Minimum Standards for Sites Performing Early Infant Male Circumcision

Guidelines for health workers and facilities In Lesotho

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1.0 Background

Male circumcision is one of the oldest known surgical procedures. Egyptian records show that male circumcision was being performed as early as 2300 BC. The procedure has been adopted independently by different cultures all over the world for various medical and non-medical reasons.

Circumcision reduces female to male heterosexual HIV transmission by 60 percent. This is supported by over 30 observational/ecological studies and after three randomized trials conducted in Uganda, Kenya and South Africa showed that adult male circumcision reduces the risk of HIV acquisition in men by approximately 60%. Biologically, it is plausible that male circumcision (MC) reduces the HIV risk in men because the inner mucosa of the foreskin is less keratinized and has a high concentration of HIV target cells. During sexual intercourse the foreskin is retracted over the shaft exposing the inner prepuce mucosa to vaginal secretions; the prepuce is vulnerable to trauma leading to micro tears during sexual intercourse. Circumcision reduces the rate of genital ulceration and some sexually transmitted infections (STI) in men and their female partners. The World Health Organization (WHO) and the United Nations Joint Program on HIV/AIDS (UNAIDS) now recommend Male circumcision as a component of HIV prevention strategies with priority given to countries with a high HIV prevalence and low MC prevalence.

There are significant benefits in performing male circumcision in early infancy, and programs that promote early infant male circumcision are likely to have lower morbidity rates and lower costs than programs targeting adolescent boys and men.

1.1 Timing of male circumcision

Male circumcision can be performed at any age. A WHO expert review meeting held October 2009 in Geneva Switzerland concluded that the procedure is easier to perform and associated with less pain and fewer complications when performed within the first two months of life.

One important advantage of early infant male circumcision is that the procedure is simpler than that performed on older boys and men because the penis is less developed and the foreskin is thinner and less vascular. Healing is quicker and complication rates are lower. The period of superficial wound healing after infant male circumcision is generally 5-7 days and most wounds heal completely within 14 days. Performing circumcision in infancy provides several other advantages:

- The wound typically does not need to be sutured
- The procedure is not complicated by erections, which can be problematic in adolescent boys and men;
- Infant male circumcision ensures that the wound will be healed before sexual activity begins; sexual activity can complicate circumcision in adolescents and adult males and can put older patients who engage in such activity before the wound has healed at higher risk for HIV transmission.

In Lesotho, ideally the procedure would be done during the hospital stay after 12 hours of life and prior to discharge. At the currently routine 7 day post-natal care and 6 week immunization visits, EIMC could be offered to those infants previously missed.

1.2 Benefits of male circumcision

The benefits of male circumcision include the following:

- Decreased risk of HIV infection
- Decreased risk of urinary tract infections
- Prevention of phimosis
- Prevention of paraphimosis
- Prevention of balanitis and posthitis
- Decreased risk of other sexually transmitted infections including HSV and HPV
- Decreased risk of cancer of the penis
- Decreased risk of cancer of the cervix in female sexual partners

- Decreased vaginal infections caused by *Trichomonas vaginalis* and decreased bacterial vaginosis in female sexual partners.

1.3 Risks of male circumcision

As with any surgical procedure there are risks associated with male circumcision. Risks associated include:

- Pain, which can be minimized through the use of anesthesia
- Bleeding, including the risk associated with a blood transfusion in extremely rare cases
- Infection, including risk of systemic spread and need for intravenous antibiotics
- Injury to the penis and surrounding structures
- Poor cosmetic outcomes
- Meatitis
- Meatal stenosis
- Reactions to the anesthetic agent

When male circumcision is performed by well-trained, adequately equipped and experienced health-care personnel, these complications are minor and rare, occurring in 1 of every 250 to 500 cases. Most of the complications can be easily and rapidly addressed and do not result in significant morbidity and mortality.

2.0 Overview of facility and equipment requirements

2.1 Facility requirements

The following criteria should be considered when evaluating a facility for early infant male circumcision:

Preferably close to maternal, neonatal and child health (MNCH) services
Facility meets standards for universal precautions
Facilities to wash/clean hands
A clean room with good lighting (a full theatre setting is not required)
Ability to perform postoperative processing
Resources for contaminated waste disposal
Health-care workers trained to perform early infant male circumcision
Health-care workers trained in caring for postoperative circumcision wounds and recognizing and treating complications of early infant male circumcision
Access to care for routine follow-up and post-procedure emergencies

2.2 Equipment requirements and necessary supplies

The following items must be immediately available and routinely checked before beginning any case in order to optimize safety during standard early infant male circumcision.

<u>Equipment</u>

- Secure work surface (table or infant warmer) – height should be such that the provider does not have to stoop or bend
- Assistant or mechanism to restrain/position infant
- Hand-washing/cleaning facilities
- Light source

<u>Supplies</u>

- Infant padding, blankets and towels
- Clean nappies/diapers and wipes
- Sterile gloves
- Sterile drape with small opening in the center (fenestrated)
- Betadyne or other skin-sterilizing preparation
- Sterile marking pen or gentian violet

- Sterile 2 x 2 or 4 x 4 gauze pads
- White petrolatum (Vaseline) or white petrolatum gauze

Instruments
- Instrument tray wrapped with sterile drape
- One 7.5 cm to 12.5 cm (3 in to 5 in) flexible probe
- Three small mosquito hemostats - two curved and one straight or three straight
- Small straight scissors
- Desired male circumcision device (Mogen) and all appropriate parts
- Scalpel – no. 10 blade or similar

Anaesthesia administration
- 1% lidocaine (WITHOUT EPINEPHRINE)
- 1-ml sterile syringe with small 27-gauge or similar needle
- Alcohol wipes

Post-circumcision bleeding
- Topical epinephrine
- Gelfoam or equivalent
- Adson forceps
- 5-0 or 6-0 absorbable suture (chromic or catgut) on a needle (6-0 chromic on PC-1 needle or equivalent)
- Needle-holder
- Petrolatum-coated gauze

Postoperative processing
- Check sterilizing and reprocessing equipment
- Check that means are available to handle and dispose of contaminated sharps
- Check that means are available to handle and dispose of contaminated supplies

3.0 Procedural Guidelines

The following are procedural steps for effective counseling services, pre-operative preparation of patients, the EIMC procedure and post-operative care.

3.1 Reception

Ideally, early male infant circumcision should be performed during the hospital stay after 12 hours of life, a successful transition period, and prior to discharge. Therefore, the infant will already be admitted into the hospital and have a chart.

However, EIMC can also be performed during the mother's or infant's follow-up visits. If male infant is returning for procedure, the reception area should be a welcoming environment. The receptionist should be friendly and willing to provide guidance to clients on the process of registering. The receptionist will also be responsible to record names and make bookings for clients.

EIMC should only be performed on healthy, full term infants greater than 12 hours old, less than 60 days old, weighing more than 2500 g without a medical contraindication.

3.2 Group education on EIMC

Health education increases awareness and favourably influences attitudes and knowledge related to the improvement of health on a personal basis. Group education allows clients to be given basic information about male circumcision before an individual counselling session.

The circumcision of male infants should form an integral part of the basic information that is given to pregnant women during **antenatal clinic visits**, so that they can start thinking about it, discuss it with their spouse or partner or the father of the child and have any questions clarified.

Group counselling should talk about the following:

- What circumcision is
- Benefits of infant male circumcision
- Risk of infant male circumcision
- Relationship between male circumcision and HIV infection
- How circumcision is performed including information about devices

Opportunities for group education on infant male circumcision services also include postpartum services, well-child and immunization services, home-based services, adult outpatient services, and adult male medical circumcision services.

3.3 Individual Counselling

Following the group education session, individual counselling is provided for clients. The individual counselling is part of the comprehensive EIMC package and should be conducted in easy to understand language with preapproved visual aids if available. Individual counselling can be provided during the mother's antenatal visits or on the maternity ward prior to procedure.

Individual Counselling should talk about the following:

- Welcome parents or guardians
- Explain the counselling process including privacy and confidentiality
- Re-emphasize the message given during the group education session
- Nature of male circumcision
- Health benefits
- Risks
- How procedure is performed including information about devices
- Ask the parent about their feelings about circumcision
- Ask the parent about their partners feelings about circumcision
- Answer any and all questions about procedure parent may have
- Pain control
- Preoperative and postoperative procedures
- Follow-up visits
- Signs and symptoms requiring return for assessment and further management
- Complete the patient's record forms (if during hospital stay)

Ensure that you document counselling on EIMC provided in mother's chart.

3.4 Pre-operative assessment

This is a very important step prior to the procedure and is conducted by a trained nurse or nursing assistant under the supervision of the doctor at the site. It should involve history-taking, physical examination of infant, signing informed voluntary consent by parent or legal guardian, and pre-operative guidance of the patient. The aim of this step is to identify medical conditions that would be contraindications for circumcision and signing of the informed consent form by the parent/legal guardian. If there is any doubt to eligibility, surgery should be deferred and the clients should be referred to a specialist center.

History-taking phase of the assessment, the male infant should be screened for:

- History of uncomplicated delivery including gestation age and birth weight
- Maternal HIV status to assess infant's risk

- Stability with review of hospital course up to that time including vital signs.
- Family history of coagulopathies/bleeding disorders

(note: family history of anemia is not a contraindication for circumcision)

If procedure if being done after hospital stay – history-taking phase should also include:

- Any history of illness since leaving hospital
- Any difficulty with urination since leaving hospital

Physical Examination

The physical examination should be tailored to look for conditions that may contraindicate male circumcision. However, a focused general examination ought to be performed complete with the vital signs and the patient's weight.

Performing a newborn assessment

A basic newborn physical exam should include but is not limited to:

- Review vital signs – Temperature, Pulse, Respiration Rate
- Check the current weight, length, head circumference
- Inspection of general appearance including activity of infant, quality of cry, color of skin, muscle tone, dysmorphic appearance.
- Inspection of skin to include color, milia, Mongolian spots, hemangiomas, petechiae/bruising
- Exam of HEENT to include head for moulding, sutures, fontanels, caput; Eyes for symmetry, shape, discharge, red reflexes; ENT for ear shape, nasal patency, intact palate.
- Exam of Chest to include inspection for asymmetry, breast hypertrophy and auscultation of lungs and heart sounds.
- Exam of Abdomen to include inspection of appearance, evidence of distention, cord, number of vessels; palpation for abnormalities such as hepatosplenomegaly; and auscultation of bowel sounds.
- Exam of Musculoskeletal system for deformity, movements of limps especially hips, potential for extra digits, spinal intactness, sacral dimples
- Exam of Neurological system including reflexes such as suckling, moro, rooting, grasp, and stepping

Perform any other systemic examination as dictated by the patient's history.

Routine early infant male circumcision should only be undertaken if the infant is healthy, full-term, weighs more than 2500 g, is greater than 12 hours old, less than 60 days old, has a normal physical examination, and has an intact penis and scrotum of completely normal appearance.

- Any evidence of jaundice (yellow sclera or purpuric skin lesions) should be addressed prior to clinic-based circumcision.
- **Any congenital abnormality of the genitalia is a contraindication**. If an abnormality exists the foreskin should be left intact because the tissue may be required to repair the defect.
- Congenital abnormalities that are contraindications include:
  Ambiguous genitalia, bilateral hydroceles, curvature with penile torsion, penile torsion, absence of ventral foreskin, concealed penis trapping beneath the foreskin, megalourethra, penoscrotal webbing, megameatus, epispadias, hypospadias, micropenis (if < 2 cm in length).

Performing a genital examination

- Wash hands with soap and water and dry with a clean, dry towel
- Put on examination gloves on both hands
- Examine the penis and look for any abnormalities
- Examine the scrotum and check for any abnormalities

Ensure that you complete the necessary parts of the patient's chart.

3.5 Informed voluntary consent

Informed consent is required from all parent/legal guardians of EIMC clients. The consent form should be explained to the parent/legal guardians and signed as part of the pre-operative procedure.

Health-care providers should give all the information needed to make a fully informed decision. The following elements should be included:

- Explanation of male circumcision and the nature of the surgery
- Risks and benefits (short term and longer term) of infant male circumcision

Provider should assess whether the parent or legal guardian understands the information provided and their capacity to make the necessary decisions.

Consent form should be signed and filed in infant's record.

3.6 Getting ready: Pre-operative tasks

To help improve outcomes and avoid complications, providers should follow a standard procedure. As part of the pre-operative assessment the following steps should be done:

1. Ensure availability of appropriate equipment and supplies
2. Provide information to parents/legal guardians
3. Ensure that informed consent was obtained and filed in chart
4. Thoroughly wash/clean hands
5. Screen patient – ensure proper documentation in patient's chart
6. Safety check - ensure that the correct patient is brought to the procedure room and that he remains a suitable candidate for male circumcision
7. Preparing the patient and the prepuce

Feeding restrictions - Although it is a standard surgical precaution to restrict oral intake before surgery because of the risk of regurgitation and aspiration, this typically does not apply to minor outpatient surgeries performed under local anesthesia and should not be considered a necessity for early infant male circumcision.

3.7 Safe injection of local anesthetic

To ensure safe use of local anaesthesia adhere to the following steps:

1. Use the correct agent at the correct concentration
2. Check the expiration date
3. Verify that the anesthetic is clear and that there are no visible particles
4. Aspirate once needle is placed to make sure that no blood enters the syringe before injecting the agent. Repeat each time the needle is moved, before any additional anesthetic is injected.

Perform a Dorsal Penile Block (DPNB). For most neonates and young infants, 1 ml of 1% lidocaine **without epinephrine** can be used by injecting 0.5 ml a the 10 o'clock site and 0.5 ml at the 2 o'clock site at the base of the penis.

If there is any residual sensation, the surgeon should wait for a further 2–3 minutes and test again.
If there is still sensation, more local anesthetic should be given but do not exceed the calculated maximum safe dose.

<u>Maximum dose of local anesthetic</u>

The local anesthetic used is 1% lidocaine without epinephrine. The maximum safe dose of lidocaine in infants is 3 mg/kg of body weight. For a 3-kg infant, this corresponds to 0.9 ml of 1% solution. Anesthetic solutions containing epinephrine should NEVER be used because there is a risk of constriction of the blood vessels to the whole penis, resulting in gangrene and loss of the penis.

<u>Additional options for comfort along with local anesthetic:</u>

Suckling is quite soothing for the baby and can be accomplished by providing a clean finger, a pacifier, expressed breast milk applied to a fingered glove or gauze, or oral sucrose at 0.05 to 0.5 ml of 24% solution (sugar water) administered 2

min before the procedure. Glucose administration or a pacifier may not be justified in areas of the world where successful breastfeeding is essential for survival.

Sedation

There are serious risks associated with sedation, which is **not recommended** for clinic-based circumcision. In early infancy (<60 days of age), sedation should not be required for the performance of male circumcision and should be avoided because of the serious complications that can develop.

3.8 Common steps to all surgical methods

The two widely used infant male circumcision techniques are Mogen and Plastibell. Providers should use the device which is nationally recommended or with which they are the most comfortable. The Mogen device is summarized step by step in this guide. The following steps are common to all early infant male circumcision techniques.

1. Determine the device and appropriate size
2. Determine and prepare the most appropriate anesthesia
3. Position the infant - Clean gloves should be worn when positioning the infant in a well-lit warm area of a soft surface. The infant should be restrained by an assistant or a circumcision board. The patient's head and mouth should NEVER be covered and the patient should be continually monitored to minimize any discomfort during restraint. If a restraint board is used, it can be helpful to prop up the torso so that the infant is not lying flat on his back. A blanket can be placed between the infant and the restraint board for comfort and soft Velcro straps can be used to gently restrain the infant.
4. A nappy should be removed and the perineum cleaned with moist wipes. A fresh nappy can be tucked under the patient and left open.
5. Preparing the surgical area - Using clean gloves, a 2.5 cm area of skin around the penis should be thoroughly cleaned with at least three applications of swabs soaked in providone iodine or an equivalent antiseptic agent.
6. Apply sterile gloves and proceed using sterile technique.
7. Inspect/assemble device.
8. Drape the surgical area with a fenestrated drape, exposing the penis. Care should be taken to ensure the infant's face is not covered by the drape.
9. Clean and dry the shaft of the penis.
10. Palpate and examine penis to determine location of the corona. - In most infant male the corona is prominent and can be visualized beneath the foreskin. In some, however, the location of the corona may not be obvious. In all cases the penis should be palpated to determine and/or confirm the location of the corona. In some cases it may be helpful to pinch the foreskin on one side of the penis, pushing the corona to the other side, making it more visible beneath the foreskin.
11. Mark the location of the incision with a sterile marking pen or gentian violet.
12. Administer anesthesia and wait for effectiveness.
13. Grasp foreskin and remove preputial glandular adhesions with blunt flexible probe or hemostat.

Mogen clamp Technique

1. Ensure that the clamp is the correct size (infant) and in good working order
2. Ensure that the foreskin is free from the glans
3. Grasp dorsal foreskin with straight hemostats at 12 o'clock position
4. Put traction on the foreskin and introduce it into the slit in the device with concavity facing the glans and flat surface facing the provider. Ensure glans is down and out of the way.
5. Align the foreskin using the surgical mark as a guide.
6. Close clamp and activate using the lever arm.
7. Clamp should remain closed for 5 minutes.
8. Incise foreskin with scalpel.
9. Manipulate the penis, using gentle pressure from the side to allow the glans to emerge.
10. Place postoperative wound dressing with impregnated Vaseline gauze.

Mogen clamp specific complications - Distal tip penile amputation.

3.9 Post-procedure tasks:

After the procedure is complete use the following steps should be taken by the medical personnel.

- Dispose of contaminated needles and syringes in a puncture-proof
- Place soiled instruments in 0.5% chlorine solution container for 10 minutes for decontamination
- Dispose of waste materials in covered leak-proof container or plastic bag
- Wash hands thoroughly and dry them with clean, dry towel.

3.10 Post-Operative care

After the procedure is complete the client should remain at the EIMC facility and the following care should be provided:

- Monitor the client for at least 30 minutes after surgery. This can be done with infant in mother's room during hospital stay.
- Check the client's vital signs and for bleeding 30 minutes after surgery and record findings.
- Answer the parent/legal guardian's questions and concerns.
- Advise the parent/legal guardian on postoperative care of the penis (handout)
- When stable, discharge the patient home.
- Inform the client to come back for follow-up after 48 hours or anytime earlier should there be any complications
- Complete operation notes and other client record forms.

<u>Give the following guidance to parents/legal guardians for proper care</u>

- No special care is needed except to place a lot of petroleum jelly on the penis with every nappy change.
- Keep the area as clean and dry as possible; do not use any medicine or herbs or any other substance on the wound.
- Do not leave dressing on longer than 48 hrs.
- Small amount of blood on the gauze or nappy is almost always present and is normal.
- Shiny white or yellowish film may cover part of the penis as it is healing. This is a normal part of the healing process and cannot be easily removed with moist wipe.
- May take several days to a week for circumcision to heal completely. Be gentle around the area during this time.
- Telephone contact of persons or health facility and location to contact in case of emergency
- Return to the clinic immediately or seek emergency care if a problem develops such as
- Infant is lethargic
- Infant has fever
- Infant is inconsolable
- Infant appears to be in pain
- Infant does not wake for feeding in accordance with his usual pattern
- Any separation of the skin edges
- Unusual swelling or bleeding
- Infant has difficulty with urination

3.11 48-Hour Post-operative follow-up visit

Follow this basic checklist to ensure the follow up care is complete:

1. Gather all necessary items
2. Greet the parents and patient respectfully
3. Review the patients records
4. Ask the parents if he has had any problems since leaving the hospital/since procedure was done.
5. Ask the parents if the dressing on the penis is still intact
6. Lie the infant down on the examination table or across the parents lap.
7. Wash hands with soap and water and dry them with a clean, dry towel.
8. Put examination gloves on both hands
9. Open nappy and gently remove gauze dressing. To remove the dressing it should be moistened and gently unwrapped. Some minor bleeding may occur and should be managed with simple direct pressure.

10. **Examine the penis for bleeding, wound discharge, evidence of healing, evidence of infection, and wound disruption**
11. Dispose of contaminated wastes and gloves in covered leakproof container
12. Wash your hands with soap and water and dry them
13. Inform parents about examination findings and repeat postoperative care instructions and expected steps in healing.
14. Ask if parents have any questions or concerns. Answer them.
15. Give the parents the date for the next appointment (typically 7 days or 6 weeks of life)
16. Complete client record forms

Infection

Normal wound-healing must be understood so that a true infection can be identified and treated. It is normal for a circumcision wound to have a thin yellow film, which could be mistaken for pus. One distinct difference is that this yellow film cannot be easily removed. Pus, which is NOT normal, can typically be easily wiped away with a moist wipe and often is associated with an odor.

During the first 48 hours, infection is rare and the wound looks its worst, with inflammation, redness and tenderness being normal. After 48 hours, the wound should look better, but if it starts to look worse and is accompanied by more swelling, redness, pain, or frank pus – a wound infection should be seriously considered.

Fever, poor feeding, decreased urine output, or an infant that is inconsolable or lethargic should immediately raise concern for systemic involvement.

4.0 Postoperative Complications

Providers must be able to recognize and address postoperative complications.

4.1 Post-circumcision bleeding

Most episodes of bleeding can be addressed by simply applying an appropriate dressing and simple direct pressure.

How to manage bleeding with clamping device

1. Don't panic.
2. Closely inspect the penis to ensure that there has been no injury to the glans or other surrounding structures.
3. Using gauze, apply temporary direct pressure to the wound while carefully applying a firm circumcision dressing.
4. If bleeding continues through or around the dressing, leave the dressing in place and apply direct pressure over it for 5 minutes by the clock.
5. If bleeding continues the dressing should be removed and the wound reinspected. Frenular artery bleeding comes from a small area on the ventral side. If the bleeding is diffuse and rapid, consider the possibility of a bleeding disorder and seek immediate medical and surgical consultation.
6. If the bleeding appears to be minor, reapply a compression dressing and apply direct pressure over the dressing for 10 minutes by the clock. If bleeding continues despite these conservative measures, medical and surgical intervention should be considered while continuing to hold direct pressure.

4.2 Too little skin is removed

If insufficient foreskin is removed the wound should be allowed to heal before any further intervention. If a revision is deemed necessary the procedure should be delayed until after 6 months of age and scheduled with an appropriate surgeon.

4.3 Too much skin is removed (degloving)

In mild cases, the wound can be managed conservatively and will heal reasonably well through secondary intervention. Occasionally the wound may need to be closed with sutures. In severe cases, the patient should be referred for immediate specialist consultation.

4.4 Injury to penis or surrounding structures

Don't panic and don't try to hide the injury. Basic first aid should be administered as needed and bleeding should be controlled. If an injury occurs to the penis or to a surrounding structure, immediate specialist consultation should be obtained.

4.5 A thin mucosal layer is not excised

Usually the outer keratinized skin is tightly adhered to the very thin inner mucosal layer. Under RARE circumstances this thin membrane can be separated from the outer skin, especially when a dorsal slit is made. Typically the mucosal layer will be tightly adhered to the glans and can be teased away from the glans with gauze or a blunt instrument. In some cases, this membrane will be thick and require excision.

4.6 Other possible complications

- Reactions to anaesthetic agent - Emergency hospital protocols should be observed and immediate specialist consultation should be obtained.
- Pain - Paracetamol has been suggested for treating postoperative pain but is rarely necessary.
- Infection – rare in the first 48 hours. In the event of a wound infection, the infant should be evaluated for possible sepsis and treatment should begin immediately.
- Urine Obstruction – dressing should be removed immediately. If plastibell was used, ring should be removed urgently. Specialist consultation should be considered.
- Adhesions – can be reduced over time by carefully wiping and pushing the foreskin back away from the glans. Rarely will adhesions require subsequent surgical intervention.
- Preputial glandular fusion – important to enforce liberal application of petrolatum during healing process.
- Trapped penis – important to ensure that the healing wound stays beneath the level of the corona. Typically managed with application of topical steroids and rarely surgical consultation.
- Meatal stenosis
- Skin bridge

5.0 Infection control

The primary objectives of infection control are **to minimize the risk of infections in people having surgery;**
And to minimize the risk of transmitting HIV and hepatitis B virus to clients and health care staff, including cleaning and housekeeping staff. Exposure may take place during patient care, clinical or surgical procedures, processing of soiled instruments, cleaning and waste disposal. Hepatitis B vaccination is recommended for the EIMC team.

5.1 Standard Precautions

Standard precautions are practices aimed at preventing and controlling infections, such as use of personal protective equipment, designed to protect health-care workers and patients from contact with infectious agents.

5.2 Wash Hands or treat with a hand rub:

- After removing gloves
- Before handling an invasive device for patient care
- After contact with blood, blood products, body fluids or excretions, mucous membranes, non-intact skin, or wound dressings;
- After using the toilet (normal personal hygiene).

5.3 Personal protective equipment

Who uses personal protective equipment?

- Team members that provide direct care to patients, support staff
- Cleaners
- Laundry staff

- Family members who provide care to patients in situations where they may have contact with blood, blood products and body fluid
- Laboratory staffs who handle patient specimens

Single use equipment should not be reused and reusable equipment should be decontaminated

5.4 Tips on use of gloves

Follow these tips to ensure proper glove use and reduce the risk of disease transmission

- Use a different pair of gloves for each patient
- Remove gloves immediately after caring for a patient
- Change or remove gloves if
    - Moving from a contaminated body site to a clean body site within the same patient
    - After patient contact before touching another patient.
- Wear gloves of the correct size, particularly for surgery.
- Use water-soluble (non-fat-containing) hand lotions and moisturizers, to prevent skin from drying, cracking, and chapping. Avoid oil-based hand lotions and creams, because they can damage latex rubber surgical and examination gloves.
- Keep fingernails short
- Store gloves in an area where they are protected from extremes of temperature.
- Do not reprocess gloves

5.5 Masks, caps and protective eyewear.

Caps masks and eyewear protect against accidental splashes, spills and leaks of blood and other body fluids. Caps are recommended, but are not essential.

5.6 Aprons and the surgeon's gown and footwear

Footwear in the surgical area should be protective. Providers are recommended to use aprons made of rubber or plastic. Boots should be rubber or leather shoes. Sandals, thongs, or shoes made of soft material are discouraged.

5.7 Safe handling of hypodermic needles and syringes

Safe handling of hypodermic needles and syringes includes taking the following precautions

- Use only single-use auto disable syringes and do not reuse them
- Do not disassemble the needle and syringe after use
- Do not bend or break needles before disposal
- Dispose of the needle and syringe together in a puncture-resistant container
- Do not recap needles

<u>Sharps containers</u>

- Should be clearly labelled, puncture- and tamper-proof
- Place sharps containers as close to the point of use
- Keep far from light switches, overhead fans, or thermostat controls
- Mark the fill line (at the three-quarters full level)
- Do not shake the container to settle its contents, to make room for more sharps
- Never attempt to empty the sharps container

6.0 Waste Management

6.1 Processing of instruments

To process instruments following the below guidance:

- Disinfect used instruments by soaking in a chemical disinfectant for 10-30 minutes immediately after use.

- After disinfection, clean all instruments to remove all organic matter and chemicals.
    1. Wear thick household or utility gloves.
    2. Wear protective eyewear, mask and plastic apron, if available, to prevent contaminated fluids from splashing into your eyes or onto your body.
    3. Thoroughly wash items to be cleaned with soap and clean water.
    4. Use liquid soap, if available. Do not use abrasive cleaners or steel wool, especially on metal (they cause scratches and increase the risk of rusting).
    5. Using a soft brush, scrub instruments under the surface of the water to prevent splashing, paying particular attention to any teeth, joints, or screws.
    6. Rinse the instruments with clean water.
    7. Dry the instruments with a towel or allow them to air-dry.
- Use high-pressure steam (autoclave) or dry heat (oven) to sterilize instruments and surgical supplies at 121-132 °C for 20 - 30 minutes.

<u>Store sterilized instruments</u>

- In a clean, dry, and free of dust and lint at approximately 24 °C with a relative humidity at less than 70%, if possible.
- Sterile packs and containers should be stored 20–25 cm off the floor, 45–50 cm from the ceiling and 15–20 cm from an outside wall.
- Avoid use wooden or cardboard boxes for storage of sterile items, as they shed dust and debris and may harbour insects.
- Mark the date of sterilization on the package, and use the oldest packages first

6.2 Environmental cleaning

Environmental cleaning is part of maintaining a sanitary, safe environment. Following the below steps to ensure sanitation and safety.

- Routinely clean clinic environment, administrative and office areas. Use a detergent solution to wet mop. Avoid dry sweeping.
- Cleaned all horizontal surfaces and all toilet areas daily
- Clean the procedure table and instrument trolley with detergent and water between cases.

6.3 Management of spills

If a spill occurs at a facility, the below steps need to be taken:

- Clean any area that is visibly contaminated with blood or body fluids immediately with detergent and water.
- After cleaning, disinfect the area with 0.5% sodium hypochlorite solution.

6.4 Waste container requirements

All waste containers should be handled in the following way:

- Place all waste in plastic or galvanized metal containers, with tightly fitting colour-coded covers that differentiate infectious from non-infectious waste.
- Place all disposable sharps in designated puncture-resistant containers.
- Place waste containers close to where the waste is generated, in a position that is convenient for users.
- Ensure that equipment used to hold and transport wastes is not used for any other purpose.
- Regularly wash all waste containers with a disinfectant solution (0.5% sodium hypochlorite solution), then wash with soap, rinse with water and allow to air dry.
- When possible, use separate containers for waste that will be treated or that will be disposed of in a particular manner. In this way, workers will not have to handle and separate waste by hand.

6.5 Disposing of sharp items

Disposable sharp items, such as hypodermic needles, require special handling. Avoid disposal of sharps in municipal landfill for they become a danger to people in the community.

1. Do not recap a used hypodermic needle or disassemble the needle and syringe.
2. Place the needle and syringe in a puncture-resistant sharps container. The opening should be large enough to allow items to be dropped through it easily, but small enough to prevent anything being removed from inside.
3. When the container is three-quarters full, dispose of it.

When disposing of the sharps container:

1. Wear heavy-duty utility gloves.
2. Cap, plug, or tape the opening of the container tightly closed. Make sure that no sharp items are sticking out of the container.
3. Dispose of the sharps container by burning, encapsulating, or burying it.
4. Remove utility gloves.
5. Wash hands and dry them with a clean cloth or towel or allow to air dry.

6.6 Disposal of infectious waste

Burning waste containers

Burning destroys the waste and kills any microorganisms, and is the best method of disposing of contaminated waste. It reduces the bulk volume of waste and also ensures that items cannot be scavenged and reused.

If patients are being cared for at home, contaminated waste, such as dressings and other items that may have been in contact with blood or other body fluids, can be buried in a covered pit or burned in a drum incinerator in the yard.