Use the “no-touch” technique when inserting an IUD during the postpartum period. This means that:
  - The IUD is touched only by uncontaminated sterile gloves and sterile equipment (Kelly’s forceps).
  - The IUD is not allowed to touch the buttock drape, the perineum, the vaginal walls, or the blades of the speculum (or any other nonsterile surface that may contaminate it).
- During immediate postpartum or postplacental IUD insertion, if sterile gloves are contaminated during the antiseptic application process, change to a new pair before proceeding with the insertion.

- If the same provider performs the delivery and the IUD insertion, new gloves are not needed because the IUD is grasped with the Kelly's forceps inside the wrapper; therefore, the provider never touches the IUD (i.e., the "no-touch" technique is used).
- However, if a different/new provider does the IUD insertion, that provider should perform hand hygiene and put on a new pair of sterile or HLD gloves.
- Remember that gloves that have been used to touch the perineum or vagina are contaminated and should be changed before loading an IUD.
- If successful fundal placement is not achieved, or if the IUD is dislodged or removed, and a "repeat attempt" is planned, the same IUD can be reinserted only once.
- Interval IUD/implant insertion and removal are minor procedures, so clients can wear their own clothing, provided it is clean. Staff do not have to wear a cap, mask, or gown.

Sources: Jhpiego. *Postpartum Intrauterine Contraceptive Device (PPIUD) Services: A Reference Manual for Providers*. Baltimore, MD: Jhpiego Corporation, 2010; Jhpiego. *Providing Contraceptive Implants Reference Manual*. Baltimore, MD: Jhpiego Corporation, 2014; Jhpiego. *IUD Guidelines for Family Planning Service Programs: A Problem-Solving Reference Manual*, 3<sup>rd</sup> edition. Baltimore, MD: Jhpiego Corporation, 2006.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Method

## Handout 5-5: Types of Waste, Waste Containers, and Disposal Process

Types of Waste	Tips/Answers for the Trainers
Paper towels, used	Paper basket, municipal waste
Notebook paper	Paper basket, municipal waste
Scrap paper	Paper basket, municipal waste
Waste from the kitchen (food leftovers)	Leakproof container for storage, municipal waste
Body parts	Leakproof container/medical waste: incineration or burial
Small quantities of pharmaceutical waste (drugs or medicine)	Leakproof container/medical waste; incineration, encapsulation, or safe burial. This waste may also be discharged into the sewer (except cytotoxics and antibiotics), but it should not be put into natural rivers, lakes, etc.
Large amounts of pharmaceutical waste (drugs or medicine) Water solubles (cough syrups, IV solutions, eye drops)	Diluted in large amounts of water and then discharged to sewers (where sewage systems exist) or returned to the supplier, if possible
Large amounts of pharmaceutical waste (drugs or medicine) Antibiotics and cytotoxics	May be incinerated at high temperatures (800°C) with the residues going to the landfill or returned to the original supplier. Should never should be mixed with other pharmaceutical waste or discharged into natural rivers and lakes or landfill.
Placenta	Leakproof container/medical waste: incineration or safe burial. In some cultures, the family will bring it home, but it should be placed in a leakproof container made of plastic or clay.
Surgical gloves, used	If they will be reprocessed: bucket with 0.5% chlorine solution; send for reprocessing. If they will be disposed of: bucket with 0.5% chlorine solution and leakproof container/medical waste, incineration, burial, encapsulation.
Coffee cups, used disposable	Regular waste basket, municipal waste
Food from patient trays	Leakproof container for storage, municipal waste
Cotton from immunization clinic	Leakproof container/medical waste; incineration, safe burial, or encapsulation
Mercury from broken thermometer or sphygmomanometer	Put examination gloves on both hands; collect mercury drops with a spoon; place them in a small container for re-use or disposal (send back to suppliers, encapsulation).
Thermometer, broken	If no mercury is present, place it in a sharps container.
Blood from laboratory	Wearing correct personal protective equipment (PPE), pour blood down a utility sink, toilet, or drain, and rinse thoroughly with water to remove residue.

Types of Waste	Tips/Answers for the Trainers
Urine from laboratory	Wearing correct PPE, pour urine down a utility sink, toilet, or drain, and rinse thoroughly with water to remove residue.
Cultures from laboratory	Autoclave and then follow guidelines for medical waste/incineration, safe burial, or encapsulation.
Food from patient trays	Leakproof container for storage, municipal waste
"Butterfly" IV with tubing	The butterfly goes into the sharps container, and the IV tubing goes to medical waste, incineration, safe burial, or encapsulation.
Suture needle, dull	Sharps container, incineration, safe burial, encapsulation
Gauze, bloody	Leakproof container/medical waste; incineration, safe burial
Diapers from newborn nursery	Leakproof container/medical waste. Incineration or safe burial. Or, send to municipal waste/landfill, just as disposable diapers are sent from the community.
Glutaraldehyde (after 14 days of use)	Dilute with water and pour down a drain/utility sink or toilet, flushing with water if it goes to the sewer. Do not put down open drains.
Glutaraldehyde container, empty	If plastic container: rinse three times with water and dispose of by burning, encapsulating, or burying. Do not reuse for liquid. Can be reused as a sharps container.
Regular disposable syringe/needle after use	Without disassembling, flush three times with 0.5% chlorine solution and dispose of in a sharps container. Final disposal can be incineration, burial, or encapsulation. (Reuse is not the best option, but if they must be re-used, they need to be properly processed after decontamination.)
DPT (diphtheria, pertussis, and tetanus) immunization vials, expired	Sharps container/medical waste. Incineration, safe burial, or encapsulation
Depo-Provera® containers/vials, empty	Sharps container/medical waste. Incineration, safe burial, or encapsulation
Emesis basin, full	Using proper PPE, pour emesis down a utility sink, toilet, or drain, and rinse thoroughly with water to remove residue. Decontaminate and clean the basin.
Urine pan, full	Using proper PPE, pour urine down a utility sink, toilet, or drain, and rinse thoroughly with water to remove residue. Decontaminate and clean the pan.
Linen soiled with feces	Using proper PPE, roll the linen, place it in a leakproof container, and send it to the laundry. Do not do anything at point of use. Sluice the feces, if solid, into a utility toilet or drain; pre-soak the linen in water and detergent and chlorine, if needed, and then wash as usual.
Sharps container (¾ full but open)	Close and transport to the proper area for incineration, safe burial, or encapsulation.
IV tubing and bag from blood transfusion	Sharps container and encapsulation if the blood transfusion tubing is made with polyvinyl chloride (PVC)
Blood in suction canister, after surgery	Carefully pour the blood down a utility drain and flush the drain thoroughly with water. Or, carefully pour the blood into a toilet and flush, if there is a safe sewer system.

Types of Waste	Tips/Answers for the Trainers
Anesthetic drugs remaining after surgery	Place small quantities in sharps/contaminated waste containers; then incinerate, encapsulate, bury, or dispose of in a sink drain (not an open drain) or a toilet, if there is a safe sewer system.
Ashes after burning waste	Municipal waste/landfill
Linen after childbirth	Using proper PPE, roll the linen, place it in a leakproof container, and send it to the laundry. Do not do anything at point of use. Pre-soak the linen in water and detergent/chlorine and wash as usual.
Scalpels blades, used	Sharps container. Incineration, safe burial, or encapsulation
Examination gloves, used	Soak gloves (or dip hands before removing gloves) in a bucket with 0.5% chlorine solution for decontamination and dispose of gloves in a leakproof container/medical waste. Incineration, safe burial, or encapsulation.
Dressings, from abdominal wound	Leakproof container/medical waste. Incineration, safe burial, or encapsulation.
Chlorine, 0.5% solution used for decontamination	Pour into a utility toilet, sink, or drain. Flush with water. If powder bleach was used to make the solution, flush with large amounts of water to prevent calcium precipitate from clogging drains.
Wastepaper basket from administration, full	Municipal waste/landfill or recycling
Bleach bottle, empty	If plastic container, rinse three times with water and dispose of by burning, encapsulating, or burying. Can be reused as a sharps container.
Waste water in utility bucket used to mop floors	Pour down a drain, utility sink, or utility toilet.
Bucket with plastic bag, $\frac{3}{4}$ full with medical waste	Close the container and transport it to the proper place for incineration, safe burial, or encapsulation.

Types of Waste Containers/Receptacles	Tips/Answers for the Trainers
Wastepaper basket from nursing station	
Wastepaper basket from administration	
Plastic bucket with plastic bag for medical waste	
Leakproof container (plastic bag or bucket with lid)	
Clay pot with lid	
Plastic bucket with 0.5% chlorine solution	
Utility sink	
Bathroom toilet	
Utility toilet	
Open drain to local river	
Drain to sewer	
Bathroom sink	Only for handwashing, not for disposal

Final Disposal Processes	Tips/Answers for the Trainers
Municipal waste/landfill	
Incinerator (high temperature, single- or double-chamber)	
Return to the suppliers	
Recycling	
Reprocessing	
Incinerator (low temperature, drum or brick/clay)	
Burial pit	
Encapsulation	
Open burning	Discuss why this is the least desirable option. If it must be done, burn in a designated area, transport the waste to the site just before burning, and remain with the fire until it is out.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-6: Guidelines for Waste Disposal

### Waste Disposal

Medical waste may be non-contaminated or contaminated. Non-contaminated waste (e.g., paper from offices, boxes) poses no infectious risk and can be disposed of according to local guidelines. Proper handling of contaminated waste (blood- or body fluid-contaminated items) is required to minimize the spread of infection to clinic personnel and to the local community.

### Principles of Waste Management

Key steps in the management of health care waste are as follows:

1. Waste minimization
2. Segregation (separation)
3. Collection
4. Transportation
5. Storage
6. Treatment
7. Disposal

### The Following Principles are a General Guide to Waste Management in a Health Care Setting:

- Develop a waste management plan that is based on an assessment of the current situation and that minimizes the amount of waste generated.
- Segregate health care waste according to their categories using dedicated color-coded containers with appropriate bin liners. If color-coded bins and liners are not available, label the containers used.
- Transport waste in a dedicated covered cart or trolley. Ensure that the carts or trolleys used for the transport of segregated waste collection are not used for any other purpose. They should be cleaned regularly.
- Transport different categories of waste separately.
- Store waste in specified areas with restricted access. Identify a storage area for waste prior to treating or moving it.
- Mark the storage areas with a biohazard symbol.
- Collect and store sharps in sharps containers.
- Infectious waste should be treated appropriately before being released into the environment for final disposal.
- Waste handlers should use appropriate PPE and practice hand hygiene after handling waste.

## Waste Generation

Waste generation refers to the quantity of materials or products that enter a waste stream before composting, incinerating, or recycling. Waste is generated during patient management and care and in other areas of the health care setting. It is at this point that each health facility should practice minimization of waste.

## Waste Segregation

- Segregate contaminated and non-contaminated wastes at the point of generation. Separating wastes minimizes costs by reducing the volume of contaminated waste that must be disposed with special precautions.
- Use appropriate color-coded separate containers for non-infectious, infectious, and highly infectious waste.
- Fill the waste containers not more than three-quarters full.
- Never sort through contaminated wastes. Do not try to separate non-contaminated waste from contaminated waste, or combustible from non-combustible waste, after they have been combined.

### WHO's Recommended Segregation Scheme

Type of Waste	Color of Container and Markings	Type of Container
Highly infectious waste	Yellow, marked "highly infectious" with biohazard symbol	Strong, leakproof plastic bag or container capable of being autoclaved
Other infectious waste, pathological and anatomical waste	Yellow with biohazard symbol	Leakproof plastic bag or container
Sharps	Yellow, marked "SHARPS" with biohazard symbol	Puncture-proof container
Chemical and pharmaceutical waste	Brown, labeled with appropriate hazard symbol	Plastic bag or rigid container
Radioactive waste	Labeled with radiation symbol	Lead box
General health care waste	Black	Plastic bag

Source: World Health Organization (WHO). 2014. *Safe Management of Wastes from Health-Care Activities*, 2nd ed. P 79. WHO: Geneva, Switzerland. [http://apps.who.int/iris/bitstream/10665/85349/1/9789241548564\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/85349/1/9789241548564_eng.pdf?ua=1)

## Sharps and Sharps Containers

Place sharps in safety boxes that are resistant to punctures and leakage and are designed so that items can be dropped in using one hand and no item can be removed. The safety box should be marked "Danger Contaminated Sharps" and with the biohazard symbol indicated on the outside of the box. It should be closed when three-quarters full and then placed in a yellow plastic bag or containers with other hazardous health care waste for removal from the procedure area for disposal.

- Do not handle sharps unnecessarily.
- Always put on heavy-duty gloves when handling sharps waste containers.
- In particular, discard all disposable syringes and needles immediately after they are used. The needle should not be recapped or removed from the syringe—the whole combination should be inserted into the safety box directly after use.



- Destroy sharps together with the hazardous health care waste. The method of choice for destruction of full safety boxes is incineration, preferably in an appropriate double-chamber incinerator.
- **DO** put sharps containers as **close to the point of use** as possible, ideally within an arm's reach of the treatment area. Containers should be easy to see, recognize, and use.
- **DO attach containers to walls or other surfaces**, if at all possible, at a level at which the health care worker can easily see the disposal opening.
- **DO mark them clearly** so that people will not use them as garbage containers or for discarding debris.
- **DO mark the fill line at the three-quarters full level.**
- **DO replace the container when it reaches the fill line (three-quarters full).**
- **DO NOT overfill** sharps containers.
- **DO NOT place non-sharps** in the sharps container.
- **DO NOT shake a container** to settle its contents and make room for more sharps.
- **DO NOT place containers in high-traffic areas** (e.g., corridors, outside patient rooms or procedure rooms) where individuals could bump into them or accidentally be stuck by someone carrying sharps to be disposed of.
- **DO NOT place containers on the floor** or anywhere they could be knocked over or easily reached by a child.
- **DO NOT place containers near light switches, overhead fans, or thermostat controls** where people might accidentally put their hand into them.

## Disposal of Liquid Contaminated Waste

- Liquid contaminated waste requires special handling, because it could pose an infectious risk to HCWs who handle it. Wastewater from health care facilities might contain various potentially hazardous components, such as microbiological pathogens, hazardous chemicals, pharmaceuticals, and radioactive isotopes. The following basic precautionary practices can reduce the public health risk that is associated with liquid waste and wastewater:
- Always neutralize effluents of all medical-analysis laboratories in a buffer tank before draining them off into the sewer.
- Sterilize blood and other cultures and stocks of infectious agents from laboratory work by steam sterilization (autoclaving) at the earliest opportunity, prior to disposal.
- Discharge radioactive effluents of isolation wards into the sewer or into a septic tank only after they have decayed to background level in adequate retention tanks.
- Wear PPE, including utility gloves, protective eyewear, and a plastic apron when handling and transporting liquid waste.
- Pour waste down a utility-sink drain or a flushable toilet and rinse with water, but avoid splashing. If no sewage system is available, dispose of liquid waste in a deep, covered hole, not into open drains.
- Decontaminate containers by placing them in a 0.5% chlorine solution for 10 minutes before washing and rinsing them.
- Remove utility gloves and wash hands and dry hands or use alcohol handrub.

## **Disposal of Solid Waste (Contaminated and Non-contaminated)**

- Dispose of contaminated wastes separately from non-contaminated waste, because contaminated waste needs the following special handling:
  - Wear heavy-duty or utility gloves when handling and transporting solid wastes.
  - Place the solid contaminated waste in a plastic or galvanized metal container with a tightly fitting cover.
  - Ensure that there are a sufficient number of waste containers, in convenient locations, to minimize carrying contaminated wastes from place to place.
  - Collect the waste containers on a regular basis and transport the burnable ones to the incinerator or area for burning.
  - Remove gloves and wash and dry hands or use an antiseptic handrub.
  - Non-contaminated solid wastes should be managed at the health care-facility level or through the local authority disposal system.
  - Do not discard any solid waste, contaminated or non-contaminated, into the sewer system (including conduits, pipes, and pumping stations).

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Handout 5-7: Sample Action Plan

Sample Action Plan to improve quality of Infection prevention practices

Gap	Action to be taken	Person(s) responsible	Date this activity is to be completed	Resources needed to achieve this action	Notes

Comments/Questions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Job Aid 5-1: Making Chlorine Solution

### Quick References for Mixing Bleach

Preparing Dilute Chlorine Solutions from Liquid Bleach (Sodium Hypochlorite Solution) for Decontamination and High-Level Disinfection (HLD)

Type or Brand of Bleach (by Country)	Chlorine	Parts Water to 1 Part Bleach	
	% available	0.5%	0.1% <sup>b</sup>
8 °chlorumc	2.4%	4	23
JIK (Kenya), Robin Bleach (Nepal)	3.5%	6	34
12 °chlorumc	3.6%	6	35
Household bleach (USA, Indonesia), ACE (Turkey), Eau de Javel (France) (15 °chlorumc)	5%	9	49
Blanquedor, Cloro (Mexico)	6%	11	59
Lavandina (Bolivia)	8%	15	79
Chloros (UK)	10%	19	99
Chloros (UK), Extrait de Javel (France) (48 °chlorumc)	15%	29	149
<p>a Read as one part (e.g., cup or glass) concentrated bleach to x parts water (e.g., JIK [0.5% solution]—mix 1 cup bleach with 6 cups water for a total of 7 cups).</p> <p>b Use boiled water when preparing a 0.1% chlorine solution for HLD because tap water contains microscopic organic matter that inactivates chlorine.</p> <p>c In some countries, the concentration of sodium hypochlorite is expressed in chlorometric degrees (°chlorum); one °chlorum is approximately equivalent to 0.3% available chlorine.</p> <p>Adapted from: World Health Organization (WHO). Guidelines on Sterilization and High-Level Disinfection Methods Effective Against Human Immunodeficiency Virus (HIV). AIDS Series 2. Geneva: WHO, 1989.</p>			

### Formula for Making a Dilute Solution from a Concentrated Solution

Check concentration (% concentrate) of the chlorine product you are using.  
Determine total parts water needed using the formula below.

$$\text{Total Parts (TP) water} = \left[ \frac{\% \text{ Concentrate}}{\% \text{ Dilute}} \right] - 1$$

Mix 1 part concentrated bleach with the total parts water required.

**Example:** Make a dilute solution (0.5%) from 5% concentrated solution

**Step 1:** Calculate TP water:  $\left[ \frac{5.0\%}{0.5\%} \right] - 1 = 10 - 1 = 9$

**Step 2:** Take 1 part concentrated solution and add to 9 parts water.

## Preparing Dilute Chlorine Solutions from Dry Powders

Available Chlorine Required	0.5%	0.1% <sup>b</sup>
Calcium hypochlorite (70% available chlorine)	7.1 g/L <sup>a</sup>	1.4 g/L
Calcium hypochlorite (35% available chlorine)	14.2 g/L	2.8 g/L
NaDCC <sup>c</sup> (60% available chlorine)	8.3 g/L	1.5 g/L
Chloramine <b>tablets</b> <sup>d</sup> (1 g of available chlorine per tablet)	20 g/L (20 tablets/liter) <sup>d</sup>	4 g/L (4 tablets/liter) <sup>d</sup>
NaDCC-based <b>tablets</b> (1.5 g of available chlorine per tablet)	4 tablets/liter	1 tablet/liter

<sup>a</sup> For dry powders, read x grams per liter (example: Calcium hypochlorite—7.1 grams mixed with 1 liter water).  
<sup>b</sup> Use boiled water when preparing a 0.1% chlorine solution for HLD because tap water contains microscopic organic matter that inactivates chlorine.  
<sup>c</sup> Sodium dichloroisocyanurate  
<sup>d</sup> Chloramine releases chlorine at a slower rate than does hypochlorite. Before using the solution, be sure the tablet is completely dissolved.

Adapted from: World Health Organization (WHO). Guidelines on Sterilization and High-Level Disinfection Methods Effective Against Human Immunodeficiency Virus (HIV). AIDS Series 2. Geneva: WHO, 1989.

## Formula for Making Chlorine Solutions from Dry Powders

Check concentration (% concentrate) of the powder you are using.  
Determine grams bleach needed using the formula below.

$$\text{Grams/Liter} = \left[ \frac{\% \text{ Dilute}}{\% \text{ Concentrate}} \right] \times 1000$$

Mix measured amount of bleach powder with 1 liter of water.

**Example:** Make a dilute chlorine-releasing solution (0.5%) from a concentrated powder (35%).

**Step 1:** Calculate grams/liter:  $\left[ \frac{0.5\%}{35\%} \right] \times 1000 = 14.2 \text{ g / L}$

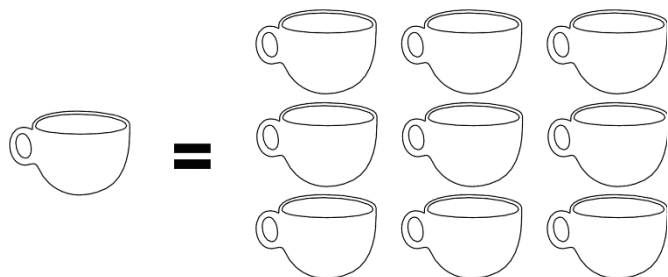
**Step 2:** Add 14.2 grams (□14 g) to 1 liter of water.

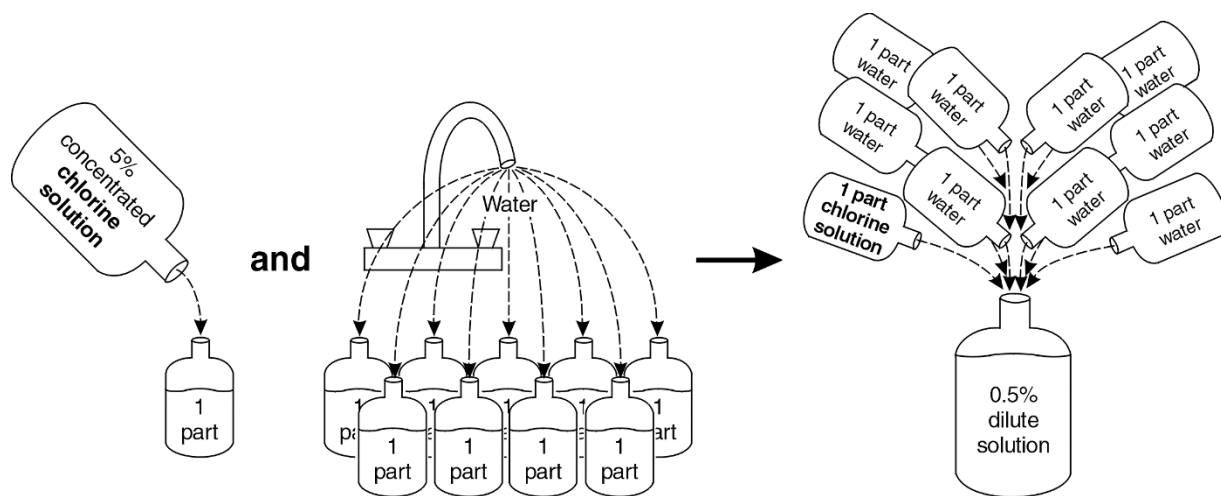
## How to Make Chlorine Solutions from Different Concentrations

**Note:** The amount of water used to dilute chlorine will vary depending on the concentration of the chlorine product you are using and the final concentration of the chlorine solution required.

### Example: Using 5% Bleach for 0.5% Concentration

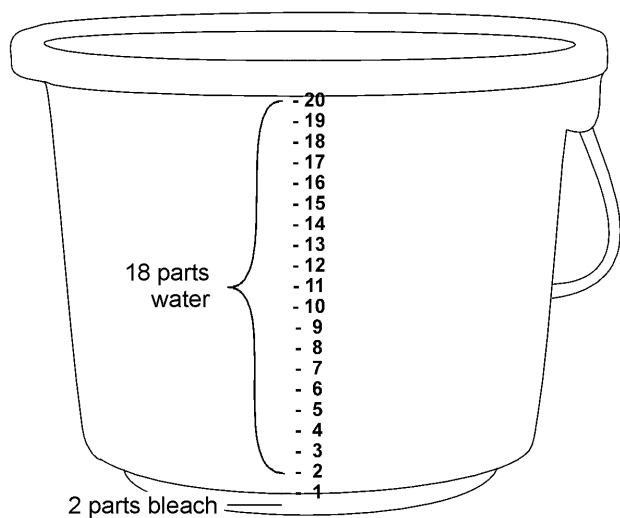
1 part bleach to 9 parts water (use the same container to measure the bleach and water)





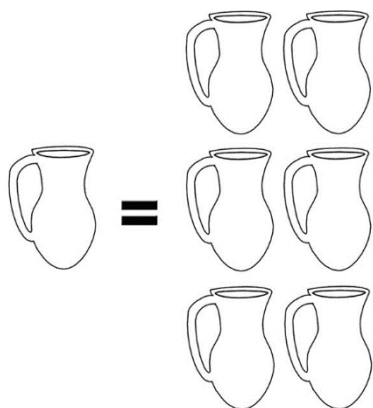
### Example: Using 5% Bleach for 0.5% Concentration

2 parts bleach to 18 parts water (multiply ratio as needed)



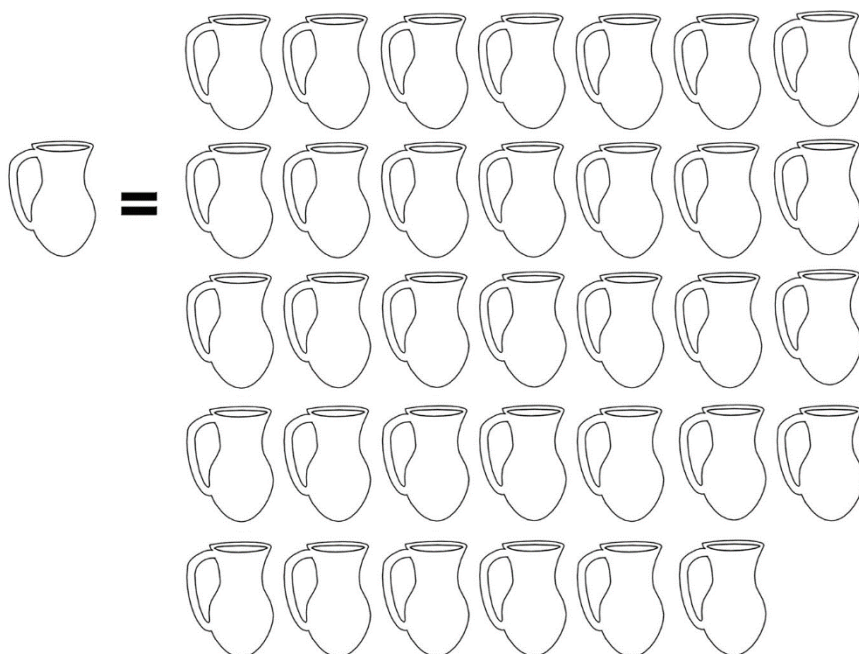
### Example: Using 3.5% Bleach for 0.5% Concentration

1 part bleach to 6 parts water (use the same container to measure the bleach and water)



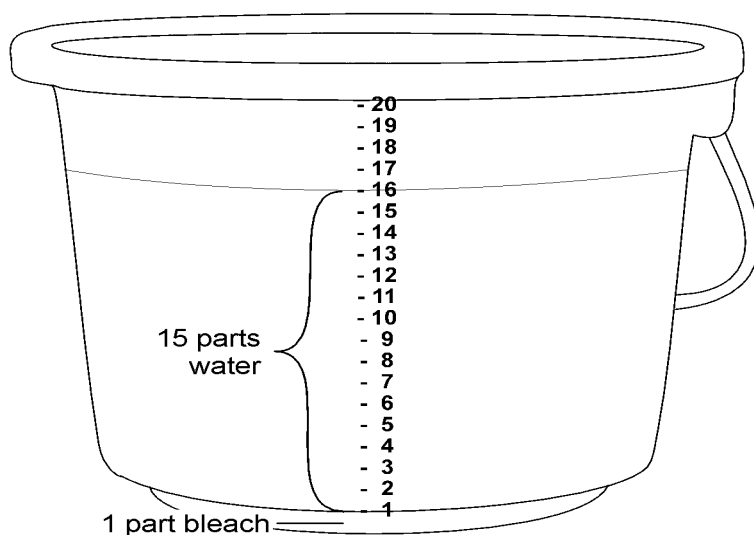
### Example: Using 3.5% Bleach for .1% Concentration

1 part bleach to 34 parts water (use the same container to measure the bleach and water)



### Example: Using 8% bleach or 0.5% Concentration

1 part bleach to 15 parts water (use the same container to measure the bleach and water)



**Note:** WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for decontamination step.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Job Aid 5-2: Performance Standards

Facility: \_\_\_\_\_

Assessor: \_\_\_\_\_ Date: \_\_\_\_\_

Performance Standard	Verification Criteria	Yes/No	Comments
1. The facility is clean	Verify the absence of dust, blood, trash, used needles and syringes, and cobwebs in the following areas:		
	• Admission/registration		
	• Examination rooms		
	• Instrument processing areas		
	• Bathrooms		
	• Drug store/pharmacy		
	• Vaccination room		
	Verify that no hospital waste is in the area surrounding the facility		
2. Sharps containers are available and properly emptied	Verify that:		
	• The sharps containers are puncture-proof (cardboard box, hard plastic container, or cans that are closed) with only a small opening for disposing of syringes with needles		
	• Sharps containers are less than 3/4 full		
	• Empty, new containers are nearby and ready for use in these areas:		
	• Examination areas		
	• EPI vaccination room		
	• Drug store/pharmacy		
	• Sharps containers are located at point of use		
	• A container is in place at point of use with 0.5% chlorine solution for decontamination of syringes and needles (before going into the sharps container)		



Performance Standard	Verification Criteria	Yes/No	Comments
3. Sufficient amounts of antiseptics, disinfectants, and other supplies are available	Verify that sufficient amounts of the following consumable materials are available in the store room:		
	• Antiseptics		
	• Alcohol (SPIRIT), 60%–90% ethyl, isopropyl alcohol (60%–90%), OR		
	• Chlorhexidine gluconate (2%–4%) (e.g., Savlon®), OR		
	• Iodine preparations (1%-3%) (e.g., Lugol's), OR		
	• Pyodine®		
	• Disinfectants:		
	• Chlorine solution/powder		
	• Supplies:		
	• Detergents that do not contain acid, ammonia, or ammonium (e.g., Surf)		
	• Cotton wool for injections		
	• Gauzes for sterilizing		
	• Mops, buckets, and cleaning cloths		
	• Rubber high-level disinfected and disposable gloves for exams		
	• Utility gloves for cleaning personnel		
	• Eye protectors for personnel		Score:
4. Clean supplies are available at the site and ready to use	Verify that:		
	• Gauze or cotton wool is stored in dry containers without an antiseptic		
	• Instruments and other items are stored in dry containers without an antiseptic		
	• Pick-up forceps are stored in dry containers without an antiseptic		
	• Clean plastic containers with 0.5% chlorine solution are ready for use in the following areas:		
	• Examination rooms		
	• Labor and birth rooms		
	• Wards		
	• Pharmacy or lab area		Score:

Performance Standard	Verification Criteria	Yes/No	Comments
5. Personal protective equipment is available and ready for use	Verify that the following equipment is available and ready for use:		Score:
	• Aprons for labor		
	• Close-toed shoes		
	• Eyewear		
	• Heavy gloves for cleaning instruments		
6. The decontamination of instruments and other articles (immediately after use and before cleaning) is performed properly at site of use	Verify that:		Score:
	• The concentration of chlorine solution is 0.5%		
	(A) Liquid Chlorine		
	• If using a concentration of 32%, 1 part bleach for 63 parts water, OR		
	• If using a concentration of 5%, 1 part bleach for 9 parts water, OR		
	• If using another concentration, use the following formula to prepare the solution: Total parts (TP) of water: [% concentrate/0.5%] - 1 for one part of chlorine		
	(B) Powder Chlorine		
	• If using calcium hypochlorite (35%), 14 g bleach powder for 1 L water, OR		
	• If using calcium hypochlorite (70%), 7 g bleach for 1 L water		
	• A new chlorine solution is prepared at the beginning of each day—or sooner if needed—and the date and time are labeled on the container		
	• Plastic containers are used for decontamination		
	• Instruments and other items are soaked in the 0.5% chlorine solution for 10 minutes before being taken to the washing/prep room		
	• Items taken to the prep room are carried in a bucket or leak-proof container		
	• Used syringes with needles are rinsed in 0.5% chlorine solution before being placed in the puncture-proof sharps container		
7. There is a proper area for instrument cleaning with proper traffic flow to avoid cross-contamination	Verify that:		Score:
	• The area for cleaning instruments is separated from the procedure area		
	• Dirty and clean items do not have contact		
	• There is at least one deep sink/basin with running water for washing instruments		
	• There is a counter/separate space for instruments to dry		
	• A closed shelf area is available for storing clean items		

Performance Standard	Verification Criteria	Yes/No	Comments
	<ul style="list-style-type: none"> <li>Contaminated linen or medical waste is not brought into this room</li> </ul>		Score:
	<ul style="list-style-type: none"> <li>No electric items are near the water area</li> </ul>		
	<ul style="list-style-type: none"> <li>No spills or water are on the floor</li> </ul>		
	<ul style="list-style-type: none"> <li>Clean items are on one side of the room; dirty items are on the other side</li> </ul>		
8. Cleaning instruments and other items is performed properly	Verify that the person cleaning the instruments complies with the following steps and recommendations:		Score:
	<ul style="list-style-type: none"> <li>Wears               <ul style="list-style-type: none"> <li>Utility gloves</li> <li>Eyewear protection or face shield</li> <li>Plastic apron</li> <li>Gumboots or enclosed shoes</li> </ul> </li> </ul>		
	<ul style="list-style-type: none"> <li>Uses               <ul style="list-style-type: none"> <li>Soft brush</li> <li>Detergent (liquid or powder, without acid or ammonia)</li> <li>0.5% chlorine solution in the detergent water</li> </ul> </li> </ul>		
	<ul style="list-style-type: none"> <li>Scrubs instruments and other items under the surface of the water, completely removing all blood and other foreign matter</li> </ul>		
	<ul style="list-style-type: none"> <li>Disassembles instruments and other items with multiple parts, and cleans in the grooves, teeth, and joints with a brush</li> </ul>		
	<ul style="list-style-type: none"> <li>Rinses the instruments and other items thoroughly with clean water</li> </ul>		
	<ul style="list-style-type: none"> <li>Allows instruments and other items to air-dry, or dries them with a clean towel (if autoclaving)</li> </ul>		
	<ul style="list-style-type: none"> <li>Washes hands with running water and soap for 10–15 seconds and dries hands</li> </ul>		
	Verify that the instrument processing area:		
	<ul style="list-style-type: none"> <li>Is well illuminated</li> </ul>		
	<ul style="list-style-type: none"> <li>Has at least one autoclave/boiler in working order</li> </ul>		
	<ul style="list-style-type: none"> <li>Has an area to store and/or high-level disinfect supplies, instruments, and equipment with limited access to the storage area or closed cabinets</li> </ul>		
			Score:
			Score:
9. There is a proper area for instrument processing to prevent contamination with clean, high-level disinfected, and sterile items	Verify that the instrument processing area:		Score:
	<ul style="list-style-type: none"> <li>Is well illuminated</li> </ul>		
	<ul style="list-style-type: none"> <li>Has at least one autoclave/boiler in working order</li> </ul>		
	<ul style="list-style-type: none"> <li>Has an area to store and/or high-level disinfect supplies, instruments, and equipment with limited access to the storage area or closed cabinets</li> </ul>		

Performance Standard	Verification Criteria	Yes/No	Comments
10. The sterilization/high-level disinfection (HLD) process is performed properly according to the method utilized	Verify that the HLD cycles listed below are followed:		
	<b>Boiling:</b>		
	• All cleaned, disassembled instruments are totally immersed in water before the lid is closed		
	• The lid is closed		
	• Do not add anything to the pot after timing starts		
	• Instruments are boiled for 20 minutes starting from the time a rolling boil begins		
	• After 20 minutes, instruments are removed with high-level disinfected or sterile forceps, air-dried, and stored in high-level disinfected containers		
	• Boiled instruments are not left in water that has stopped boiling		
	OR		
	<b>Sterilization:</b>		
	• The autoclave or an autoclave pressure cooker is available and in working order with:		
	• Working thermometer		
	• Working pressure gauge (autoclave pressure cooker)		
	• Source of heat is functioning (non-electric pressure cooker)		
	• Instruments are properly prepared and placed in the sterilizer		
	• Laid out in a metal box with holes or wrapped in double layers of muslin or cotton cloth or two layers of craft paper		
	• There is sufficient space between packets/boxes to allow steam to circulate		
	• All jointed instruments are in an unlocked position, and instruments composed of sliding parts are disassembled		
	• There is a 7 cm to 8 cm space between the packets and the upper portion (in the case of a horizontal autoclave)		
	• The material is exposed to a temperature of 121° C (250° F) and a pressure of 1.5 atm (105kPa or 12 lb/in <sup>2</sup> ) for a period of 30 minutes (in the autoclave)		
	• The material is exposed to a pressure of 17–19 lb/in <sup>2</sup> for a period of 35 minutes in the autoclave pressure cooker		
	• The material is dry when removed following sterilization		
	• Wrapped sterile instruments are used within 2 weeks		
	• Unwrapped items are used immediately		Score:

Performance Standard	Verification Criteria	Yes/No	Comments
11. A shelf life system to store sterile or high-level disinfected items is in place	Verify that:		Score:
	• Clean supplies are stored separately from sterile or high-level disinfected items		
	• Unwrapped items are used immediately		
	• Sterile packs and/or containers have expiration dates on them		
	• The sterile packs are free of tears, dampness, excessive dust, and gross oil (an event-related shelf life practice is being used, regardless of the expiration date)		
12. Soiled linen is collected and cleaned properly to avoid injuries and contamination	Verify that the person cleaning the linen complies with the following steps and recommendations:		Score:
	• Wears		
	• Utility gloves		
	• Eye protection		
	• Gumboots or enclosed shoes		
	• Collects soiled linen in leakproof containers/plastic bags without being pre-soaked		
	• Brings linen to the laundry in closed containers (buckets, plastic bags, or carts) for sorting, washing, and drying		
	• Cleans linen using detergents without acid, ammonia, or ammonium. Rinse the linen after washing with clean water with some bleach		
	• Washes hands with soap and water after removing gloves and other personal protective equipment		
13. Waste is collected properly to avoid injuries and contamination	Verify that the person collecting waste complies with the following steps and recommendations:		Score:
	• Wears		
	• Utility gloves		
	• Eye protection		
	• Gumboots or enclosed shoes		
	• Collects waste in leakproof containers		
	• Collects waste when the container is 3/4 full		
	• Assures that all tissue samples or placentas are double-bagged in leakproof containers		

Performance Standard	Verification Criteria	Yes/No	Comments
	<ul style="list-style-type: none"> <li>Sufficient dustbins outside the facility (on the grounds) are in place for general waste to avoid littering</li> </ul>		
	<ul style="list-style-type: none"> <li>The grounds (outside the facility) are free of hospital waste</li> </ul>		
	<ul style="list-style-type: none"> <li>Maintains the waste collection area; it is clean and free of spills (walls, tables, floors)</li> </ul>		
	<ul style="list-style-type: none"> <li>The collection person washes hands with soap and water after removing gloves and other personal protective equipment</li> </ul>		Score:
14. Waste is disposed of properly to avoid injuries and contamination	Verify that:		
	<ul style="list-style-type: none"> <li>Contaminated liquid waste (blood, urine, feces, and other body fluids) are disposed of in the following manner:</li> </ul>		
	<ul style="list-style-type: none"> <li>Emptied into a toilet or sink from which water can be drained into a sewer system</li> </ul>		
	<ul style="list-style-type: none"> <li>The sink is rinsed with water after the waste has been emptied</li> </ul>		
	<ul style="list-style-type: none"> <li>Containers with sharps are incinerated</li> </ul>		
	<ul style="list-style-type: none"> <li>Solid waste (used dressing and other material contaminated with blood and organic matter) is incinerated/buried</li> </ul>		
	<ul style="list-style-type: none"> <li>The person in charge of waste wears eye protection and utility gloves</li> </ul>		
	If the waste is incinerated, verify that:		
	<ul style="list-style-type: none"> <li>The waste is buried in a small designated area</li> </ul>		
	<ul style="list-style-type: none"> <li>The waste is transported to the area just before burning</li> </ul>		
	<ul style="list-style-type: none"> <li>During incineration, flames are visible and last until ashes are seen</li> </ul>		
	<ul style="list-style-type: none"> <li>Ash from incinerated material is disposed of by burying</li> </ul>		
	<ul style="list-style-type: none"> <li>No waste is lying around the grounds</li> </ul>		
	OR		
	If the waste is buried in a pit, verify that:		
	<ul style="list-style-type: none"> <li>The area is not accessible to other staff, the community, and domestic animals</li> </ul>		
	<ul style="list-style-type: none"> <li>The burial site is lined with a material of low permeability (e.g., clay)</li> </ul>		
	<ul style="list-style-type: none"> <li>The burial site is at least 50 meters away from any water source, and it is located in an area free of floods</li> </ul>		
	<ul style="list-style-type: none"> <li>The pit is about 1 meter square and 2 meters deep</li> </ul>		
	<ul style="list-style-type: none"> <li>The disposed waste is covered with 10 cm to 15 cm of dirt each day</li> </ul>		

Performance Standard	Verification Criteria	Yes/No	Comments
	<ul style="list-style-type: none"> <li>The final layer of dirt is 50 cm to 60 cm</li> </ul>		
	<ul style="list-style-type: none"> <li>The burial pit lasts for 30 to 60 days maximum</li> </ul>		
	<ul style="list-style-type: none"> <li>There is no waste lying around the grounds</li> </ul>		
	OR		
	If the waste is encapsulated, verify that:		
	<ul style="list-style-type: none"> <li>The sharps are collected in puncture-resistant and leakproof containers</li> </ul>		
	<ul style="list-style-type: none"> <li>When the box is 3/4 full, a material such as cement or clay is poured in until the box is completely filled</li> </ul>		
	<ul style="list-style-type: none"> <li>The material is hardened</li> </ul>		
	<ul style="list-style-type: none"> <li>The container is disposed of in a land fill or buried</li> </ul>		Score:
Total Standards		14	
Total Observed			
Total Achieved			

Source: USAID PRIDE Project, Pakistan.

# Gloves

Must be worn to avoid contact with blood, body fluids, secretions, and excretions and the transmission of infectious material found in these substances.

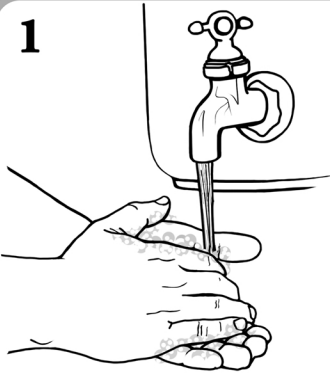


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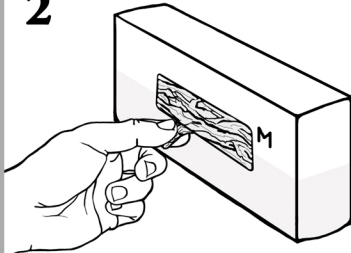
## PUTTING GLOVES ON

**1**



Wash hands thoroughly.

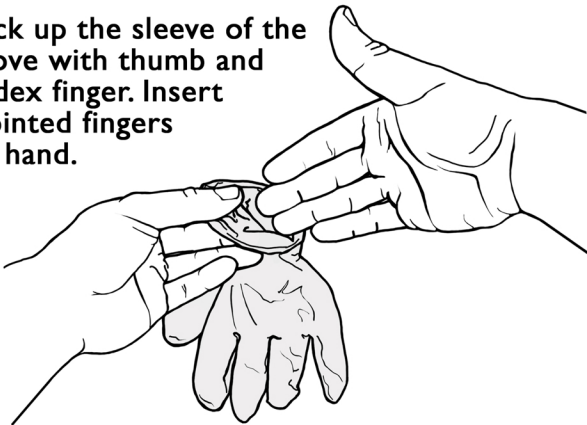
**2**



Select the appropriate size gloves.

**3**

Pick up the sleeve of the glove with thumb and index finger. Insert pointed fingers of hand.



**4**

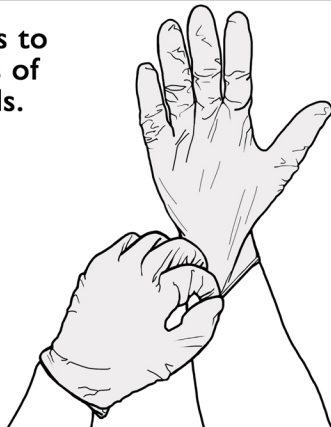
Use gloved hand to pick up second glove by lifting from underneath the inverted sleeve. Insert pointed fingers of the ungloved hand into glove.



Avoid touching gloved fingers to the ungloved hand.

**5**

Pull gloves to the wrists of both hands.

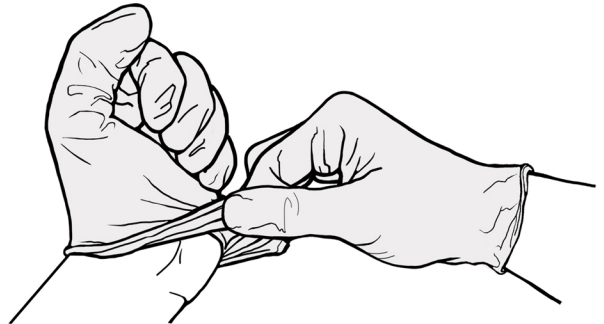


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## TAKING GLOVES OFF

**1**

Remove the gloves by grasping the cuff of the other gloved hand.



**2**

Avoiding skin contact, peel the glove inside out towards the fingers and place it in palm of the gloved hand.

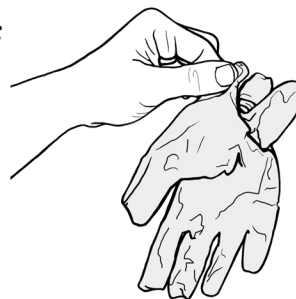


**3**

Lift the glove on the inside of the cuff and pull the glove inside out, towards the fingertips.

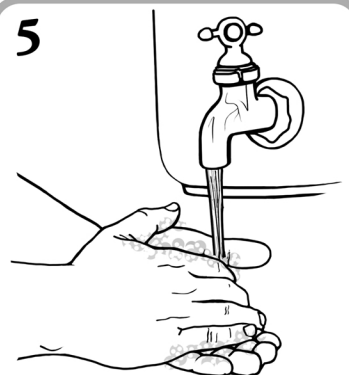


**4**



Dispose of both gloves by dropping them into a waste bin.

**5**



Wash hands thoroughly.



# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Skills Station Instructions: How to Use the Infection Prevention Station Checklists

Time: 60 minutes

The infection prevention (IP) Skill Station Checklists are designed to help learners learn the steps/tasks in the following four areas:

- Preparing 0.5% chlorine solution for decontamination
- Cleaning instruments and other items
- High-level disinfection (HLD)
- Disposal of Sharps

Every learner has to practice at each of the four stations and become competent in the skill. Each station has a checklist that contains the tasks/steps performed when following IP practices for selected procedures.

The checklists are the same as the ones the trainer will use to assess each learner's performance for qualification. The goal of this training is to provide every learner with the opportunity to practice at all four stations and to be qualified on one randomly selected station by the end of the course.

The learner is not expected to perform all the tasks/steps correctly the first time she/he practices them. Instead, the checklists are intended to:

- Assist the learner in learning the correct steps and sequence in which they should be performed (skill acquisition)
- Measure progressive learning in small steps as the learner gains confidence and skill (skill competency)

Prior to using the stations and checklists, the trainer will demonstrate the steps for each station. By the time the group breaks up into pairs or trios to begin practicing and rating each other's performance, each learner will be familiar with the various IP practices covered at the stations.

Used consistently, the checklists enable each learner to chart her/his progress and to identify areas for improvement. Furthermore, the checklists are designed to make communication (coaching and feedback) between the learner and trainer easier and more helpful. When using the checklists, it is important that the learner and trainer work together as a team. After the scenario (tasks) has been completed by the learner, the trainer (or learner acting as trainer) should provide positive feedback regarding the learning progress and define the areas where improvement is needed in subsequent practice sessions.

## Using the Stations

The station checklists should be used initially during practice to follow the steps. During qualification, however, the learner will not be allowed to use the checklist.

During practice sessions, learners may work in groups of two or three. One learner should demonstrate the skills/tasks in the station checklist, while another learner takes the role of the trainer. If there is a third learner in the group, she/he should take the role of observer.

Using the station checklist, the learner playing the trainer should assess the learner's ability to demonstrate the skills/tasks in the checklist for that station. Learners may use the Skill Station Checklists to monitor their progress in using the stations for practice and qualification. During learning and practice sessions, the learners should perform all scenarios and skills/tasks. For qualification, however, the trainer will choose *one* scenario for the learner to perform.

Once the learner becomes confident in performing the tasks/steps at the station, she/he should notify the trainer that she/he is ready to be observed for qualification. The trainer will observe and assess the learner's performance on each step of the skill/task for the selected station. For some stations, the trainer will choose one of several scenarios. For other stations, there is only one scenario.

First, learners will practice at all four stations. Then, for qualification, the trainer will randomly select one station for the learner.

The learner must be rated "Competent" in each step/task covered in the checklist in order to be evaluated as qualified. If the learner is not rated "Competent," the trainer will work with her/him on the steps missed. The learner can be re-assessed by the trainer after practicing the steps individually or with another learner.

## Supplies Needed for Skills Stations

Infection Prevention supplies for stations
Large covered buckets
Color coded waste bins
Small covered bucket
Small waste bin no cover
1 electric boiler 15"
Aprons
Plastic goggles/face shield
Macintosh
Face masks (disposable)
Closed toed plastic shoes
Alcohol hand rub bottle
Measuring cup 1 liter
Utility gloves
Small Scrub brushes/tooth brushes
Liquid detergent/washing powder
Plastic basins
Talcum powder
Sterile surgical gloves (7-7.5)
Clean exam gloves
IUD kit, speculum
Cheattle forceps
Cardboard sharp disposal boxes
Liquid Bleach
Newspaper sheet (for covering table)
Cotton, gauze pieces
Paper towel

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Skill Station 5-1: Preparing 0.5% Chlorine Solution for Decontamination

### Objective

This station is used to practice and demonstrate the preparation of 0.5% chlorine solution from liquid bleach for decontamination.

### Supplies

- Locally obtained bottles of various concentrations of liquid bleach
- Three different sizes of measuring containers for liquid
- One 10-liter or 20-liter bucket (in which to mix the solution)
- Plastic apron
- Gloves (utility or exam)
- Job Aid 5-1: Making Chlorine Solution (shows the formulas for preparing chlorine solutions)
- Blank cards/paper
- Calculator

**Note:** If it is not possible to obtain an item, you may use a card labeled with the name of the item it is supposed to represent.

### Using the Station

The trainer should:

- Set up the station for preparation of chlorine solutions for decontamination.
- Demonstrate all scenarios to learners, according to the checklist.
- Allow learners to practice. Using the checklist below, the trainer (or learner taking the role of trainer) should assess the learner's ability to prepare chlorine solutions using the appropriate formula(s) for different concentrations.

#### Preparing 0.5% Chlorine Solutions

**Questions:** Write **Y** if the question is answered correctly; write **N** if the question is answered incorrectly.

**Steps:** Write **C** if the step is performed **competently**; write **N** if the step is **not** performed competently or is omitted.

- **Competent:** Performs the step according to the standard procedure or guidelines.
- **Not Competent:** Unable to perform the step according to the standard procedure or guidelines, or does not perform the step at all.

## Skill Station 5-I Checklist: Decontamination

Decontamination						
<b>Scenario</b>						
<b>Trainer: Read the following information to the learner.</b> <ul style="list-style-type: none"> <li>You work in a reproductive health clinic with a high volume of clients for family planning, HIV testing and counseling, and antenatal care. You have to prepare chlorine solution for decontamination of instruments. How do you prepare this solution?</li> </ul>						
Task	Step	Observations				
		1	2	3	4	5
<b>Using liquid bleach</b>  Note: For qualification, the trainer may select different amounts of chlorine solution to be prepared (e.g., 10, 20, or 50 liters).	Identify the concentration of the bleach available (select one container and check the concentration).					
	Select the appropriate formula (consulting Job Aid 5-I: Making Chlorine Solution) and choose the correct value: % concentrate, % dilute (0.5%).					
	Using the formula, correctly calculate the total parts of water for one part of liquid bleach.					
	Use appropriate personal protective equipment: plastic apron and utility gloves.					
	Select the appropriate measuring container with which to prepare 10 liters of 0.5% chlorine solution.					
	Mix the necessary parts of water with parts of liquid bleach in a plastic container to prepare 10 liters of 0.5% chlorine solution.					
	Pour the chlorine solution into smaller plastic containers or keep the chlorine solution in the plastic container with a lid.					
	Pour the chlorine solution into smaller plastic containers or keep the solution in the plastic container with a lid.					
Question	Answer	Observations				
		1	2	3	4	5
Where should the containers be placed for decontamination?	The containers should be placed at point of use in the room where procedures occur and instruments and other items are used.					
How long should the instruments be kept in the 0.5% chlorine solution?	The instruments should be kept in the 0.5% chlorine solution for a minimum of 10 minutes. They should then be removed as soon as possible for cleaning.					
How often, during use, should you change the solution?	The solution should be changed at the end of each day or clinic session, or, depending on the procedure, when the solution becomes cloudy or bloody.					

Note: WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for this step.

Source: Tietjen L, Bossemeyer D, McIntosh N. Infection Prevention Guidelines for Healthcare Facilities with Limited Resources. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpiego Corporation, 2004.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Skill Station 5-2: Cleaning of Instruments and Other Items

### Objective

This station is used to practice and demonstrate the procedure for cleaning instruments and other items.

### Supplies

- Decontamination buckets/containers with instruments and surgical gloves
- Utility gloves
- Face shield or mask and protective eyewear
- Plastic apron
- Closed shoes or fluid-resistant shoe covers
- Brush/toothbrush
- Liquid or powder detergent
- Forceps
- 2 plastic basins or containers (or a utility sink)
- Hand soap
- Alcohol-based handrub

**Note:** If it is not possible to obtain an item, you may use a card labeled with the name of the item it is supposed to represent.

### Using the Station

The trainer should:

- Set up the station for cleaning instruments and other items.
- Demonstrate the scenario to the learners, according to the checklist.
- Allow learners to practice. Using the checklist below, the trainer (or learner taking the role of trainer) should assess the learner's ability to clean instruments and other items.

## Cleaning Instruments and Other Items

**Questions:** Write Y if the question is answered correctly; write N if the question is answered incorrectly.

**Steps:** Write C if the step is performed competently; write N if the step is not performed competently or is omitted.

- **Competent:** Performs the step according to the standard procedure or guidelines.
- **Not Competent:** Unable to perform the step according to the standard procedure or guidelines, or does not perform the step at all.

### Skill Station 5-2 Checklist: Cleaning Instruments and Other Items

Cleaning Instruments and Other Items							
Scenario							
<b>Trainer: Read the following information to the learner:</b>							
<ul style="list-style-type: none"><li>You work in a health facility. You have just collected the decontamination buckets containing used instruments, and surgical gloves. You need to clean them. *The instruments have already been soaked in 0.5% chlorine solution for 10 minutes.</li></ul>							
Task	Step		Observations				
			1	2	3	4	5
Preparing for the procedure	Put on the proper personal protective equipment.	Utility gloves					
		Face shield or mask and protective eyewear					
		Plastic apron					
		Closed shoes					
Cleaning instruments	Fill a plastic container (or utility sink) with clean water.						
	Using a brush and liquid or powder detergent, scrub instruments and other items under the surface of the water, removing all blood and other foreign matter.						
	Disassemble instruments and other items with multiple parts and clean the grooves, teeth, and joints with a brush.						
	Thoroughly rinse the instruments and other items with clean water.						
Cleaning surgical gloves	Wash the inside and outside of the gloves in soapy water.						
	Rinse in clean water until no soap remains.						
	Test gloves for holes by inflating them by hand and holding them under water. (Air bubbles will appear if there are holes.)						
Drying cleaned instruments and other items	Air-dry instruments and other items, or dry them with a clean towel.						

Cleaning Instruments and Other Items						
Hand hygiene after cleaning	Remove all personal protective equipment.					
	Wash hands for 10–15 seconds with soap and running (or poured) water. Dry with a clean, individual towel or paper towel, or allow hands to air-dry.					
	OR  Rub hands with 3–5 mL of an alcohol-based solution until the hands are dry (if hands are not visibly soiled).					

\*WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for this step.

Source: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpiego Corporation, 2004.



# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Skill Station 5-3: High-Level Disinfection

### Objective

This station is used to practice and demonstrate high-level disinfection (HLD) (boiling).

### Supplies

- Clean instruments
- Electric boiler/pot for boiling instruments
- Plastic apron
- Gloves (utility or exam)
- Cheatle forceps
- Drum or tray with lid for storing instruments
- Water for boiler

**Note:** If it is not possible to obtain an item, you may use a card labeled with the name of the item it is supposed to represent.

### Using the Station

The trainer should:

- Set up the station to prepare for HLD.
- Demonstrate all scenarios to learners, according to the checklist.
- Allow learners to practice. Using the checklist below, the trainer (or learner taking the role of trainer) should assess the learner's ability to high-level disinfect, dry, and store instruments.

### Skill Station 5-3 Checklist: High-Level Disinfection (Boiling of Instruments)

High-Level Disinfection (Boiling of Instruments)						
Scenario						
<b>Trainer: Read the following information to the learner:</b>						
<ul style="list-style-type: none"><li>You are a nurse-midwife and work in a busy maternal and child health center. You have inserted 3 IUDs and removed 2 implants this morning. All instruments used during these procedures are decontaminated and cleaned, now you have to conduct HLD (boiling), then dry the instruments and store them for use.</li></ul>						
Task	Step	Observations				
		1	2	3	4	5
High-level disinfect, air-dry, and store instruments	Boiling: Place all cleaned, disassembled instruments in the boiler, and					
	Ensure that the instruments are totally immersed in water in the boiler/pot.					
	Close the lid of the boiler/pot.					
	Do not add or remove anything from the boiler/pot after timing starts.					

High-Level Disinfection (Boiling of Instruments)					
	Instruments are boiled for 20 minutes from the time a rolling boil begins.				
	After 20 minutes, instruments are removed with high-level disinfected or sterile forceps, air-dried, and stored in high-level disinfected containers.				
	Put the expiration date on the sterile containers.				
	Boiled instruments are not left in water that has stopped boiling.				
Hand hygiene after HLD	Wash hands with soap and water after removing gloves and other personal protective equipment.				

- High-level disinfected instruments, stored in covered containers or sterile packs, can be used for 1 week after boiling.

Source: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpiego Corporation, 2004.

# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Skill Station 5-4: Disposal of Sharps

### Objective

This station is used to practice and demonstrate the disposal of:

- Disposable needles and syringes
- Auto-disable syringes

### Supplies

- Disposable needles and syringes
- Auto-disable syringes (if available)
- Puncture-resistant sharps container
- Plastic containers (several different sizes) with 0.5% chlorine solution
- Clean water
- Utility gloves
- Forceps

- **Note:** If it is not possible to obtain an item, you may use a card labeled with the name of the item it is supposed to represent.

### Using the Station

The trainer should:

1. Set up the station for disposal of needles and syringes.
2. Demonstrate all scenarios to learners, according to the checklist.
3. Allow learners to practice. Using the checklist below, the trainer (or learner taking the role of trainer) should assess the learner's ability to dispose of needles and syringes. For learning purposes, learners will practice all scenarios. If this station is selected for qualification, the trainer will choose one scenario.

### Disposing of Needles and Syringes

**Questions:** Write **Y** if the question is answered correctly; write **N** if the question is answered incorrectly.

**Steps:** Write **C** if the step is performed **competently**; write **N** if the step is **not** performed competently or is omitted.

- **Competent:** Performs the step according to the standard procedure or guidelines.
- **Not Competent:** Unable to perform the step according to the standard procedure or guidelines, or does not perform the step at all.

## Skill Station 5-4 Checklist: Disposing of Needles and Syringes

Disposing of Needles and Syringes						
<b>Scenario</b>						
<p><b>Trainer: Read the following information to the learner:</b></p> <ul style="list-style-type: none"> <li>You are the head nurse at a family planning clinic. Because you have a variety of needles and syringes (regular disposable needles and syringes, auto-disable syringes), your staff is confused about how to dispose of them properly. The policy at your clinic is the following: <ul style="list-style-type: none"> <li>Disposable syringes are not reused.</li> <li>Needles are not reused.</li> <li>You have decided to set up a station to demonstrate the proper disposal of the different types of needles and syringes.</li> </ul> </li> </ul>						
<b>Disposable Needles and Syringes</b>						
Task	Step	Observations				
		1	2	3	4	5
Selecting supplies and setting up the station for a regular disposable needle and syringe	Regular disposable syringe assembled with needle and no cap					
	Plastic container with 0.5% chlorine solution at "point of use"					
	Puncture-resistant sharps container at "point of use"					
Disposal of a disposable needle and syringe	Do not recap, bend, or break the needle prior to disposal.					
	Do not disassemble the needle and syringe.					
	Immediately after use, decontaminate the needle and syringe by holding the needle tip under the surface of 0.5% chlorine solution. Fill the needle and syringe with solution and push out (flush) three times.					
	Place the assembled needle and syringe directly into a puncture-resistant sharps container at point of use.					
<b>Auto-Disposable Syringe</b>						
Task	Step	Observations				
		1	2	3	4	5
Selecting supplies and setting up the station for an auto-disable syringe	Auto-disable syringe without a cap					
	Plastic container with 0.5% chlorine solution at "point of use"					
	Puncture-resistant sharps container at "point of use"					
Disposal of an auto-disable syringe	Do not recap, bend, or break the needle prior to disposal.					
	Immediately after use, decontaminate the needle and syringe by holding the needle tip under the surface of 0.5% chlorine solution. Fill the needle and syringe with solution (will only be about 0.1 ml). Do not flush.					
	Place the assembled needle and syringe directly into a puncture-resistant sharps container at "point of use."					

Source: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Guide for Trainers. Baltimore, MD: Jhpiego Corporation, 2004.

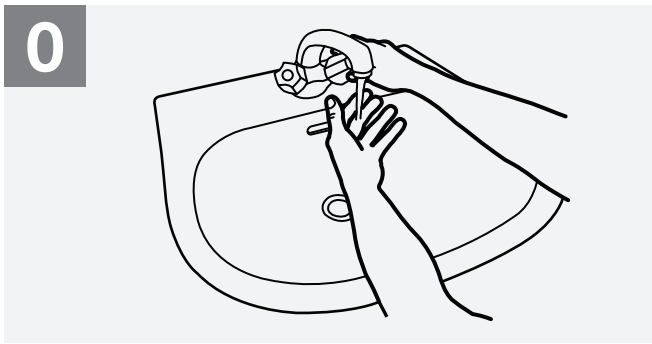
# How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB



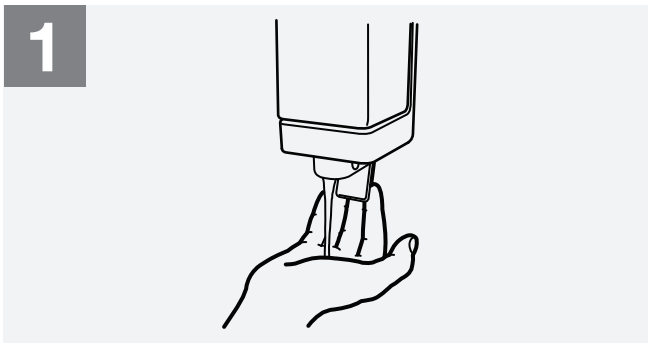
**Duration of the entire procedure: 40-60 seconds**

**0**



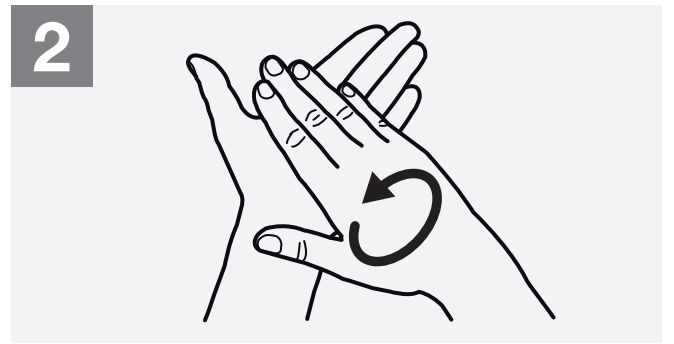
Wet hands with water;

**1**



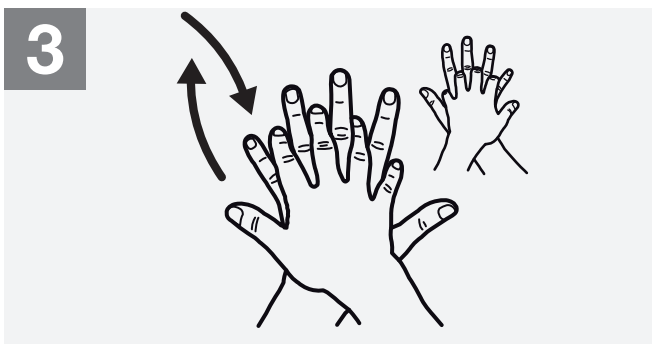
Apply enough soap to cover all hand surfaces;

**2**



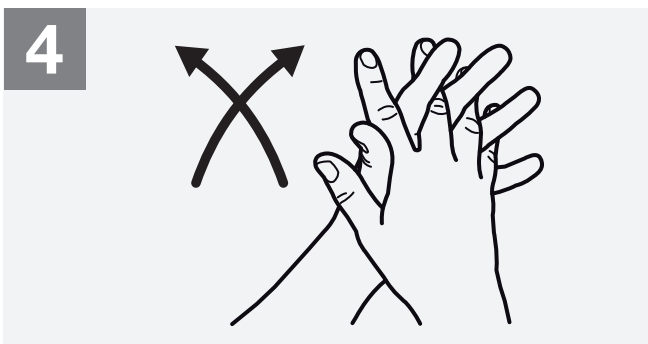
Rub hands palm to palm;

**3**



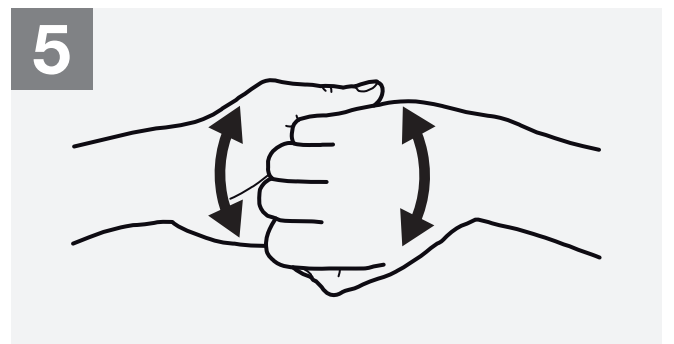
Right palm over left dorsum with interlaced fingers and vice versa;

**4**



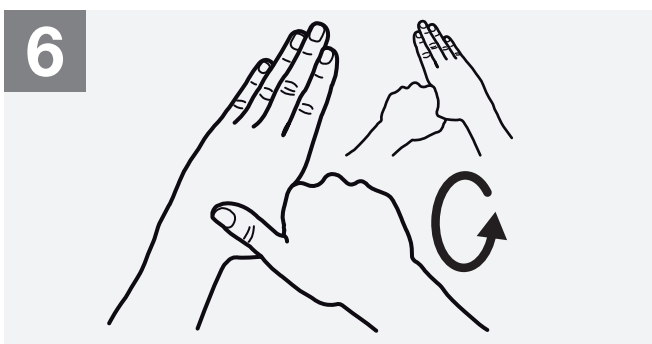
Palm to palm with fingers interlaced;

**5**



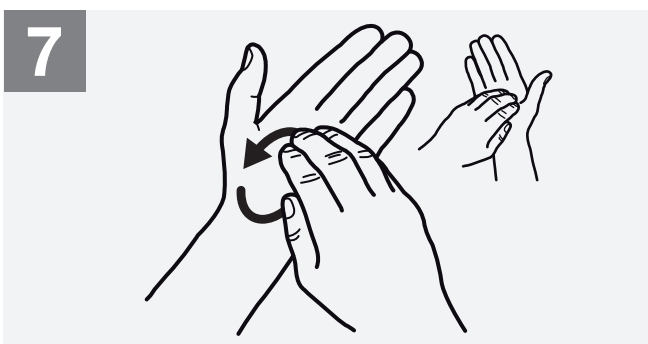
Backs of fingers to opposing palms with fingers interlocked;

**6**



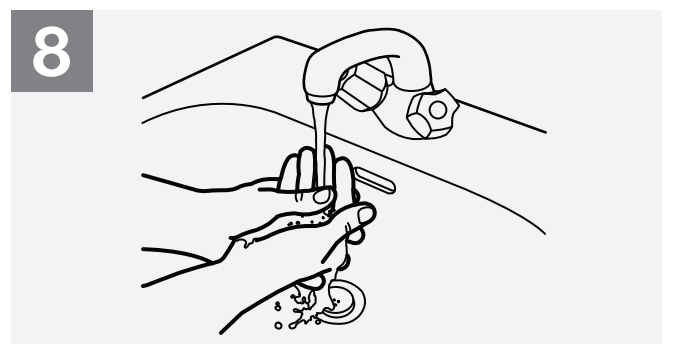
Rotational rubbing of left thumb clasped in right palm and vice versa;

**7**



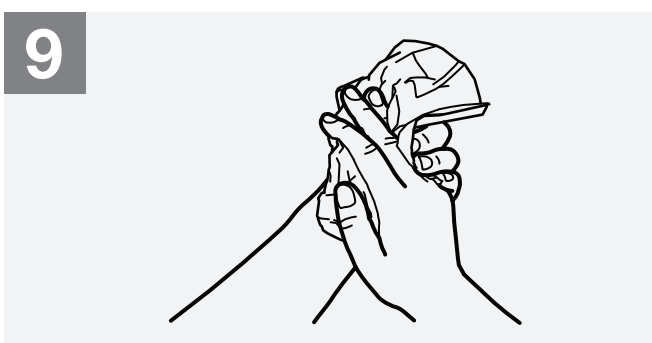
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

**8**



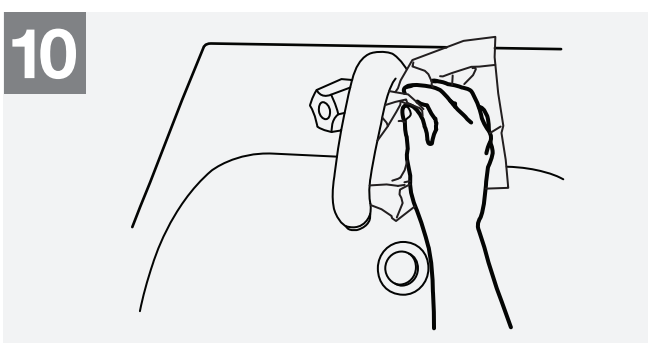
Rinse hands with water;

**9**



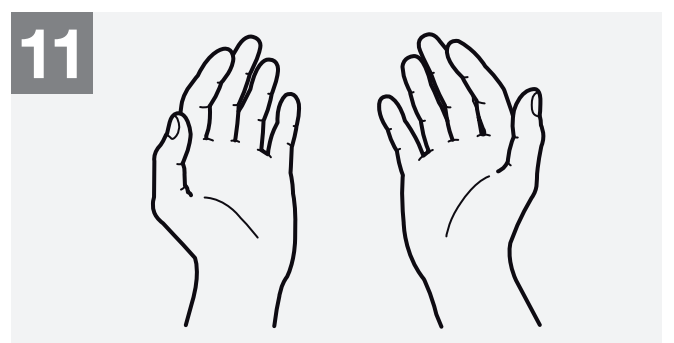
Dry hands thoroughly with a single use towel;

**10**



Use towel to turn off faucet;

**11**



Your hands are now safe.



**World Health Organization**

**Patient Safety**

A World Alliance for Safer Health Care

**SAVE LIVES**  
Clean **Your Hands**

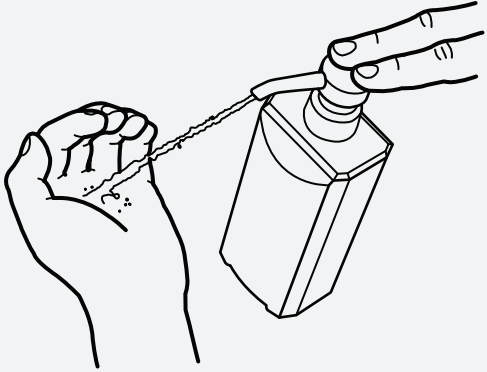
# How to Handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**



**Duration of the entire procedure: 20-30 seconds**

**1a**



Apply a palmful of the product in a cupped hand, covering all surfaces;

**1b**

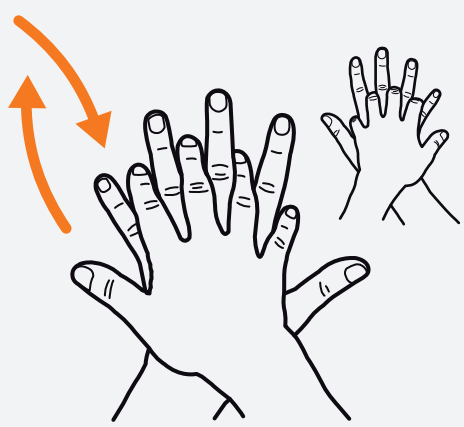


**2**



Rub hands palm to palm;

**3**



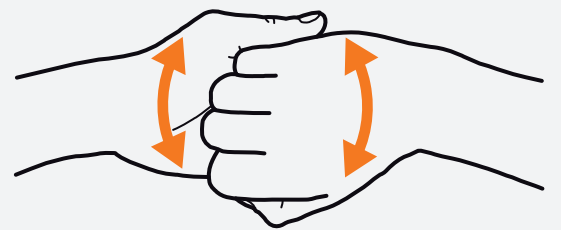
Right palm over left dorsum with interlaced fingers and vice versa;

**4**



Palm to palm with fingers interlaced;

**5**



Backs of fingers to opposing palms with fingers interlocked;

**6**



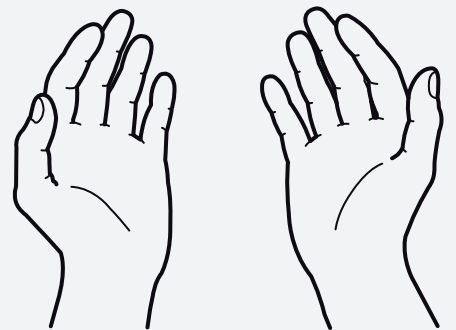
Rotational rubbing of left thumb clasped in right palm and vice versa;

**7**



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

**8**



Once dry, your hands are safe.



**World Health Organization**

**Patient Safety**

A World Alliance for Safer Health Care



**SAVE LIVES**

**Clean Your Hands**

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WHO acknowledges the Hôpitaux Universitaires de Genève (HUG), in particular the members of the Infection Control Programme, for their active participation in developing this material.

**Presentation 5-I: Infection Prevention: An Overview**



Infection Prevention:  
An Overview

Module 5

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Infection Prevention Overview

Presentation Outline :

- The disease transmission cycle
- How to prevent the spread of infection
- Basic principles of and steps for infection prevention
- Standard Precautions
- How to educate family members and the community about preventing disease transmission

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Infection Prevention

- Are we at risk?
- What is the most common or frequent risk that health care workers encounter while caring for patients?



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### Why Do We Need Infection Prevention?

- To reduce the risk of disease transmission to health care workers, clients, communities, and you!
- To protect health care workers at all levels—from physicians and nurses to cleaning, housekeeping, and laboratory staff

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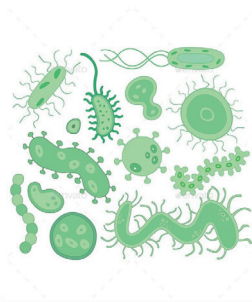
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### What Are the Disease-Producing Agents?

- Microorganisms can cause infection:
  - Bacteria (vegetative, mycobacteria, endospores)
  - Viruses
  - Fungi
  - Parasites



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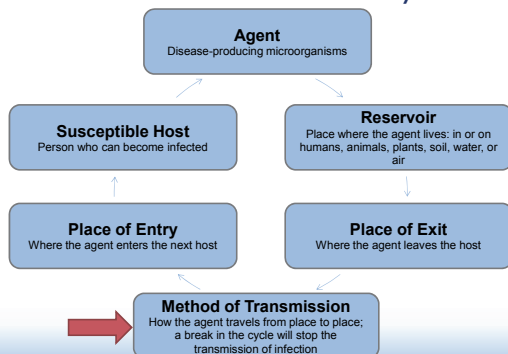
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### The Disease-Transmission Cycle



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### You Can Help Prevent Infection!

- By using set of guidelines that places protective barriers (physical, chemical, or mechanical) between a susceptible host (person lacking immunity) and the organisms.



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### What are the Standard Precautions?

- Guidelines to create a physical, mechanical, or chemical barrier between microorganisms and a person to prevent the spread of infection and break the disease-transmission cycle



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### Types of Barriers

- Physical: High-level disinfection (HLD) by boiling or steaming and sterilization by autoclaving or dry heat ovens
- Mechanical: Personal protective equipment (gloves, face masks, goggles, gowns, plastic or rubber aprons, and drapes)
- Chemical: Antiseptics (iodophors and alcohol-based antiseptic agents) and high-level disinfectants:
  - Chlorine
  - Glutaraldehyde

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### Standard Precautions

- Hand Hygiene
- Use of Personal Protective Equipment (PPE)
- Use of Antiseptics and Disinfectants
- Processing of Instruments
- Handling and Disposing of Sharps
- Environmental Cleaning
- Waste Management
- Injection Safety
- Respiratory Hygiene/Cough Etiquette

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### Standard Precautions Include...

#### Hand Hygiene



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### Standard Precautions Include...

#### Use of PPE



#### Wearing Gloves



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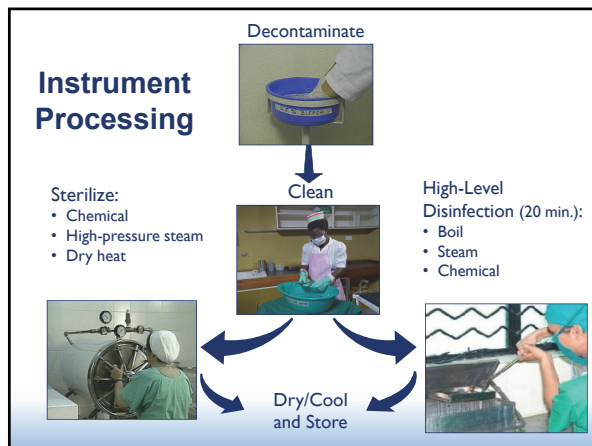
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### Processing Instruments and Other Items: 4 Steps

- 1. Decontamination**  
makes inanimate objects safer to be handled by staff *before* cleaning
- 2. Cleaning** physically removes all visible dust, soil, blood, or other body fluids from inanimate objects
- 3. High-level disinfection**  
eliminates all organisms (bacteria, viruses, fungi, and parasites) except some endospores OR  
**Sterilization** eliminates all organisms, including bacterial endospores
- 4. Storage** of HLD/sterilized instruments

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### Handling Sharps

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### Disposing of Sharps



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### Environmental Cleaning



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### Waste Management



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### Injection Safety



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### Respiratory Etiquette



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### Education of Family Members and Community

- Teach patients and their families how to reduce the risk of exposure in the home
- Create awareness about the importance of hand hygiene
- Involve community members in maintaining infection prevention practices such as availability of clean water, waste management, etc. at the health facility

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Infection prevention is  
everyone's responsibility.



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### Key Points

- Minimize and prevent exposure to infection by:
  - Using Standard Precautions with every patient
  - Disposing of clinic waste adequately
- Work together to make the workplace safer
- Teach patients and their families how to reduce risk of exposure in the home

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# Module 5: Infection Prevention for Long-Acting Reversible Contraceptive Methods

## Facilitator Tool 5-1: Key Points Discussion Guide: Infection Prevention

### Who is at risk for infection?

Infection prevention is everybody's business. Everyone working at the health facility is at risk of getting infected. In order to achieve effective infection prevention, *all* staff at the health facility must play a role.

### How is infection transmitted?

Infection is transmitted by microorganisms, such as bacteria, viruses, fungi, and parasites. These are present everywhere. They are on our skin, in the air, in soil, in and on people and animals, and in the environment around us.

### How can you prevent the spread of infection?

The best way to prevent infection is to follow “Standard Precautions.”

### What are Standard Precautions?

- Wash your hands.
- Wear personal protective equipment such as goggles, a face shield, gloves, and gowns.
- Prevent injuries from sharps and dispose of them properly.
- Process all instruments correctly.
- Handle and dispose of waste properly.

### When should I use Standard Precautions?

Consider every person as infected. Follow Standard Precautions for every patient, every time.

### What are the main steps for instrument processing?

1. Decontamination (WHO's 2016 Infection Prevention Guidelines no longer recommend soaking instruments in disinfectant prior to cleaning. Please refer to in-country guidelines for this step.
2. Cleaning
3. High-level disinfection (HLD)
4. Sterilization

## What is aseptic technique?

Aseptic technique is a method designed to create a sterile environment and prevent contamination from microorganisms. It involves applying the strictest rules and using what is known about infection prevention to minimize the risks of acquiring an infection (adapted from [www.healthline.com/health/aseptic-technique](http://www.healthline.com/health/aseptic-technique)). Practices used before or during clinical or surgical procedures to reduce the chances of getting an infection include using barriers, client preparation, establishing and maintaining a sterile field, using good surgical technique, and creating a safe surgical field.

## What are the purposes of proper waste management?

1. To protect people who handle waste items from injuries
2. To prevent the spread of infections to health care workers who handle waste
3. To prevent the spread of infection to the community

Sources: Tietjen L, Bossemeyer D, McIntosh N. *Infection Prevention Guidelines for Healthcare Facilities with Limited Resources*. Learning Resource Package. Baltimore, MD: Jhpiego Corporation, 2004; EngenderHealth. *Infection Prevention: A Reference Booklet for Health Care Providers*, 2<sup>nd</sup> edition. New York: EngenderHealth, 2011.