

Infection Prevention

Postabortion Care Curriculum Module 4, Session 1



The contents of this presentation draw from the Postabortion Care Curriculum Reference Manual.

Please refer to the Reference Manual for additional information, including further details and guidance as well as complete references to source material.



Learning Objectives



At the end of this session, participants will be able to:

1. Explain the principles of infection prevention, including standard precautions.
2. Demonstrate effective hand hygiene procedures.
3. Describe the appropriate use of antiseptics and the no-touch technique.
4. Demonstrate appropriate gloving practices.
5. Demonstrate correct use of personal protective equipment.
6. Demonstrate safe handling of sharps.
7. Demonstrate safe disposal of contaminated waste.
8. Describe recommended housekeeping practices.
9. Demonstrate how to process reusable equipment and other items used in PAC provision.



Introduction to Infection Prevention and Control in PAC



- › Nosocomial (hospital-acquired) infections are a significant and growing problem globally.
- › PAC clients, regardless of treatment facility, are at risk of various infections unless infection prevention and control (IPC) precautions are in place and upheld.
- › Healthcare providers, laboratory technicians, and other facility workers—as well as family and community members—are also at risk of infection exposure.
- › All healthcare workers should know and follow recommended IPC practices to minimize exposure to and transmission of infections.
- › The COVID-19 pandemic is one example of an infection that presented challenges and risks for PAC clients and healthcare workers.



Introduction to IPC in PAC (continued)



- › Microorganisms are causative agents of infection. This includes bacteria, fungi, parasites, and viruses.
- › All microorganisms may cause infection.
- › Some organisms are more pathogenic than others.
- › Microorganisms live everywhere.
- › Transmission can occur through contact with blood and body fluids.
- › The dose of organisms needed to produce infection varies by location. For instance, intact skin provides greater protection than mucous membranes or internal organs.

Introduction to IPC in PAC (continued)



- › Infection prevention depends on establishing protective barriers between the microorganisms and a susceptible host.

- › Protective barriers may be chemical, mechanical, or physical processes that help prevent the spread of infectious organisms from:
 - Person to person, such as between clients and healthcare workers

 - Equipment, instruments, and/or environmental surfaces to people

Standard Precautions



- › Designed to support the health and safety of all persons, including clients and staff
- › Apply to blood and body fluids (except sweat), non-intact skin, and mucous membranes—including pathological and lab specimens
- › Should always be upheld
- › Standard precautions include:
 - Practicing proper handwashing
 - Wearing gloves and other personal protective equipment
 - Using antiseptic agents
 - Using safe injection practices
 - Safely handling and disposing of waste
 - Properly processing medical devices for reuse

Aseptic Technique



- › Aseptic technique refers to all processes and procedures undertaken before, during, and after a surgical procedure to minimize the risk of infection.

- › Interventions include:
 - Practicing hand hygiene
 - Using personal protective equipment
 - Preparing the client using antiseptics
 - Practicing safe surgical techniques
 - Creating a safe surgical environment
 - Ensuring facility cleanliness and hygiene
 - Correctly processing medical devices for reuse

Hand Hygiene



- › A general term for any action of hand cleansing, including handwashing and use of alcohol-based antiseptic solutions
- › The single most important step in infection prevention
- › Reduces hand-borne infections by removing dirt and debris, and inhibiting or killing microorganisms on the skin
- › Can reduce diarrheal incidence and acute respiratory infections

Handwashing



- › The purpose of handwashing is to remove debris and soil from the skin and reduce the number of transient microorganisms.
- › Antimicrobial soap is recommended for surgical preparations.
- › PAC providers should wash their hands before:
 - Examining or having direct contact with clients
 - Donning sterile examination gloves
 - Eating

Handwashing (continued)



PAC providers should wash their hands *after*:

- > Using the restroom
- > Removing gloves
- > Any situation in which hands are visibly dirty or soiled with blood or body fluids
- > Any situation in which hands may have become contaminated, through contact with:
 - Soiled instruments or wound dressings
 - Blood, mucous membranes, or other body fluids
 - Contaminated-body site
 - Client's intact skin
 - Surfaces surrounding the client, the client's belongings, or other nearby items

Handwashing (continued)



Ensuring healthcare workers practice handwashing remains difficult. Key reasons include:

- › Lack of time
- › Lack of access to running water
- › Skin irritation resulting from frequent washing
- › Belief that wearing gloves provides total protection
- › Doubt regarding the effectiveness of handwashing to prevent infections

While education and behavior change activities can improve provider handwashing, ensuring consistent availability of soap, clean water, and single-use towels is essential.



Handwashing (continued)



Tips for preventing infection include:

- › Use small soap bars stored on racks to drain between use or use liquid soap.
- › When running water is unavailable, use a bucket with a tap or a bucket and pitcher.
- › Do not dip hands in basins with standing water.
- › Use paper towels (preferred) or individual clean towels to dry hands, or air-dry hands.
- › Providers who wash their hands frequently should have access to hand lotions or creams to reduce skin irritation.

Hand Antisepsis



The purpose of hand antisepsis is to remove debris and soil from the skin and reduce organisms. Hand antisepsis:

- › Uses a similar technique as handwashing but with an antiseptic soap or hand rub
- › Is more effective in killing microorganisms than handwashing with soap
- › Should be used before examining or caring for highly susceptible clients or performing invasive procedures
- › Is quick, convenient, and does not require running water

Antiseptic hand rubs are easy and inexpensive to make and contain emollients that make them less irritating than antiseptic soaps.

Surgical Hand Preparation



- › Handwashing or using an antiseptic hand rub are adequate for providing outpatient services, including select PAC services.
- › Procedures performed in an operating theater require surgical hand preparation.
- › Surgical hand preparation involves either using an alcohol-based hand rub or a medicated or antimicrobial soap with water.
- › Traditional approaches, such as vigorously scrubbing hands, are unnecessary and often ineffective. Updated techniques are less harsh and save time.

Protective Barriers and Personal Protective Equipment



Protective barriers, or personal protective equipment (PPE), are crucial in reducing the risk of infection. This includes:

- › Aprons, gowns, and scrubs
- › Face masks
- › Caps
- › Footwear
- › Eyewear
- › Gloves

Not all items are required for all procedures and not all provide equal protection against infections. It is important to determine which items are relevant in which circumstances to provide cost-effective care.

Aprons, Gowns, and Scrubs



- › Aprons, gowns, and scrubs protect the health worker from client blood and body fluids and the client from any microorganisms on the health worker.
- › Aprons are typically made of plastic or rubber and serve as waterproof barriers for the front of the body.
- › Aprons should be worn during any procedure in which blood or body fluids may spill or splash, and when cleaning contaminated instruments and procedure areas.
- › Scrubs, scrub suits, and surgical gowns are worn over or in place of regular clothes to prevent damage to personal attire.

Caps



- › Cover the head, preventing hair and flakes of skin from the scalp from shedding on clients
- › Protect healthcare workers during any procedures in which blood or body fluids may spill or splash and when cleaning instruments and procedure areas
- › Must cover the healthcare worker's hair to be effective

Eyewear



- › Prevent blood and other body fluid from splashing into health workers' eyes
- › Include clear plastic face shields, glasses, goggles, and visors
- › Should be worn during surgical procedures and when cleaning contaminated instruments

Face Masks



- › Face masks protect clients from moisture droplets expelled when health workers speak, cough, or sneeze and prevent client blood or other body fluid from splashing into healthcare workers' mouths or noses.
- › They must be made of fluid-resistant material—not cloth or paper—and cover the mouth, nose, and lower face including facial hair to be effective.
- › Healthcare providers and staff must assess risks and the availability of face shields or visors when deciding if a mask is needed.
- › Masks are required for surgical PAC treatment but not for medical management of abortion-related complications.

Footwear



- › Healthcare workers must wear sturdy footwear to protect their feet from injury.
- › Close-toed rubber or leather boots or shoes are recommended.
- › Footwear must be kept clean and free of blood and body fluid contamination.
- › Shoe covers may provide additional protection, but their effectiveness decreases when they become soaked with blood or body fluid and when they are worn outside the operating area.
- › If a healthcare worker has clean, sturdy shoes that they can use only in the surgical area, they do not need shoe covers.

Gloves



- › Gloves do not replace the need for hand hygiene.
- › Gloves often have tears or holes too small to see and may tear during use, leading to potential contamination.
- › Handwashing with soap and water and/or using an antiseptic hand rub before donning and after removing gloves is critical.

Gloves are not a replacement for hand hygiene!

Gloves (continued)



There are three types of gloves used in PAC:

- › **Sterile surgical gloves:** Use for invasive medical or surgical procedures, handling sterile instruments, surgical uterine evacuation, insertion and removal of contraceptive implants and intrauterine devices, and sterilization procedures
- › **Examination gloves:** Use for routine duties involving contact with mucous membranes and skin, such as pelvic examinations and providing injectable contraceptives
- › **Utility (heavy-duty) gloves:** Use for processing instruments and contaminated equipment, handling contaminated waste, and cleaning contaminated surfaces

Gloves (continued)



In general, healthcare workers should wear gloves when:

- › Completing any task in which there is a reasonable chance of hand contact with blood or body fluids, mucous membranes, or non-intact skin
- › Performing invasive medical procedures
- › Processing instruments and equipment for reuse
- › Handling contaminated waste or touching contaminated surfaces

Gloves (continued)



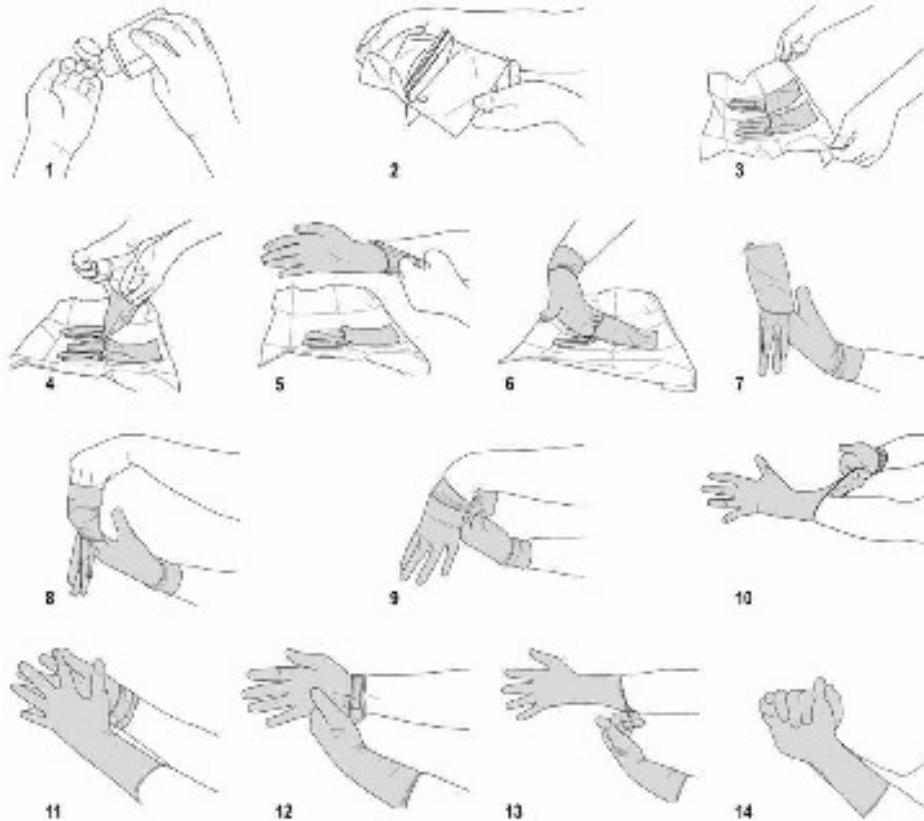
- › Only wear gloves when needed.
- › Double gloving is not recommended.
- › Gloves that become visibly soiled, punctured, or torn should be changed as soon as possible.
- › Don new gloves for each client to avoid cross-contamination.

Gloves (continued)



How to Don Surgical Gloves

Source: WHO. 2009. *WHO Guidelines on Hand Hygiene in Health Care*. Geneva: WHO.
<https://www.who.int/publications/i/item/9789241597906>.

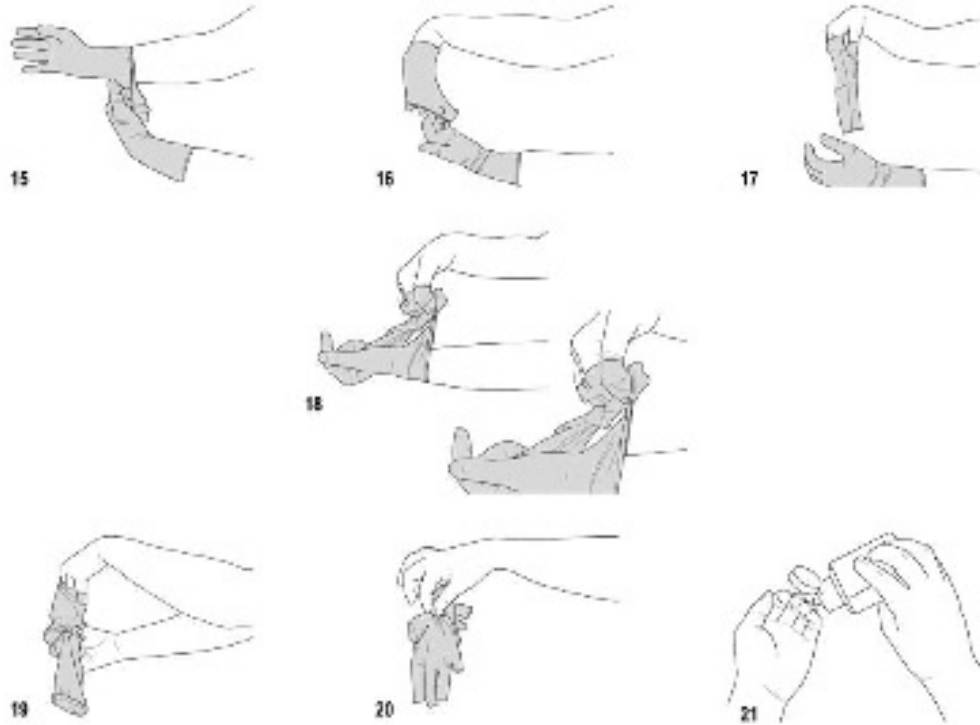


Gloves (continued)



How to Remove Surgical Gloves

Source: WHO. 2009. *WHO Guidelines on Hand Hygiene in Health Care*. Geneva: WHO.
<https://www.who.int/publications/i/item/9789241597906>.



Client Preparation



- › Surgical procedures including VA, D&E, implant and intrauterine device insertion and removal can potentially cause infection.

- › Client preparation includes:
 - Cleansing the cervix, perineum, and vagina with an antiseptic solution and applying drapes before the procedure
 - Cleansing the perineum and vagina at the end of the procedure
 - Cleansing the implant insertion or removal site with an antiseptic solution and then draping the procedure area

- › Use of prophylactic antibiotics is not routinely recommended for PAC.

The Importance of Drapes



- › Drapes are hemmed squares of varying sizes, made of linen, or paper.
- › Sterile drapes create a sterile barrier around a wound or procedure area.
- › Drapes also serve to maintain client privacy.

Types of Antiseptics and Antiseptic Application



Common Types of Antiseptics

For cervical and vaginal preparation,

- › Chlorhexidine gluconate (4%)
- › Chlorhexidine gluconate and cetrimide
- › Iodophors

Do not use alcohol or alcohol-containing solutions, which can burn, dry, and irritate.

Application

- › If the area is soiled, cleanse with soap and water, dry, and apply antiseptic solution.
- › After inserting the speculum, apply the antiseptic to the cervix and vaginal walls twice.
- › When using iodophor solutions, wait two minutes for the antiseptic to take effect.

Safe Surgical Technique



- › Be gentle when performing any surgical procedure and ensure hemostasis is achieved to reduce the risk of sepsis.
- › Apply gentle traction to the cervix with the tenaculum and exercise care when inserting and removing contraceptive implants.
- › Rough handling of tissues and/or failing to practice proper surgical techniques may cause hematoma formation or tissue necrosis and increase the risk of infection.

No-Touch Technique



- › Using the no-touch technique and sterile instruments reduces risk of sepsis.
- › The no-touch technique means that no part of the cannula or any other instrument that enters the uterine cavity should touch any contaminated surfaces before passing through the cervix.
- › Instruments must not touch the examination table, any unsterile areas of the instrument tray, gloves, or the client's vaginal walls before insertion.
- › Providers should only handle instrument parts that will not touch the client.
- › Insert and remove any instrument into/from the uterine cavity as few times as possible.

Safe Handling of Sharps



The term “sharps” refers to any sharp instruments or objects used for providing healthcare, including:

- › Intravenous catheters
- › Needles and syringes
- › Scalpels
- › Razor blades

Trocars and other sharp instruments, such as tenaculums, are also considered sharps but are usually reusable.



Safe Handling of Sharps (continued)



- › Healthcare providers can accidentally stick themselves, fellow staff, or clients with sharps during clinical procedures.
- › Accidents can also happen when cleaning instruments and areas in which instruments are placed.
- › Sharps-related injuries may result in the spread of hepatitis B and C and HIV.

Safe Handling of Sharps (continued)



The following precautions can reduce the risk of sharps-related injuries:

- › Minimize direct handling of sharps, for instance, pass sharps on a tray rather than hand-to-hand.
- › Do not bend, break, or recap needles before disposing into a puncture-proof container or sharps box.
- › Ensure puncture-proof containers are always available and easily accessible for sharps disposal.
- › Process reusable sharp instruments according to local protocols and guidelines.

Safe Handling of Sharps (continued)



- › While manufactured sharps containers exist, they are not widely available and can be expensive.
- › Create puncture-proof containers using cans, durable plastic bottles and containers, and heavy-duty cardboard boxes. Some materials offer more safety than others, but all provide low-cost, sustainable options for disposable sharps containers.

Safe Handling of Sharps (continued)



The following actions can reduce infection risk in cases of accidental exposure to blood or body fluids, either by a sharp injury or splash:

- › Wash the puncture area or cut with soap and water.
- › Flush splashes to the mouth, nose, or skin with water.
- › Irrigate splashes to the eyes with water or saline.

Postexposure Prophylaxis



- › Postexposure prophylaxis can reduce the risk of transmission of some blood-borne pathogens.
- › Healthcare workers should be familiar with the guidelines for postexposure prophylaxis of hepatitis B and HIV and should have access to relevant care.
- › Any staff or clients exposed to blood or body fluids should consult the resident infectious disease specialist or other provider with expertise in postexposure prophylaxis protocols.

Postexposure Prophylaxis (continued)



Whether postexposure prophylaxis is indicated depends on several factors:

- › Infection status of the individual whose blood or fluids are involved
- › Type of exposure: a splash on the skin versus a deep puncture wound
- › Vaccination status of the exposed person
- › Length of time since the exposure
- › Availability of relevant medications or other therapy

Facility Cleanliness and Hygiene



Facility cleanliness and hygiene are vital to everyone's health and safety.

The general practices for cleaning all areas include:

- › Consistently wearing gloves and other PPE when cleaning.
- › Using wet or damp cloths and mops instead of dry-dusting or sweeping.
- › Beginning by cleaning the least soiled areas and progressing to the most soiled areas and cleaning from high to low.
- › Changing the cleaning solution whenever it appears to be dirty.

Waste Management and Disposal



- › Waste can be either contaminated or noncontaminated.
- › Noncontaminated waste can be disposed using the usual methods or sent to a local dump or landfill.
- › Contaminated waste includes blood and body fluids, used dressings, and medical devices.
- › Handling contaminated waste can cause infection and such waste must be disposed of according to recommended IPC practices.

Waste Management and Disposal (continued)



Recommended practices for managing contaminated waste include use of:

- › Leak-proof plastic or metal waste containers with tight-fitting lids and liners
- › Containers for disposing burnable and nonburnable waste
- › Puncture-proof containers for all disposable sharps
- › A disinfectant cleaning solution to regularly wash and rinse waste containers
- › Contaminated waste containers for contaminated waste
- › Utility gloves and other appropriate PPE for handling contaminated waste
- › Handwashing or using antiseptic hand rub after removing gloves after handling waste
- › A secure and convenient location for storage of waste before transportation for disposal

Waste Management and Disposal (continued)



Recommended practices for disposing of contaminated waste include:

- › Burying it
- › Pouring liquids and other wet waste directly into a safe sewage system or a deep hole and covering the hole
- › Incinerating, or burning, contaminated solid waste

Processing Medical Devices for Reuse



- › Appropriate processing of medical devices for reuse is critical to minimizing infection risk.
- › Healthcare workers should employ the Spaulding Classification to categorize reusable medical devices by intended use and decontamination required.
- › The previous approach for decontaminating medical devices by soaking in a 0.5% chlorine solution or other disinfectant before cleaning is no longer recommended.
- › The current recommended steps for processing instruments include:
 - Step 1: Cleaning at point of use
 - Step 2: Inspection, function testing, and packaging of cleaned instruments
 - Step 3: Sterilization
 - Step 4: Storage



Step One: Cleaning at Point of Use



- › Physically cleaning to remove dirt, foreign matter, and organic material that can interfere with sterilization or high-level disinfection is the first step to reducing the number of microorganisms on instruments and other items.
- › If this is not possible, place the items in clean water or wrap them with a moist cloth to prevent blood and other body fluids from drying and becoming difficult to remove later.
- › Cleaning at this stage involves scrubbing the item with a brush, detergent, and water.
- › Detergent is important for effectively removing grease, oils, and proteins.
- › Do not use hand soap, which can leave a residue, or steel wool or other abrasive cleaners, which can damage the items.

Step One: Cleaning at Point of Use (continued)



Other tips for cleaning at this stage include:

- › Wear utility gloves, a mask, and protective eyewear.
- › Disassemble instruments, if possible, before cleaning.
- › Use a soft brush, detergent, and water; scrub items under water to avoid splashing.
- › Carefully clean grooves, joints, and teeth where organic material can collect and stick.
- › Rinse items thoroughly with clean water to remove all detergent.
- › Allow items to air-dry or dry with a clean cloth.
- › Dispose of sharps and of gloves in accordance with waste management guidelines.

Cleaning Reusable PAC Instruments



- › Dispose of all sharps.
- › Disassemble the syringe completely; remove the collar stop and the O-ring on the plunger.
- › Disassemble the speculum, as needed.
- › Wash all parts with detergent and water.
- › Use a soft brush to scrub the syringe.
- › Do not use a brush or other object to remove blood or tissue from the cannula tip.
- › Clean hinged and serrated surfaces with a brush.
- › Dislodge material by flushing with water or flicking the tip with a gloved finger.
- › Rinse all instruments with clean water and allow to air dry before moving to the next step.

Step Two: Inspection and Function Testing of Cleaned Instruments



All instruments must be inspected and tested before reuse. The included tasks are:

- › Perform hand hygiene before beginning.
- › Inspect each set of instruments separately.
- › Inspect all surfaces—particularly crevices, joints, and serrations—for cleanliness.
- › Check hinged devices for ease of movement. Do not lubricate hinges during this process.
- › Check jaws of instruments for alignment.
- › Identify and remove any nonfunctional instruments; replace and document replacement.
- › Identify any missing instruments; replace and document replacement.
- › Assemble instruments together before wrapping, labeling, and preparing for sterilization.

Step Two: Inspection and Function Testing of Cleaned Instruments (continued)



- › Package instruments using appropriate materials; this includes using materials that are:
 - Able to be closed and sealed
 - Free of loose fiber and particles
 - Nontoxic
 - Free of non-fast dyes
 - Permeable to steam and gaseous sterilizing agents
 - Resistant to penetration by microorganisms

Double-layered textile packaging and laminated pouches are most common for packaging PAC-related kits. Do not use metal drums with fenestrations that can be opened and closed manually, as they do not guarantee sterility of the contents.

- › Complete documentation, recording all instruments inspected, tested, and replaced.

Step Three: Sterilization



- › The sterilization process kills all microorganisms, including the bacterial endospores that cause gangrene and tetanus.
- › Sterilization is the recommended method of decontamination of PAC instruments that contact the uterine endometrium or tissue under the skin.
- › High-level disinfection is insufficient.
- › Do not use dry heat sterilization.
- › The effectiveness of any method of sterilization depends on the amount and type of microorganisms, organic material, and other matter present, and the amount of protection the item provides the microorganisms.

Step Three: Sterilization (continued)



Three Methods of Sterilization

- › **Steam sterilization:** Autoclaving or moist heat under pressure
- › **Dry-heat sterilization:** Electric oven
- › **Chemical sterilization:** Cold sterilization

***Note:** Boiling is no longer recommended for processing of any instruments irrespective of locality.*

Step Four: Storage



- › Sterilized items should be used or properly stored immediately after processing.
- › The appropriate storage method depends on whether items have been sterilized, which sterilization method was used, and whether the items are wrapped or unwrapped.
- › Always store instruments dry.
- › When retrieving a sterile item from a storage container, use sterile forceps to avoid contaminating the item or other items within the container.
- › Store a small number of items together to minimize risk of contamination during retrieval.

Reminder: Any item that comes in contact with people, surfaces, dust particles, insects, or anything else that is not sterile is considered contaminated. Unwrapped sterile items should be used immediately due to the high risk of contamination.

Infection Prevention: Concluding Notes



Adhering to recommended IPC practices is key to minimizing accidental exposure and transmission of infections. This includes:

- › Employing proper hand hygiene, including handwashing and hand antisepsis
- › Wearing gloves and other PPE
- › Preparing the client and employing safe surgical techniques
- › Maintaining a safe surgical environment, including safe handling of sharps
- › Adhering to facility cleanliness and hygiene standards, including proper waste management and disposal
- › Processing reusable medical devices according to established standards



