



Infection Control Management Project

Volume 8: Guidelines for

Infection Control in Operation Theatre

1. Protocols
2. Reference Text
3. Tool for Monitoring

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Infection Control in Operation Theatre

Adapted by AAA team from:

1. WHO Poster, How to Handwash & How to Hand rub, October 2006
2. Dr Geeta Mehta. (2002). Guidelines on Prevention and Control of Hospital Associated Infections. New Delhi: World Health Organization.
3. Dr.T.V.Rao MD, D. M. (2008, February 07). Surveillance, Sterilization and Disinfection of Operation Theatres in the Developing World. Retrieved December 07, 2010, from Articlesbase.com: <http://www.articlesbase.com/medicine-articles/surveillance-sterilization-and-disinfection-of-operation-theatres-in-the-developing-world-327599.html>



Infection Control in Operation Theatre

You Must:

1. Consider each **operation as a potential source of infection** for both patient and staff
2. Be immunized against HBV and have adequate anti-HB titers
3. Perform **surgical scrubs** and **gowning** correctly
4. Strictly follow **operating room clothing** and **protective equipment** discipline
5. Follow the correct procedure in the event of a **sharps injury**
6. **Restrict staff number** and **their movements**
7. Avoid **preoperative shaving** and **prepare surgical site correctly**
8. Administer **antibiotic surgical prophylaxis at the time of induction of anaesthesia**
10. Keep **infected cases** at the end of the operating list and **treat infected cases before surgery if possible**
11. Maintain a **clean operating room environment**
 - a. Correctly maintain the operation theatre air ventilation system
 - b. Follow **OT cleaning** procedures
12. **Decontaminate, properly process and sterilize equipment**
13. Promptly and properly **dispose of theatre waste**

Reference Text

1. Consider each operation as a potential source of infection for both patient and staff

As a standard precaution, the staff should consider every patient as a potential source of infection (especially for HBV, HCV and HIV) for them regardless of the known or supposed serological status. Patients should also be considered susceptible to infections during operation. Hence all measures for infection prevention must be taken for all patients.

2. Be immunized for HB

All OT staff should be screened by medical history, and if any doubt about previous infection/immunization, they should be tested for antibodies to HBsAg. All non-immune HCWs should be offered HBV vaccination as soon as possible at the start of employment and should be tested for antibodies to HBsAg 3 months after the third dose of vaccine. Those who do not respond should be offered a fourth dose or a further 3 doses, depending on the antibody level. Persistent non-responders should be informed about the need for HBIG within 48 hours of parenteral exposure to HBV. Pregnancy should not be considered a contraindication to HBIG or HBV vaccination.

3. Perform surgical scrubs and gowning correctly

Surgical scrubbing ensures the removal or killing of transient micro-organisms and a substantial reduction and suppression of the resident microbial flora.

Preparation prior to scrub procedure

- A new disposable facemask should be correctly positioned over the nose and mouth.
- All hair should be covered under a theatre cap
- No jewellery to be worn on hands and wrists
- Ensure that the water is of even temperature and with a steady flow.
- Make sure that hands are raised above the elbows at all times.
- Do not splash theatre clothing.
- All staff should be in suitable surgical attire, with sleeves above the elbow (rolled if necessary).
- Beard should be completely covered with a specially designed hood
- All hair should be contained within a surgical hat.
- Fingernails should be short and free from polish or artificial nails.

Procedure for scrubbing up:

The recommended time is 3 minutes for the first scrub in the morning and again in the afternoon. Subsequent scrub times of 2 minutes duration are sufficient. The rationale for the above is that to scrub for greater than 3 minutes can cause minor abrasions to hands which may predispose towards cross contamination.

Method

- Turn on water to achieve a suitable temperature.
- Commencing at the fingertips, place one hand under running water and follow through to elbow level; repeat this procedure with the opposite hand. This removes dirt and transient flora.



- Clean under each finger nail and around the nail bed with a nail cleaner prior to performing the first surgical scrub of the day.
- Using your elbow, depress approximately 5 ml of the antimicrobial from the dispenser.
- Holding hands above the level of the elbow, apply antimicrobial agent to hands and forearms up to the elbows. Using a circular motion, begin at the fingertips of one hand and lather and wash between the fingers, continuing from fingertip to elbow. Repeat the process for the other hand and arm. Continue rubbing for 3 minutes.
- The use of a scrubbing brush is not necessary for reduction of bacterial counts and can lead to skin damage and an increase in skin shedding.
- Rinse each arm separately, fingertips first, holding hands above the level of the elbow.
- Hands must be rinsed thoroughly from fingertip to elbow, allowing excess water to drain from the elbows into the sink.
- Using two sterile towels dry from the fingertips keeping hands above the elbow, using a separate towel to dry each hand.

- Keep hands above the level of the waist and do not touch anything before putting on sterile gown and surgical gloves.
- Subsequent washes should encompass two thirds of the forearms to avoid compromising the cleanliness of the hands.
- Avoid splashing surgical clothing – if this becomes excessively wet it can compromise the protection afforded by the gown.



Drying

- Hands must be dried thoroughly –as wet surfaces transfer micro organisms more effectively than dry.
- The skin should be blotted dry with sterile single use towels, as rubbing the skin dry will disturb skin cells. Do not use the gown for drying.
- The principles of working from the fingertips to the elbows and using one towel per hand must be adhered to.
- Dry hands, first by placing the opposite hand behind the towel and blotting the skin, then by using a corkscrew movement to dry from hand to elbow.

The towel must not be returned to the hand once the arm has been dried but must be discarded immediately.

- Repeat the process for the other hand.

Gowning

- Grasp the gown firmly and bring it away from the table. It has been folded so that the outside faces away.
- Holding the gown at the shoulders, allow it to unfold gently.
- Place hands inside the armholes and guide each arm through the sleeves by rising and spreading the arms. Do not allow hands to slide outside cuff of gown.
- The circulator assists by pulling the gown over the shoulders and tying it.



Gloving (Closed Technique)

- Left hand (within the gown) lifts the right glove by its cuff.



- The fingers of the glove face towards you.



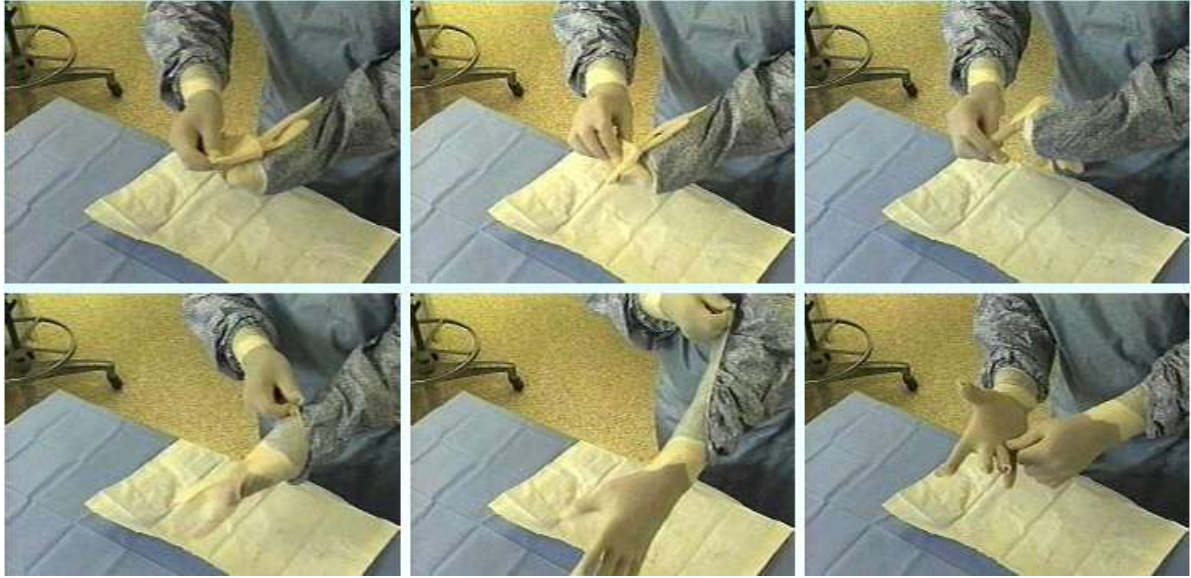
- Working through the gown sleeve, grasp the cuff of the glove and bring it over the open cuff of the sleeve.



- Unroll the glove cuff so that it covers the sleeve cuff.



- Proceed with the opposite hand, using the same technique.



- When both gloves are on, pull glove cuffs over gown sleeves and adjust gloves for comfort.



- Hold both hands higher than elbows and away from surgical attire prior to gowning.



Double Gloving

Double gloving reduces the rate of HBV/HCV transmission to the surgeon coming into contact with body fluids by 10% more than with single gloves.

The transmission of HBV and HCV from surgeon to patient and vice versa has occurred in the absence of breaks in technique and with apparently intact gloves. Even the best quality, new latex rubber surgical gloves may leak, while if exposed to fat in wounds, these gradually become weaker losing integrity. Double gloving is not of much benefit against sharp injuries.

Double gloving is indicated when:

- Large amounts of blood or other body fluids (e.g., vaginal deliveries and cesarean sections) is expected.
- Risk of contracting blood borne pathogens, such as HCV, HBV, HIV, is high (>5% prevalence).

Use Elbow-length (Gauntlet) Gloves

Blood contact with the skin and mucous membranes of providers occurs in 25% of vaginal deliveries and 35% of cesarean sections. In addition, large volumes of amniotic fluid contaminated with blood are routine in obstetrics.

- Where the hand and forearm need to be inserted into the vagina (manual removal of a retained placenta) or deep into the uterus to deliver the infant's head (cesarean section), elbow-length, "gauntlet" gloves, help protect the provider from significant blood and amniotic fluid contamination. The mother will be protected as well.

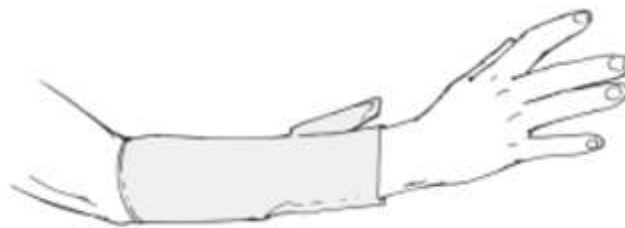
If gauntlet gloves are not available, an inexpensive, effective alternative can be easily made from sterile surgical gloves. The steps for making them are:

STEP 1: Perform surgical handscrub, including the forearms up to the elbows, as detailed in Chapter 3 using an alcohol-based antiseptic agent.

STEP 2: Cut the four fingers completely off each glove just below where all the fingers join the glove.



STEP 3: Put fingerless sterile or high-level disinfected gloves on both hands and pull up onto the forearms.



STEP 4: Put intact sterile or high-level disinfected surgical gloves on both hands so that the distal (lower) end of the fingerless glove is completely covered.



4. Strictly follow operating room clothing and protective equipment discipline

Do not keep mobile phones in OT, or at least keep them on silent mode.

Staff must change outside clothing for a clean scrub suit on entering the OT. They must not wear operating room clothing outside the OT.

OT gown should be impermeable, with cuffed wrist and sterile. Remove the contaminated surgical gown as soon as possible and put it in a bag for laundering. An impermeable apron may be worn underneath a cloth gown.

Use a new fluid-repellent mask for each operation and make sure it covers the nose and mouth. Mask should not be left hanging around the neck. Change mask if moist.

Use protective eye wear when blood or other body fluids will be encountered.

Single use sterile gloves must be worn during surgery and disposed of immediately after use. Do not walk around OT wearing gloves. Practice hand hygiene after removing gloves.

Hair should be tied well and completely covered so that it should not fall forwards during surgery. Beards should be fully covered by a mask and specially designed hood.

Open footwear must never be worn in the operating room.

No jewellery should be worn in OT.

Ensure that visitors going into the main operating theatre also change into theatre suits.

Remove gowns inside out. Place them in laundry bag.

5. Follow the correct procedure in the event of a sharp injury

Treat all sharps with care and avoid practices such as passing 'sharps' from person to person.

Ensure removable blades can be easily detached using an appropriate device.

Use an appropriate size and type of 'sharps' bin/box for the area and anticipated volume of usage. Do not place 'sharps' bins/boxes in areas where there may be an obstacle to environmental cleaning. Avoid overfilling: the sharps containers must be closed securely when three-quarters full.

Used needles must not be re-sheathed.

Treat the patients with Hepatitis B, C or HIV in the same way as any other patient, with universal blood precautions. Take due care with sharps and ensure that all measures are in place to minimize risk of needlestick injury or contamination with blood: the operating/scrub team should be experienced and the procedure should be unhurried; the scrub team may wish to double-glove; risk assessment should determine whether water impermeable gowns should be worn.

Scrub team should know the correct procedure to follow in the event of an inoculation or 'sharps' incident if there has been exposure to Hepatitis B, C or HIV.

First aid

- **Contaminated needle-stick, sharps injury, bite or scratch** – allow to bleed, wash with soap and running water. Do not squeeze wound or force bleeding.
- **Blood or body fluid in eyes or mouth** - irrigate with copious quantities of cold water
- **Blood or body fluid on broken skin** - encourage bleeding if possible and wash with soap under running water (but without scrubbing).

Report incident and discuss with consultant immediately

Discuss type of injury, donor HIV status if known, etc. If this urgent preliminary risk assessment considers there is a significant risk of HIV, post-exposure prophylaxis (PEP) for HIV needs to be started as soon as possible - ideally within 1 hour. This reduces risk of transmission by 80%. It may be appropriate to give the first dose of PEP pending a fuller assessment after the HIV status of the 'donor' is known. Where the donor is unknown, epidemiological likelihood of HIV in the source needs to be considered, although in most cases PEP will not be justified.

PEP for HIV currently consists of a 28-day course of treatment with a triple combination of antiretroviral drugs, has significant side-effects and needs careful follow-up.

Hepatitis B immunoglobulin should be given within 72 hours if the source is known to be HBeAg positive or their status is unknown and the exposed person has negative serology. HBV vaccination should be offered to all health workers who have never been immunized or are non-immune.

The exposed person should also be advised to have safe sex for three months, not to donate blood until all necessary screening tests are clear, and to see their GP if they develop a fever.

Investigations

- Take blood for virology, (HIV, hepatitis B, hepatitis C) from the injured worker.
- Start PEP where appropriate and consider the need for antibiotic therapy or hepatitis B immunization. Recheck HIV status 3 months later and hepatitis serology 3 and 6 months later.
- Liver function tests should be performed and repeated at 3 and 6 months.
- Female workers should have a B-hCG check to exclude pregnancy.

Documentation

Maintain needle stick/sharps injury record, with details of PEP and other follow-up procedures to help in auditing such events, and also to see how to prevent such injuries in the future.

Follow-up

Ensure there is adequate follow-up of both healthcare provider and donor. They may need specific advice about having to take sick leave if medication is required and the possible requirement for psychological support.

6. Restrict staff number and their movements

Unnecessary movement should be restricted and only people absolutely needed for an assigned work should be present. This will greatly reduce bacterial count.

7. Avoid preoperative shaving and prepare surgical site

Preoperative shaving with razor should be avoided, as it causes abrasions and increases risk of infections. Use clippers (or scissors), clearing only the incision area.

Preparation of the surgical site

- The patient's skin at the site of incision as well as a wide margin should be prepared with 10% povidone iodine, or 4% chlorhexidine. These should be allowed to dry before making the incision.
- The skin should be covered by impervious drapes or with sufficient thickness of pervious material to prevent fluid penetration during the surgery.

8. Administer antibiotic surgical prophylaxis

Antibiotic surgical prophylaxis should be administered intravenously with the induction of anesthesia.

9. Keep infected cases at the end of the operating list and treat infected cases before surgery if possible

Where possible, keep infected cases, such as with MRSA, draining wounds, exfoliative skin condition or known multidrug resistant infection at the end of the operating list. Decontaminate the theatre and equipment following the procedure. Do not perform any surgeries until proper decontamination measures are taken. Patients with infection should, where possible, be treated before elective surgery.

10. Maintain a clean operating room environment

a. Correctly maintain the operation theatre air ventilation system

Parameters that should be in place if possible based on the available resources are:

- Positive pressure ventilation with respect to the corridors and adjacent areas in the operating theatre where surgical procedures are performed should be maintained.
- The number of operating theatres supplied by air handling units (AHUs) should be consistent with the number specified by the AHU manufacturer. There should be routine maintenance of the AHUs and they should not be turned off unless being serviced.
- Maintain 15-20 air changes per hour
- Filter all air with appropriate pre-filters (e.g filtration efficiency of 30%) followed by final filter (e.g 90%)
- Air should enter at the ceiling and be exhausted near the floor. Furniture or other portable items should not block the exhaust at floor level.
- Keep the door to the OT closed during surgery to avoid mixing corridor air with the operating room air.
- In some hospitals, window air conditioners are in use. These air conditioners require proper maintenance and do not guarantee air quality.
- Humidity should be controlled and maintained between 50-55%.
- Temperature should be controlled and maintained between 18-24 degrees.
- Check equipment every week as part of OT maintenance.

b. Follow OT cleaning procedures (see Cleaning Schedule)

At the beginning of the day, remove the dust only with cloth wetted with clean water. Clean theatre furniture, lamps, sitting tables, trolley tops, operation tables,

procedure tables. You need not use chemicals/disinfectants unless contaminated with blood or body fluids.

Between the procedures, clean operation tables or contaminated surfaces with disinfectant solutions. In case of spillages of blood/ body fluids, decontaminate with bleaching solution/ chlorine solution (10% available chlorine). Keep the floor dry during and between operations.

At the end of the day, clean all the table tops, sinks, door handles with detergent followed by low level disinfectant.

Keep the operation theatre dry for the next day's work.

Use a dry mop in the OT for the floors. Broom should be forbidden as it disperses the infected material all around and on the equipment. Dry mopping should be followed by wet mopping with detergent mixed with warm water. Finally mop with disinfectant, such as a phenol based disinfectant, in the concentration of 1 in 10. Low concentrations of phenol will not serve the purpose. Mop should be disinfected with bleach after use and allowed to dry before reuse.

Used linen should be contained in hampers or in soiled laundry bags at the point of use. Linen that is saturated with body fluids should be placed in fluid proof bags.

Routine Environmental Cleaning Schedule for Operation Theatres

No.	Places and items	Beginning of day	Between patients	End of the day	Cleaning Agent	How to clean
1.	Doors	Yes			Detergent	Damp cloth
2.	Floor	Yes	Yes	Yes	Detergent followed by Disinfectant	Dry Mop, then wet mop
3.	Corridor	Yes	4 times a day	Yes	Detergent followed by Disinfectant	Dry Mop, then wet mop
4.	Operation table sides, base, legs	Yes	Yes	Yes	Disinfectant	Damp cloth
5.	Chairs and wheel chairs	Yes	As needed	Yes	Detergent followed by Disinfectant	Damp cloth
6.	Procedure Trolley	Yes	Yes	Yes	Disinfectant	Damp cloth
7.	Emergency trolley top	Yes	As needed	Yes	Disinfectant	Damp cloth
8.	Emergency trolley inside	Yes (weekly)			Disinfectant	Damp cloth
9.	Mayo stands	Yes	Yes	Yes	Disinfectant	Damp cloth
10.	Lamps and lights	Yes		Yes	Disinfectant	Damp cloth
11.	I/V stands	Yes	As needed	Yes	Disinfectant	Damp cloth
12.	Stretchers	Yes	Yes	Yes	Disinfectant	Damp cloth

13.	Furniture	Yes			Disinfectant	Damp cloth
14.	Computers Monitor	Yes			Disinfectant	Damp cloth
15.	Computers key board and mouse	Yes			Disinfectant	Dusters
16.	Counters	Yes		Yes	Detergent	Damp cloth
17.	Visibly soiled floors, walls	Yes	Yes	Yes	Detergent followed by disinfectant	Damp cloth
18.	Sink	Yes	As needed	Yes	Detergent	
19.	Sharps		Discard when sharps container $\frac{3}{4}$ filled			
20.	Waste		Discard when container $\frac{3}{4}$ filled			
21	Linen		Soiled linen should be bagged at the source	Yes	Detergent	Hot cycle and bleach

Routine cleaning is sufficient to provide a safe environment.
Do not keep extension board/wires on floor and avoid clutter in the OT.
Do not use bleach on metallic objects since it can cause corrosion
Each week empty the storage shelves, wipe them, dry them and restack.

11. Decontaminate/sterilize equipment and instruments

The supply of surgical instruments should be sufficient to maintain an adequate supply for concurrent operations and sterilizations.

12. Promptly dispose off theatre waste

Prompt disposal of theatre waste is of top priority. Any spillage of body fluids is highly hazardous and prompts rapid multiplication of nosocomial pathogens, warranting rapid action. For detailed guidelines refer to the Guideline for Hospital Administrators.

- All waste should be appropriately discarded, while soiled linen and gowns must not be dumped on the operation theatre floor.
- Educate all staff on waste management practices and procedures, and the dangerous effects of hospital waste.

PPE Guidelines for all Health Care Personnel handling Waste

During handling, remember that barriers in the form of PPE should not be compromised. Injuries from sharps, spills and splashes are concerns to be proactively avoided.

- Latex Gloves for health care providers.
- Utility Gloves for sanitary workers.
- Face mask/glasses, closed toe shoes, impermeable apron or gown.
- Remove gloves promptly after use, before touching non-contaminated items and any other environmental surfaces.
- Remove the soiled gown, clothing and equipment as promptly as possible.
- Clean equipment as per instructions and do not forget hand hygiene.

General principles of waste collection

- Easy access to supply of color-coded bags and containers.
- Fill bags to maximum of 3/4 capacity.
- NEVER put hands inside the bags/containers.
- NEVER press any filled bag to make more room.
- The bags to be tied and handled by neck only while transportation.
- Staff must wear protective clothing, gloves, mask, aprons etc while handling infected waste.
- Never allow any person to put their hands inside the bags.
- If bags tear, they should be replaced/re-bagged in new clean bags.
- Double glove and use a face visor in OTs as a routine.

Transport of Wastes

- Small wheeled trolley should be used for primary transportation.
- Trolley should be dedicated only to transportation of waste.
- Trolley should be decontaminated and cleaned at the end of the day, and at least once daily.

The waste of the red buckets or sharps container must NEVER be sorted.

Waste collection and disposal system at OT

For solid wastes, each OT should have:

- **1 White Bin** (or plain bucket) with White (or Green) liner.
- **1 BLUE Bin** for Recyclable Materials – Dry General Waste.
- **1 Red Bin** with Red liner and lid – for Anatomic Waste.
- **1 Red Bin** with Red Liner and Lid – for Pathologic Waste other than anatomic waste.
- **1 Yellow Sharps Container** - adequately sized puncture resistant container.
- **1 Needle cutter** - at the Counter for preparing Injectables – for collection of needles.

For liquid wastes, each OT should have:

- 1 disinfected urine jug/urinal
- 1 sputum cup
- Appropriate sized sinks and toilets that are routinely decontaminated for disposal of liquid wastes.

Solid Waste Collection and Disposal

Infectious Solid Waste

- **Infectious Solid Waste** is considered of two types with different final disposal techniques.
- Collect in **2 separate RED BINS**, one for **Anatomic Waste** (with body parts, placenta, organs), and **Pathologic Waste** (small tissues, bandages, cotton, gauze, etc.).
- Anatomic waste is to be buried for ethical reasons.
- Pathologic waste is to be either incinerated or buried.

- **First Red Bucket with Lid with Red Bag for Pathologic Waste**
Infectious Waste collection consisting of:
 - Human tissues
 - Blood bags and all blood products
 - Soiled bandages, gauze
 - Urinary catheter tubing and bag, IV tubing
 - Surgical drains and bags, NGT, ET tube
 - Used IV and arterial catheters
 - Diapers

- Bag should be incinerated as it is.

- **Second Red Bucket with Lid with Red Bag for Anatomic Waste**
- **Anatomical wastes consist of**
 - Recognizable human organs, body parts etc
 - Amputated parts
 - Organs
 - Placenta
 - Products of conception

- **During handling and collection, Medical and paramedical staff must:**
 - Use closed handling trays for collection as part is dissected or removed from the body during surgery. In case closed trays are not available, use a cloth-lined tray for collecting and covering the body part.
 - Keep the body part in a safe place during surgery.
 - The nurse/OTA will dispose the anatomic waste safely in the RED bin.
 - The bin should have a self closing mechanism, lined with an opaque, red plastic bag.
 - Cover appropriately for transport.
 - Tag the bag (with sex of the patient, and name of the body parts or organs), before being collected by the sanitary worker.
 - Tie the red plastic bag when 3/4th full for collection.
 - Ensure prompt collection from the relevant staff only.

Sharps Waste

Sharps Waste consisting of metallic sharps, are to be collected in a **yellow sharps container**, which can be buried, with the addition of 0.5% Chlorine Solution

servicing both as a decontaminant, and a corrosive to break down the metal over the next few years.

- **Sharps Waste consists of:**

- IV Needles
- Suture needles
- Scalpel blades
- Knives
- Broken Glass

Sharps are defined as comprising of needles, syringes, scalpels, blades, glass i.e. anything that may cause puncture or cuts. Take care to prevent injuries when using sharps.



- Use needle and syringe only once.
- Keep handling to a minimum. DO NOT pass directly from hand to hand.
- **Do not recap or bend needles** prior to disposal.
- Do not disassemble the needle and syringe after use.
- **Mutilate** prior to disposal to prevent any unauthorized reuse by using needle cutters/destroyers.
- Dispose off the used mutilated disposable syringes and needles, scalpel blades and other sharp items in a **puncture-resistant container with a lid that closes.**

The puncture proof sharp containers can be made from cardboard box, used tin box, or hard plastic bottles that are closed.

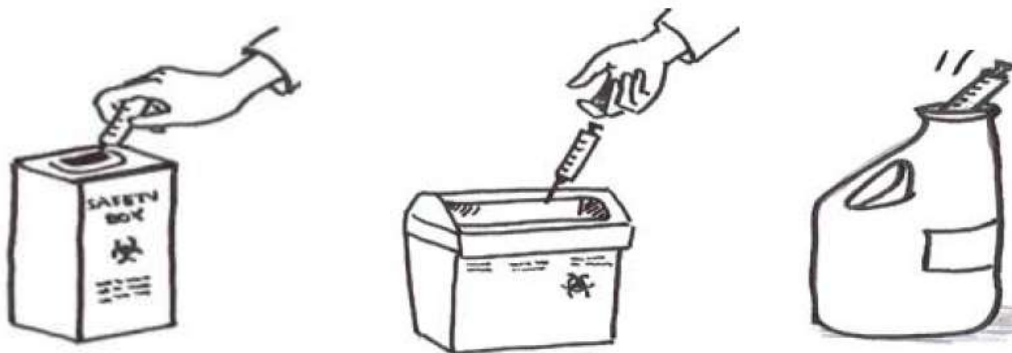
Make only a small opening in the box for disposing off sharps. These sharp containers should be available in dressing/injection rooms, EPI vaccination rooms, examination rooms, labor and birth rooms, wards and laboratories, i.e. such containers must be located in ALL patient care and laboratory areas where they are very easily accessible to personnel working in these locations. They should be closed and immediately replaced when $\frac{3}{4}$ full.

Collection

- Wear GLOVES. Sharps injuries during handling needles are common!
- Take EXTREME CARE in emptying the needle cutter into the cardboard sharps box.
- The sharps box (cardboard or other) should be clearly labeled.
- Empty box when $\frac{3}{4}$ th full. The $\frac{3}{4}$ th mark should indicate that the box is "full."

Sharps box

- Used hard plastic bleach bottles, that can be safely closed.
- Ensure containers are located in a safe place and position, and must NOT BE ON THE FLOOR.



- All staff must be educated about standard principles and trained in hand decontamination, the use of protective clothing and the safe disposal of sharps.
- Adequate supplies of liquid soap, handrub, towels and sharps containers should be made available.

Recycling of Sharps and Instruments: Blades, Scalpel, Scissors, Forceps, Towel Clips, etc.

- These are commonly recycled as they are made of high quality metals.
- Disinfect immediately after use.
- If being discarded, decontamination and cleaning is the minimum procedure before sending for recycling. If possible, this should be followed by sterilization.

Broken Glass

- Collect carefully without using hands. Make use of brushes and collection instruments.
- Disinfect and send for safe recycling if possible.
- If infected, and cannot be handled safely, e.g. smaller pieces or crushed glass, then bury with pathological waste.
- Broken glass is preferably NOT TO BE INCINERATED as it damages the incinerator.

General Recyclable Waste

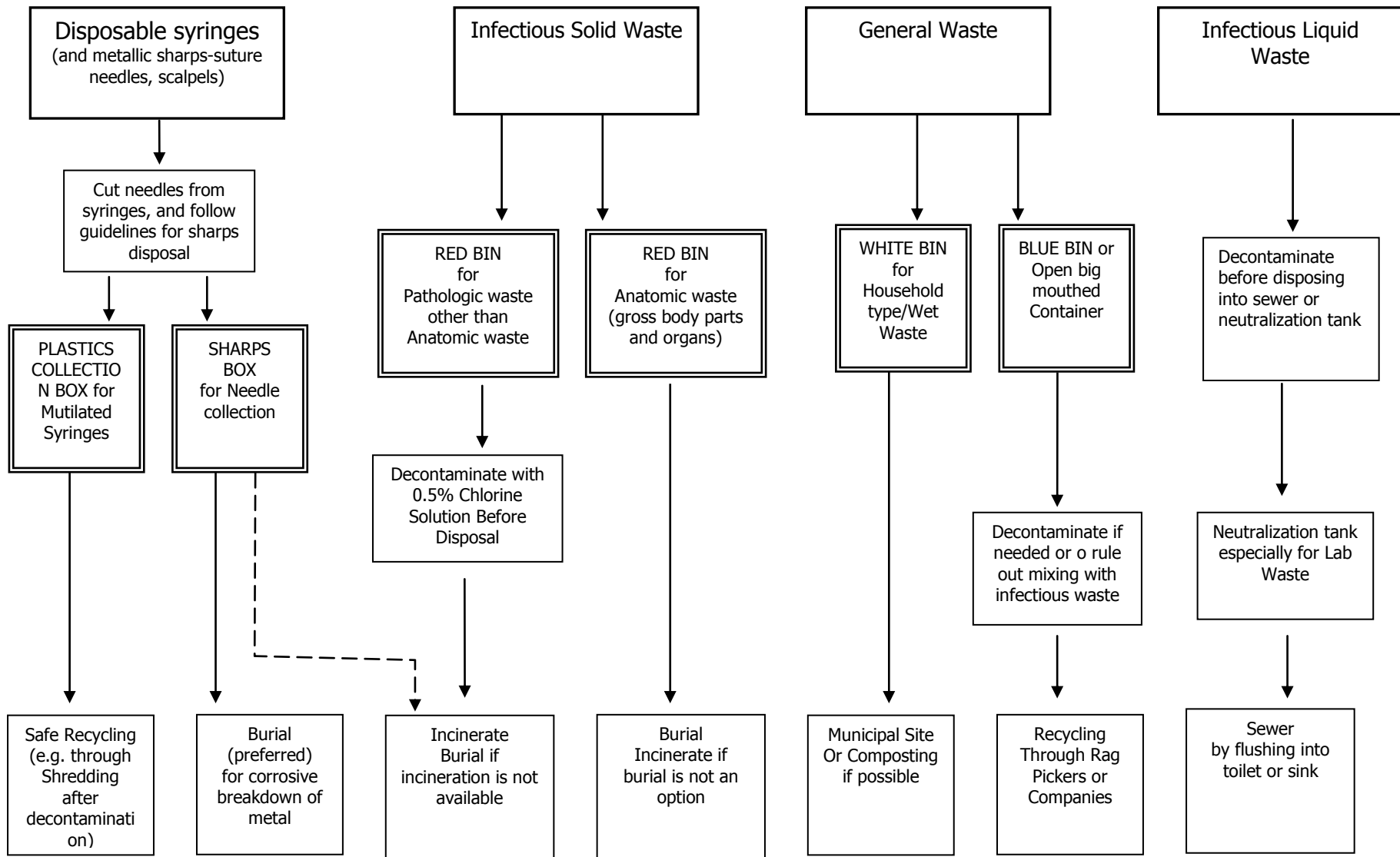
- **To be collected in Blue Bin**
- Bin should be placed next to the counter where injectables are prepared by the Anesthesiologist, for easy access.
- Do not allow edibles (tea, coffee, etc) in the OT areas.
- **Recyclable waste consists of:**
 - Paper and packaging
 - Glass bottles (but not broken glass)
 - Plastic drips
 - Injectables
 - Paper and packaging

- Cardboard
- Plastic sheeting/plastic bags

Liquid waste

- Drain liquid wastes (body fluids, etc) into the toilet. Decontaminate instruments such as bed pans after each use by using 0.5% Chlorine solution for at least 10 minutes.

Waste Segregation and Disposal Overview at OT



Monitoring Tool for Operation Theatre

Operation Theatre _____ **Date:** __/__/__

1	OT Staff and Discipline	YES	NO	NA
	Staff with dermatitis, boils restricted from OT team			
	OT staff immunized for hepatitis B virus			
	OT traffic of staff properly restricted			
	Does staff change before entering the clean area			
	OT dress worn outside the OT by staff			
	OT staff sometimes eat and drink inside OT			
2	OT Design	YES	NO	NA
	OT separated from main flow of hospital traffic			
	Is there a clean or restricted zone			
	Is access unidirectional from clean area into sterile area			
	Is OT room cooler and less humid than outer area			
	Are there functioning Hepa Filters			
	How many air exchanges per hour:			
	Is there positive pressure in OT			
	Are doors and windows of OT closed during surgery			
	Is more than 1 surgery in the same OT room performed at times			
3	Surgical Scrub Room, Gown and Glove	YES	NO	NA
	Agent used for scrub:			
	Tap operated by: Hand Elbow Pedal Sensor			
	Surgical scrub correctly performed by: surgeon technician nurse student			
	Towel or paper used for drying is sterile			
	Scrub facility clean			
	Dispensers filled and functioning			
	Gown in sterile individual packing			
	Gowning correctly performed by: surgeon technician nurse student			
	Same gown used for more than one surgery at a time			
	Sterile gloves available			
	Gloves are reused after: washing disinfection			

	Gloving correctly performed by: surgeon technician nurse student			
4	OT Cleaning and Waste Management	YES	NO	NA
	Floor clean			
	Blood stains on floors, tables, other surfaces			
	Mop disinfected by bleach prior to use			
	OT floor, surfaces, trolleys, tables, IV stands, lamps cleaned at beginning of day, before surgeries			
	OT tables, trolleys, cleaned between patients			
	OT floors and surfaces cleaned at end of day			
	Cleaning agent used for floor:			
	Cleaning agent used for surfaces:			
	Are soiled linen and gowns bagged			
	Is sorting of soiled and non-soiled linen done at source			
	Body parts wrapped in plastic bags			
	Where is final disposal of body parts:			
	Sharps container present in the OT			
5	Manual Cleaning of Surgical Equipment	YES	NO	NA
	Soiled instruments transported in closed tray			
	Thick rubber gloves worn for cleaning			
	Gown worn			
	Cleaning brushes available			
	Cleaning detergents available			
6	Sterilization of Equipment	YES	NO	NA
	Method of Sterilization : Steam Boiler ETO Benchtop			
	Chemical Disinfectant used:			
	Quality control of sterilization process is performed regularly			
	Date of sterilization & expiry mentioned on pack			
	Are sterile supplies taken to OT room in covered cart			
	Sterile surgical drapes available			