CHAPTER 7

PREPROCEDURE SCREENING OF CLIENTS AND PREPARATIONS FOR THE CIRCUMCISION PROCEDURE

This chapter provides information on the following:

- screening clients for male circumcision: obtain a focused history from the client requesting services; identify history of and need for tetanus toxoid-containing vaccination; and perform a focused physical examination, including an examination of the male genitalia
- understanding the anatomy of the penis, including the surface and internal anatomy
- identifying, through history taking and physical examination, the contraindications for performing male circumcision at the clinic level
- selecting the correct conventional or device-based surgical circumcision procedure based on the client's age, any contraindications for circumcision and the client's preferences for a circumcision method
- performing preprocedure preparations for male circumcision
- using or adapting the World Health Organization's *Surgical safety checklist (1)*, which has been modified for male circumcision, when screening clients and undertaking preprocedure preparations

7.1. SCREENING ADOLESCENT AND ADULT CLIENTS

The circumcision team needs to ensure that the client is eligible for the conventional or device-based surgical circumcision procedure and that there are no absolute contraindications to circumcision in a clinic staffed with a team of midlevel providers doing the procedure. To make this determination, a provider should take a focused medical history and perform a focused general examination, including a detailed examination of the penis. Male circumcision clients must undergo this screening before they can provide informed consent/assent to undergo the procedure and choose an available circumcision method (where applicable).

If a client presents with contraindications to the procedure, he should be referred to a specialist, district hospital or higher level of care (see Box 7.1). If a client presents with comorbidities that pose increased risks (for example, acute malarial illness, diabetes or hypertension), the procedure should be delayed until the condition is resolved or well managed (see Section 7.5). A number of conditions listed in Table 7.1 (see Section 7.5), such as a minor degree of penile warts, are not contraindications to circumcision done at the clinic level. In such cases, whether the circumcision can be performed at a clinic will depend on the experience of the provider performing the procedure. If there is any doubt about a client's eligibility, he should be referred to a specialist, district hospital or higher level of care.

Box 7.1. Establishing referral pathways

As discussed in Chapter 2, male circumcision providers should establish referral pathways so that there are no bureaucratic obstacles to client referrals. Male circumcision staff should work together with specialists and staff at referral centres to agree on protocols for receiving and treating clients; **when in doubt, refer the client to a specialist, district hospital or higher level of care.** In turn, specialists and staff at referral centres should appreciate the skill level of staff at the male circumcision clinic but also recognize that there is difficulty in assessing some cases. In the event of an inappropriate referral, specialists should provide supportive feedback to educate male circumcision clinic staff and to encourage good care and safe practice. The specialist should bear in mind that it is safer to refer too many clients than too few.

Adolescent boys seeking male circumcision services may be at very different stages of intellectual, physical, psychological and social development, even among those who are of the same age. They may also differ in terms of their sexual behaviour, roles and responsibilities within the family and community, and in their transitions into adulthood. Providers need to be aware of and responsive to these differences in development *(2)*. Below are key considerations for screening adolescent boys:

- For all underage adolescent boys, as they may know less about their personal and family medical history, providers should attempt to obtain the medical history both from the client and his parent(s)/guardian(s).
- The physical and developmental maturity of the adolescent client should be considered by the provider when taking a medical history and performing a physical examination. For younger and less mature adolescent boys, special care needs to be taken to explain screening procedures in an age-appropriate way.
- If there is a conflict between the adolescent's wish for privacy and the presence of his parent(s)/guardian(s), this may be managed by using a curtain to screen the examination area. However, sometimes more complete privacy is required, for example, when asking questions about sexual activity.
- Assessment of the adolescent boy's foreskin and penile development is necessary to choose an appropriate method of circumcision. The forceps-guided surgical method should not be used in adolescent boys under 15 years of age or any male who has adhesions—or any male whose tip of the glans cannot be clearly identified by palpating the foreskin—because of difficulty identifying the glans and the risk of glans amputation. Also, circumcision using some devices may be contraindicated if there is tight phimosis, which is often the case in younger adolescent boys. For any device being considered for an adolescent client, the provider should ensure that the device is prequalified by the World Health Organization and should consult the device manufacturer's instructions for use.

7.2. INITIATION OF SCREENING

Circumcision screening may be the first opportunity for a one-to-one interaction between the trained health care provider and the client. At this time, the provider should begin recording observations in the client's record, if such documentation has not yet started (see sample record form in Annex 7.1), and confirm:

- The client's name, address and cellphone number are in the chart.
- The client's chart has the correct chart number (this is especially important in places where many clients will have the same or similar names).
- The client knows that male circumcision is a conventional or device-based surgical procedure (see Box 7.2) to permanently remove the foreskin.
- The client knows that he is free to choose circumcision or not, and the choice is voluntary.
- The client has been informed about the risks, benefits and limitations of male circumcision, as described in Chapters 1 and 6.
- There is documented evidence in the chart of tetanus toxoid-containing vaccination.
- Depending on his age, the client has received HIV counselling and has been offered testing.

Box 7.2. Screen to identify circumcision method

In clinics where both conventional and device-based surgical circumcision methods are available, specific information about risks and benefits of the method(s) suitable for the particular client will depend on the screening. Therefore, information about a particular method can be given only after screening has been done and the method of choice has been selected (see Section 7.5).

Screening should be performed in privacy and before the client is in the procedure room. The provider should assure the client of the confidentiality of all information gathered. Findings from both the history taking and examination need to be documented in the client's record at the time of taking the history.

7.3. TAKING A HISTORY

A focused medical history should be taken to determine any:

- contraindications to circumcision done at the clinic level,
- indication to defer circumcision, and
- specific client needs that require further evaluation—either at the clinic or through referral to an appropriate specialist service or higher level of care.

When the client is an adolescent, efforts should be made to obtain the medical history from both the client and his parent(s)/guardian(s) because the adolescent may not know fully his own or the family's medical history. The medical history should assess general health and reproductive and sexual health, as discussed below.

7.3.1. General health

- Ask whether the client has any **current health problems**. Ask about any **illness in the client's family**. Ask about any **previous surgical operations** the client has had.

  Taking a careful history enables the provider to identify conditions that contraindicate circumcision at the clinic level and/or require specialist referral. (A description of these conditions is integrated below and presented in Table 7.1, Section 7.5) **Note that a client's eligibility for circumcision at a clinic staffed by midlevel providers will depend on findings from the completed assessment.**

- ***Ask about tetanus toxoid-containing vaccination.*** If the client is an adolescent, ask his parent(s)/guardian(s)—follow guidelines in Box 7.3.

  Identifying clients who need tetanus toxoid-containing vaccination is a critical safety measure in male circumcision services. Tetanus is a serious but preventable condition that may occur if tetanus spores contaminate wounds. If the client has no documented evidence of vaccination or is not adequately vaccinated, the provider should offer the client vaccination as indicated by national policy and based on the client's vaccination status and circumcision method selected.

Box 7.3. Guidelines for protection against tetanus—key to safe male circumcision

The primary goal of tetanus toxoid-containing vaccination is to reduce the risk of tetanus following circumcision, including the tetanus risk related to specific methods, poor hygienic conditions and wound practices. In low- to middle-income countries, many male circumcision clients have incomplete vaccinations and are not protected against tetanus. **Based on national policy, circumcision method and screening findings**, the provider should determine the protocol below that is relevant for the client.

For use of a method where foreskin is left in situ and removed several days after application, such as the elastic collar compression method, ALL clients need tetanus toxoid-containing vaccination prior to device placement if they do not have documentation indicating receipt of five tetanus toxoid-containing vaccine doses. For those clients with documented evidence of having received three infant doses, or one dose during adolescence or adulthood, a tetanus toxoid-containing vaccine booster is needed at least two weeks before device placement. For all other adolescent boys and men, a minimum of two doses are needed, with the first dose at least six weeks prior to device placement and the second dose needed four weeks later—at least two weeks prior to device placement.

For all other conventional surgical circumcision methods, national tetanus toxoid-containing vaccination policy should be followed. **Unless a client has documented evidence of having received the full five or six doses (three primary plus three child and adolescent booster doses) of tetanus toxoid-containing vaccine, the World Health Organization advises giving at least a single dose of tetanus toxoid-containing vaccine before or at the time of male circumcision, depending on national policy, practices and tetanus burden. The World Health Organization recognizes that this single dose will provide varying (or no) antibody protection, depending on the client.**

In a client who has never received any tetanus toxoid-containing vaccination, a single dose will **not** protect against tetanus.

In a client who received a three-dose infant series or a previous dose in adolescence or adulthood, a tetanus toxoid-containing vaccine booster dose should be given. A dose on the day of circumcision will provide increasing level of antibodies. Giving a booster dose 14 days (but at least seven days) before the male circumcision procedure will provide more adequate protection.

Clients who will not have received five full doses, even with a dose at the time of male circumcision, should also be encouraged to seek another tetanus toxoid-containing vaccination (at least four weeks after a first dose, at least six months after a second dose and at least one year after third and fourth doses).

Sources: Adapted from *(3–5)*

- Ask about **acute conditions**. If the client is suffering from an acute disorder, such as an infection or febrile illness, the circumcision procedure should be deferred until the problem has been resolved.
- Ask about a **known or suspected bleeding disorder** (for example, haemophilia) or anaemia. Take particular care to ask about bleeding disorders (see Box 7.4 for specific questions) because they will be encountered at the clinic level and are easily missed. A client with a bleeding disorder requires assessment, preparation and care that would only be available at a tertiary care hospital or a national referral hospital. If the client has a known or suspected bleeding disorder, he should be referred to the district hospital or higher level of care.

  Identifying and referring clients with possible bleeding disorders is a critical safety measure in male circumcision services because excessive bleeding is a serious but preventable complication. Even if the client has not been diagnosed with a bleeding disorder, the provider should pay careful attention to the client's responses to questions (not just those about bleeding) and other findings throughout the screening because they may point towards an undiagnosed bleeding disorder.

Box 7.4. Questions to help identify bleeding disorders or increased risk of bleeding

Assessing for haemophilia, other bleeding disorders or increased risk of bleeding helps to ensure that the male circumcision procedure is safe for clients who may have a bleeding disorder. In a clinic staffed by midlevel providers, the questions in **bold type** below are the most important and should be asked of all clients. The other questions may be asked of the client, depending on what the client has already reported about his general health.

1. **Do you have or have you ever had any of the following?**
   - **nosebleeds or bleeding gums**
   - **minor cuts bleeding longer for you than for other people**
   - **joint swelling or bruising after falls (more than usual bruising with injury)**
   - **bruises with lumps (more than usual bruising with injury)**
   - liver or kidney disease
   - a blood or bone marrow disorder
   - a high or low platelet count
2. **Have you or a blood relative (anyone you are directly related to in your family) ever needed medical attention for a bleeding problem or were told you have a bleeding disorder or problem?**
   - during or after surgery
   - with dental procedures such as tooth extractions
   - with trauma
3. **Do you have a female blood relative who has heavy menses or has had severe bleeding after childbirth?**

If any of the responses to questions 1–3 suggest that the client has haemophilia or another bleeding disorder, or if there is a family history of bleeding disorders, the client should be referred to the district hospital or higher level of care.

4. **Do you take any medicines or herbal remedies? Have you ever had any injections?** If the client answers yes, compare what the person is taking against medicines or herbal remedies known to alter blood clotting. These include the following:
   - aspirin (especially aspirin in combination with green tea)
   - other nonsteroidal anti-inflammatory drugs (**Note:** there are a large number of these anti-inflammatory drugs and many different trade names for each compound; examples of such compounds include celecoxib, diclofenac, ibuprofen, indomethacin, mefenamic acid, naproxen, rofecoxib and salsalate.)
   - anticoagulants (blood thinners), such as warfarin or heparin

If the client is at increased risk of excessive bleeding because of medications he is taking, he should be referred to the district hospital or higher level of care.

If a client who has previously answered no to the above questions has significant postprocedure bleeding, then it is worth asking the questions again, as the client or a family member may remember additional information.

Source: Adapted from *(6)*

- Ask about **other chronic illnesses**. Ask about any known illness, such as HIV, tuberculosis, malaria, diabetes or hypertension. The points below explain why these illnesses are relevant to circumcision.
    - **HIV and/or tuberculosis:** If the client is clinically well (regardless of CD4 count), HIV and/or tuberculosis are not contraindications to circumcision performed in a clinic staffed by midlevel providers. Questions for active tuberculosis should, however, be considered (for example, history of cough of more than two weeks, coughing up blood, weight loss, fever and night sweats) in settings where HIV and/or tuberculosis is common, or where such questions are required by national standards of care *(7)*.
    - **Diabetes:** The World Health Organization's diagnostic criteria for diabetes are fasting plasma glucose ≥ 7.0 mmol/L (126 mg/dl) or 2–h plasma glucose ≥ 11.1 mmol/L (200 mg/dL) *(8)*. Global prevalence of diabetes is increasing, including in sub-Saharan Africa, and type 2 diabetes accounts for well over 90% of diabetes in this African region. The reported prevalence of type 1 diabetes, the type of diabetes more likely to be seen in young persons, is low and ranges from four per 100 000 persons in Mozambique to 12 per 100 000 persons in Zambia *(9)*.
    - In the context of male circumcision, diabetes is rarely seen in the population of young, fit males, who make up the vast majority of male circumcision clients. Treated diabetes is not a contraindication to male circumcision, but clinical judgement is needed to determine whether the client should be referred to the district hospital or higher level of care. As diabetes increases the risk of infection and delayed wound healing, clients with untreated diabetes should have male circumcision deferred until they are on adequate treatment and have good control of their blood glucose levels. If the client gives a history of diabetes, the provider should check the client's blood sugar and continue to circumcision if the level is under the criteria listed above.
    - **Hypertension:** Routine measurement of pulse and blood pressure may be difficult to interpret because of client anxiety due to the upcoming procedure, and what is measured may not be reflective of a true baseline. Chronically elevated blood pressure—defined by the World Health Organization as systolic blood pressure > 140 mmHg and diastolic blood pressure > 90 mmHg—has long-term health concerns, but elevated blood pressure at this level is not a contraindication to male circumcision. Chronic hypertension is rare in young, fit adolescent boys and men seeking male circumcision, whereas anxiety due to the upcoming procedure is common. When an elevated blood pressure is noted, the client should be reassured. Recheck the blood pressure after a period of time (30 minutes), which may give a lower reading.

      If national recommendations exist regarding diagnosis and management of hypertension, they should be followed. If such recommendations do not exist, one published approach suggests a cut-off to elective surgery if the systolic pressure is 180 mmHg and diastolic pressure is 110 mmHg, and to refer the client for hypertension management; if the blood pressure is lower than these cut-offs, circumcision can proceed *(10)*. For guidelines on the measurement of adult blood pressure and management of hypertension before elective surgery, see *The measurement of adult blood pressure and management of hypertension before elective surgery: joint guidelines from the Association of Anaesthetists of Great Britain and Ireland and the British Hypertension Society (10)*.

      Clinic staff could recheck a client's blood pressure during follow-up visits; after several measurements, if the blood pressure remains elevated, staff should refer the client to follow up at a health centre.
- Ask questions about **alcohol or drug use or mental health problems**. Whether circumcision can be done at the clinic level will depend on whether the client can understand male circumcision and give valid consent/assent, and also whether his condition will allow him to comply with postoperative wound care instructions. This will depend on the severity of his problem and whether there is family support. If there are doubts about whether he can give consent/assent or comply with instructions, then clinic circumcision should not be done, and it is also likely that hospital or specialist circumcision should not be done.
- Ask about **other conditions** (these will depend on the local setting, for example, it may be appropriate to screen for diseases such as schistosomiasis or sickle cell anaemia).
- Ask about **medicines, injections and allergies**.
    - Ask whether the client is taking any medicines or having any injections. Most adolescent boys and young men are not routinely taking medicines (prescribed, herbal or bought in a store or pharmacy) or having injections. If they are, then they should be questioned in more detail about the conditions for which they are taking the medicines.

  - Sometimes, clients will say they have no illnesses because they do not see themselves as ill, but questioning them about medications or injections can lead to the discovery of a condition (such as haemophilia or diabetes) the client has not disclosed when asked about general health.
  - Questions about medicines may also help identify clients who are at increased risk of bleeding (for example, because of regular use of a nonsteroidal anti-inflammatory drug, as discussed in Box 7.4).
- Ask about any known **allergies to medicines, iodine, chlorhexidine or latex**. If the client discloses a history of allergy, the provider should assess whether it is practical to proceed with circumcision in the clinic given what supplies are available in the clinic. For example, if the client is allergic to latex and if the clinic has a supply of nonlatex surgical gloves, then it is still possible to proceed with circumcision in the clinic. If the provider is able to proceed, then that provider should check the clinic protocol for dealing with anaphylactic shock and check that clinic emergency resuscitation supplies are available and unexpired. The reason to do this is because, although rare, someone who has a known allergy may have other unknown allergies. If it is not possible to proceed with the circumcision in the clinic because of a lack of appropriate supply, then the client should be referred to a specialist unit.

7.3.2. Reproductive and sexual health

- Ask whether the client is sexually active and, if so, whether he has been sexually active within the past three months. Do not assume that younger, immature adolescent boys are not sexually active, but take particular care to ask about sexual activity in a sensitive way, with respect to privacy, to help avoid embarrassing the client. Knowing if a client is sexually active will help provide relevant instructions on wound healing and will also indicate the need to assess for sexually transmitted infections.
- Ask the client about the presence of current genital infection, ulcer or penile discharge. If the client reports symptoms that require further evaluation, the circumcision procedure should be deferred until the condition has been diagnosed and treated, either at the clinic or through referral to a specialist or higher level of care.
- Ask the client about problems with penile erection or any concerns about the genitals or sexual function. The provider should assess whether the client is seeking circumcision to help a sexual function problem. If so, the client should be referred to a specialist because male circumcision does not generally help sexual function disorders. Assess whether the client would like to be circumcised even though he has been told it is not likely to resolve his sexual function problem.

7.4. PHYSICAL EXAMINATION

The objective of the physical examination is to discover contraindications to circumcision in the clinic, indications to defer circumcision and the male circumcision method(s) most appropriate for the client. Where possible, physical examination should be performed in privacy and before the client is in the procedure room. For adolescent boys accompanied by parent(s)/guardian(s), the wishes of the adolescent should be respected unless there is a legal requirement to defer to the wishes of the parent(s)/guardian(s). Special consideration for adolescents, especially those who are younger, should be taken to ensure that they understand what happens during circumcision (see Chapter 6).

- If the client is not in good general health or has a condition that requires further evaluation or treatment, circumcision should be delayed until the problem has been treated and/or the client's condition has improved. Refer the client to a specialist, district hospital or higher level of care, as appropriate.
- If the client shows signs of immunodeficiency (for example, severe unexplained weight loss, unexplained recurrent opportunistic infections or needing bed rest for at least half the day), the client should be referred to the district hospital or higher level of care.

7.4.1. Focused general examination

Vital signs and overall appearance: It is good medical practice to note the client's pulse and blood pressure. In the context of adolescents and young men who typically seek male circumcision, any abnormality in pulse or blood pressure is infrequent. Depending on local disease prevalence, clinics may vary in their practices related to measurement of vital signs. Note the following:

- any **vital signs** measured (see Box 7.5)
- the client's **weight** (for purposes of anaesthesia dosage)
- any **signs of anaemia or other illnesses**
- the health of **the skin:**
    - **Skin lesions:** The client should be examined for skin lesions, such as wounds or jigger (*Tunga penetrans*) infections, which may put him at risk for tetanus. Jigger infestations are common in tropical and subtropical areas of East Africa but occur throughout much of the world. If there is an infected wound or tungiasis, then clinical judgement should decide whether to defer circumcision until the wound has healed and tetanus toxoid-containing vaccination provided. If the decision is to defer, arrange for follow-up.
    - **Keloids:** The presence of keloids should be noted. If there is significant or widespread keloids, the client should be referred to a district hospital or a higher level of care.

Box 7.5. Practice point on blood pressure contraindications

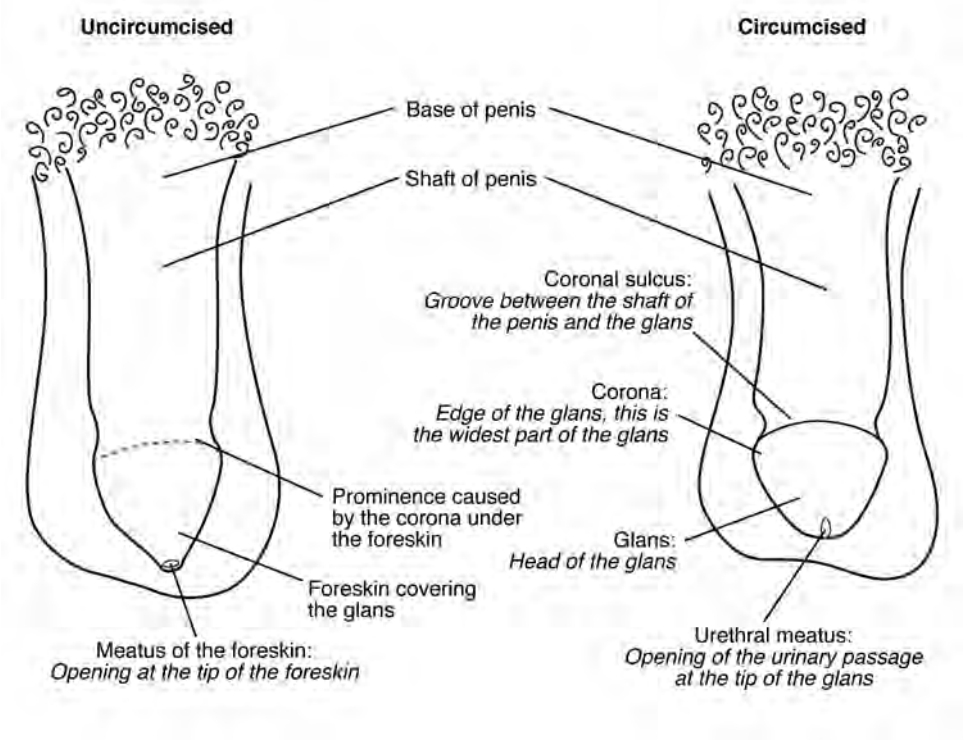
High or low blood pressure may be contraindications to circumcision (see Table 7.1 in Section 7.5). Commonly, high systolic blood pressure is a manifestation of anxiety. National guidelines should be followed when a client is found to have hypertension. In cases of low blood pressure, the client should be asked when he last had something to eat (and, if necessary, given some food and drink) and whether he has had a long journey to the clinic. If low blood pressure persists, the circumcision should be deferred and the client should be seen again on another occasion (arrange for follow-up).

As described in the next section, a good understanding of normal penile anatomy is necessary for safe male circumcision.

7.4.2. Examination of the penis: surface anatomy

Providers who will do circumcisions should understand the surface anatomy of the penis and also the relationships among the glans, coronal sulcus, foreskin, frenulum, frenular artery and course of the urethra (see Fig. 7.1–7.2).

Fig. 7.1. Surface anatomy of the penis (uncircumcised and circumcised)

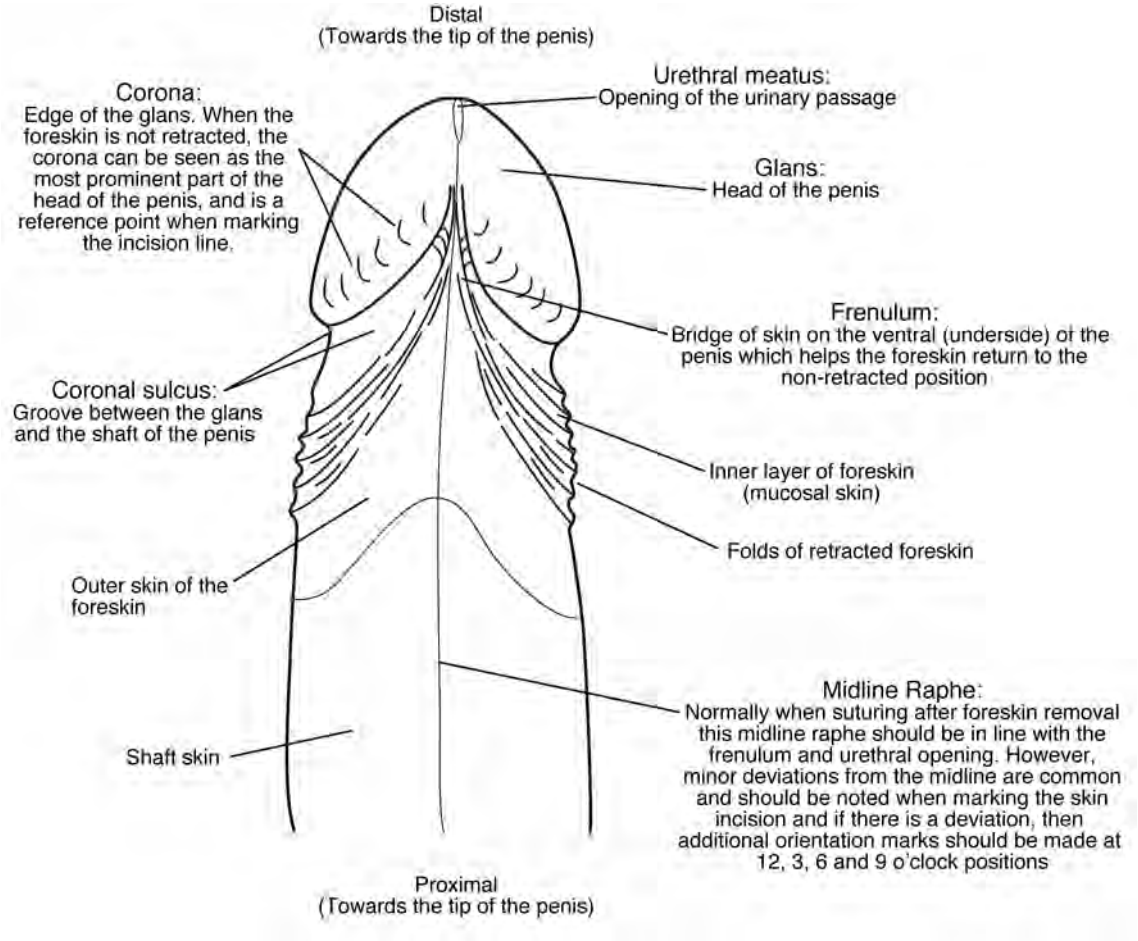


The penis has a shaft, a head (glans) and a neck, the narrower area between the shaft and glans. At the junction of the neck and the glans—the narrowest area—is the coronal sulcus. In the uncircumcised client, the glans and coronal sulcus are covered by the foreskin. The foreskin is the fold of skin that covers the glans when the penis is soft. When the penis is erect, the foreskin pulls back and uncovers the glans. In the midline of the underside of the penis, there is a band of skin—the frenulum—that helps the foreskin return to its usual position. The foreskin has an outer, thicker layer of keratinized skin and an inner, thinner layer of delicate skin called the mucosa.

The urethra (urinary passage), which is also lined by mucosal skin, opens at the tip of the glans. The urethral meatus (the urinary opening) is normally at the tip of the glans, but minor variations are common (see Section 7.4.3.1). The urethral meatus is normally in line with the opening at the tip of the foreskin (the foreskin meatus). There is great variation in the length of the foreskin and the width of the foreskin meatus. In younger men, the foreskin meatus is often narrow and the foreskin is relatively long.

The ventral (under surface) of the penis has a midline raphe (that is, a seam between the two parts), which is normally in line with the frenulum and urethral opening. Minor deviations of this raphe from the midline are common, and any deviation should be carefully noted because the raphe is used to line up the skin before suturing during circumcision. Any deviation from the midline should be noted in the client record and brought to the attention of the provider who will be doing the circumcision. This finding and its implications for the procedure are discussed in Chapter 9 (see Section 9.5.3).

Fig. 7.2. View of the ventral surface (underside) of the penis with the foreskin retracted to show the frenulum and coronal sulcus



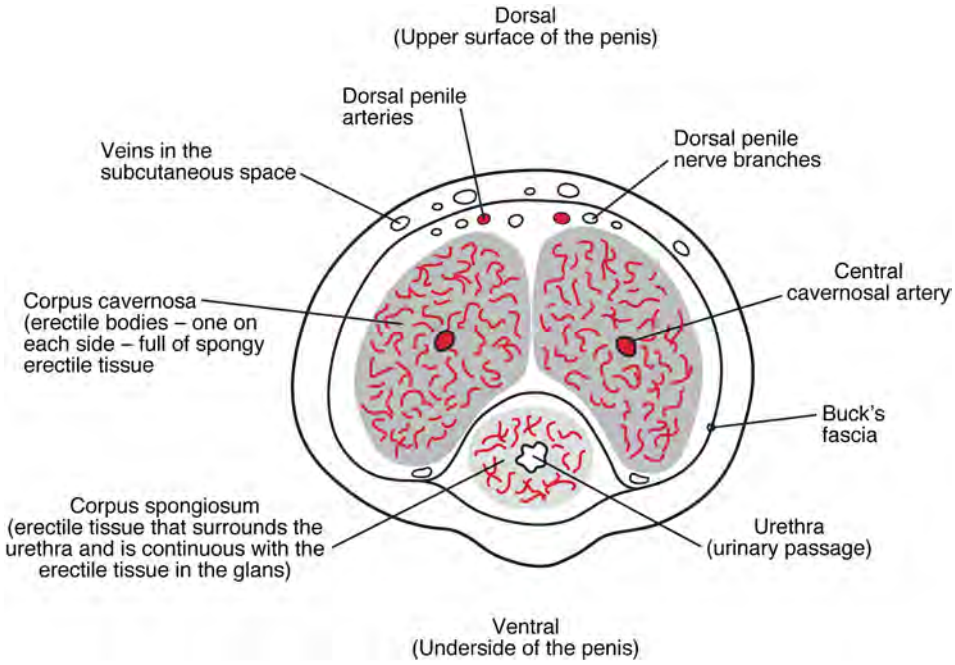
The frenulum is a fold of mucosal skin running between the glans and the foreskin on the ventral side (underside) of the glans and penis. The frenulum is extremely sensitive and is often the last area to become numb after the administration of local anaesthetic and dorsal nerve or ring block. The frenulum has a blood vessel—the frenular artery—running in its margin. The urethra runs close to the surface along the ventral side of the shaft of the penis. The urethra is close to the surface at the base of the frenulum and close to the frenular artery. It is important not to cut too deep at the base of the frenulum because this poses a risk of injuring the corpus spongiosum. More information about this error and how to avoid it is in Chapter 9 (see Section 9.6.1).

7.4.3. Internal anatomy of the penis

In addition to knowing the surface anatomy of the penis, the provider who is going to do circumcisions should understand the internal anatomy (see Fig. 7.3–7.4). The penis comprises three interconnected erectile bodies: the twin corpora cavernosa and the corpus spongiosum (that is, the erectile tissue that surrounds the urethra). This erectile tissue continues and expands at the distal end (tip) of the penis to form the glans, which is like a helmet across the ends of the corpora cavernosa. The erectile tissue of the penis has a rich blood supply and becomes filled with blood during erection. The twin corpora cavernosa are responsible for a rigid penis erection. The corpus spongiosum contributes to engorgement of the glans and some expansion of the girth of the penis but does not contribute strongly to its rigidity. It is important not to inject anaesthetic into the corpora cavernosa. More information about this error and how to avoid it is given in Chapter 9 (see Section 9.4.2).

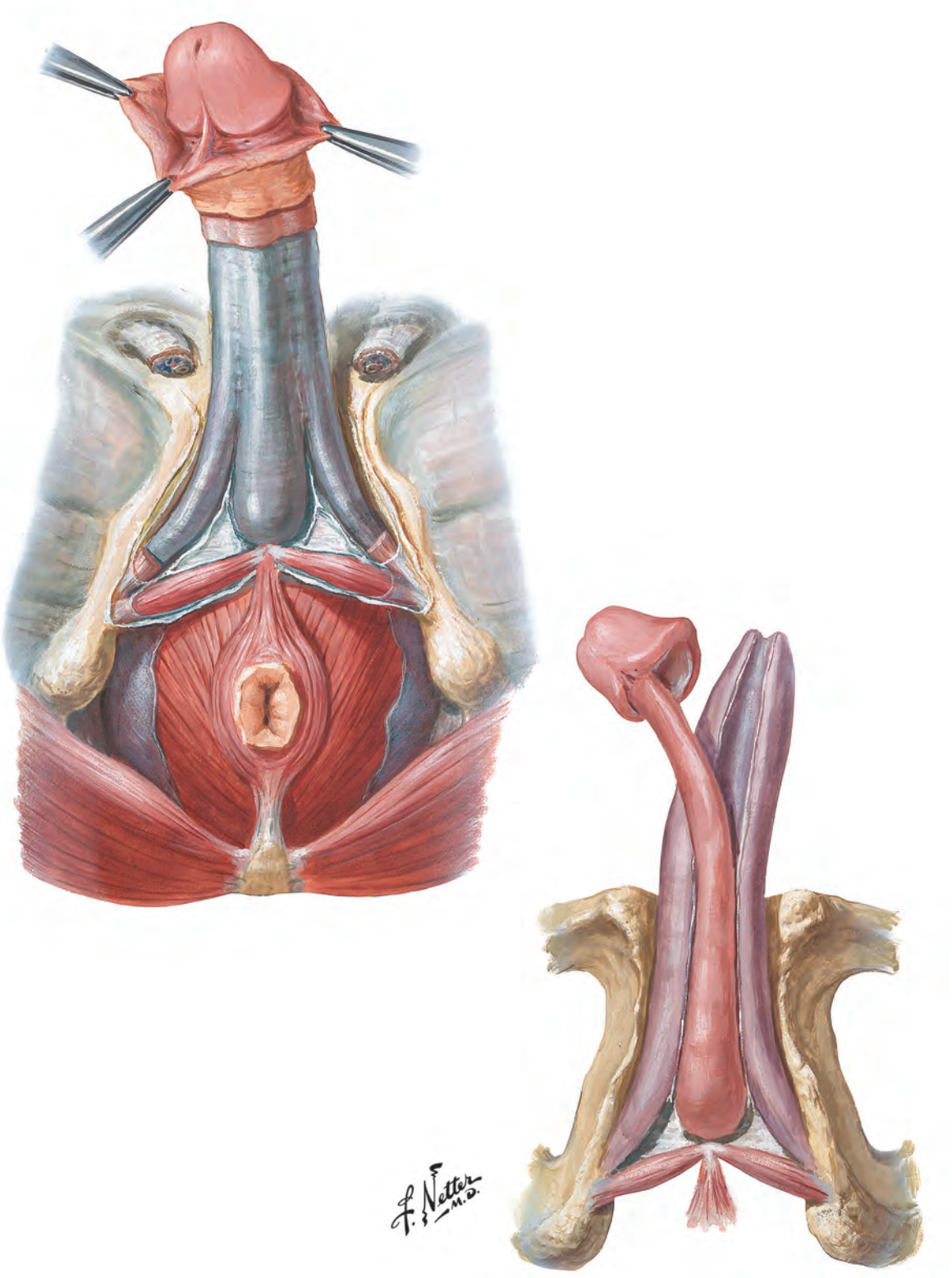
The penis has a plentiful blood supply from the internal iliac arteries in the pelvis via the pudendal arteries (see Fig. 7.5). These arteries, in turn, divide to give rise to the dorsal penile artery on each side and an artery in the centre of each erectile body. In addition, there are many small arteries linking these larger arteries.

Fig. 7.3. Cross-section of the penis[a]



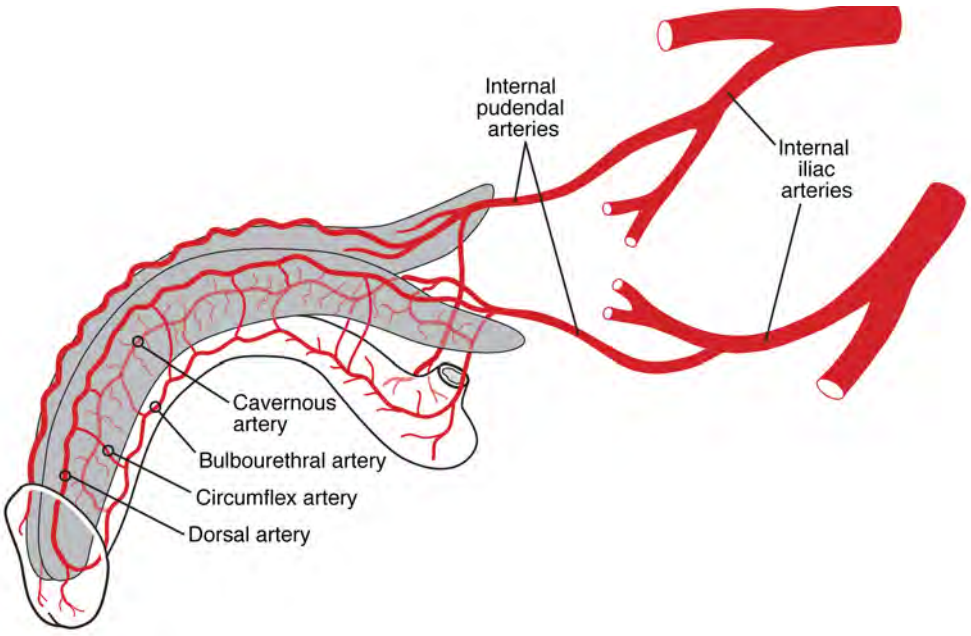
[a] The erectile bodies (corpora cavernosa), the urethra and its erectile tissue (corpus spongiosum) are held together by a tough penile fascia known as Buck's fascia.

Fig. 7.4. Anatomy of the erectile tissue of the penis[a]



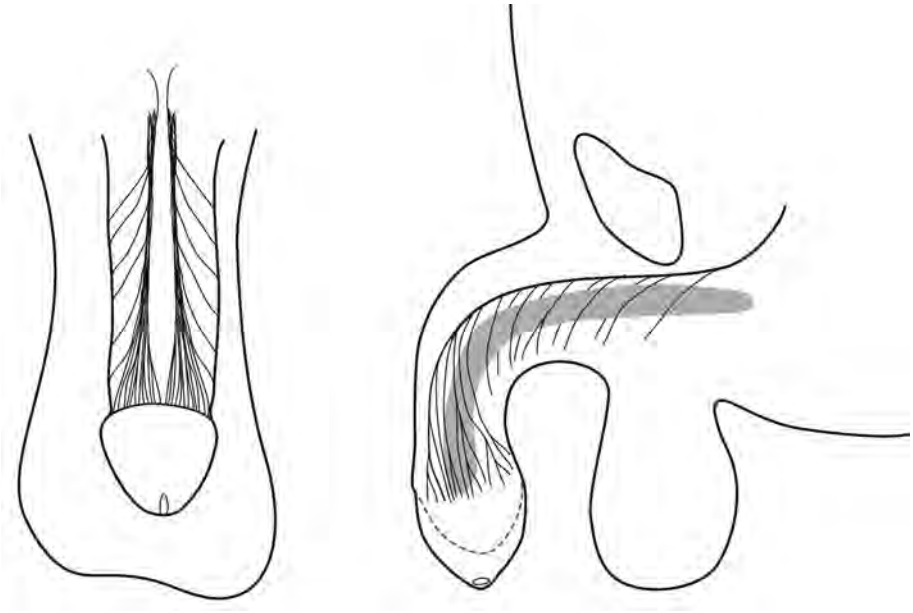
[a] Illustration used with permission of Elsevier Inc. All rights reserved.

Fig. 7.5. Arterial blood supply to the penis



The dorsal penile nerves are located on the dorsal aspect of the penis, slightly to the side of the midline and deep within the penile fascia (see Fig. 7.6). At the base of the penis, these twin nerves are relatively compact, but they emerge from under the pubic bone at the 01:00 o'clock and 11:00 o'clock positions and fan out as they run towards the glans. Hence, in a dorsal penile nerve block, most of the local anaesthetic is injected at the 01:00 o'clock and 11:00 o'clock positions at the base of the penis. There is variation in these nerves and, unless the anaesthetic for the dorsal nerve block is placed well under the pubic arch, early lateral branches may be missed. A ring block involves a complete ring of local anaesthetic around the base of the penis in order to block all branches. Proper injection of local anaesthesia is discussed in more detail in Chapter 9 (see Section 9.4).

Fig. 7.6. Nerve supply to the penis



7.4.3.1. Variations from normal

This section lists the variations from normal that may be seen and their relevance to male circumcision.

- **Deviations of the midline raphe:** Normally, the frenulum, urethral meatus and median raphe are in line with one another, but deviations from the midline are quite common. Ideally, these should be detected during screening, but the provider doing the circumcision should also check the anatomy before beginning the procedure. These deviations do not interfere with penile function but may make it difficult to align the skin when suturing during the circumcision procedure. Wrong alignment (or misalignment) can lead to torsion (twisting forces) during an erection. This complication can be avoided through proper technique, as described in Chapter 9.
- **Variations in the urinary opening (urethral meatus):** The urethral meatus should be at the tip of the glans. Minor variations in the position of the urethral meatus in relation to the tip of the glans are common and do not require any treatment if the client is able to pass urine freely, has a straight penile erection and has a urethral opening within 0.5 cm of the apex of the glans (see Box 7.6). More severe displacements of the urethral meatus (hypospadias and epispadias) are described below (also see Table 7.1).
    - If hypospadias is identified, circumcision should not be done because the foreskin will be needed by the specialist to make a plastic surgery repair.
    - If the urethral meatus is in the corona or frenulum, the foreskin is bifid, the glans looks bent or the client complains of bent erections, then circumcision should not be done. If there is any doubt, the client should be referred to a specialist.

Box 7.6. Normal variations and malformations or conditions

It is important to distinguish between normal variations and malformations or conditions that are contraindications for male circumcision procedures performed in a clinic by a midlevel provider. In the more severe malformation known as hypospadias, the urethral opening is on the underside of the glans in the corona or frenular area, or on the underside of the shaft of the penis. Hypospadias may be associated with incomplete formation of the foreskin (bifid foreskin) and a downwards bend of the glans called *chordee*—it produces a downwards bend when the penis is erect.

- **Curvature of the penis:** Few penises are completely straight when erect, with curves commonly seen in all directions (up, down, left and right). Circumcision will not correct the curvature. If the client complains of curvature of his penis that is interfering with his ability to have sexual intercourse, he should be referred to a specialist. It helps if he takes photos of his erection to show to the specialist.
- **Pearly penile papules:** These are raised bumps of somewhat paler colour around the base (sulcus) of the glans, which typically develop in clients aged 20–40 years; about 10% of all men are affected. These papules may be mistaken for warts but are not harmful or infectious, do not require treatment and do not interfere with circumcision.
- **Fordyce's spots:** These small, raised, yellowish-white spots are 1–2 mm in diameter and may appear on the penis. They are common, do not require treatment and do not interfere with circumcision.
- **Sebaceous prominences:** These raised bumps, similar to Fordyce's spots, can appear on the shaft of the penis, located at the sebaceous glands. They are normal and do not interfere with circumcision.
- **Phimosis:** This is the inability to retract the foreskin fully. Physiological phimosis is normal in infancy and prepubescence. Pathological phimosis is rare in adolescent boys and young men (see Box 7.7).

Box 7.7. Pathological versus physiological phimosis

Phimosis is tightness of the foreskin that makes it difficult or impossible to retract the foreskin.

Physiological phimosis is normal in prepubescent boys, infants and younger men who are not engaging in sexual activity. In this case, the foreskin meatus is tight, and there are fine adhesions between the foreskin mucosa and the glans. With advancing maturity, increasing penile girth and the onset of sexual activity, the foreskin becomes looser and more easily retractable. Physiological phimosis is a contraindication to forceps-guided surgical circumcision and also to certain device-based surgical circumcision methods (for any device being considered, see its manufacturer's instructions for use).

Pathological phimosis is an abnormality (usually scar tissue) that makes it difficult or impossible to retract the foreskin. Pathological phimosis is a contraindication to forceps-guided surgical circumcision and also to certain device-based surgical methods (see its manufacturer's instructions for use); it can only be addressed by first doing a dorsal slit.

7.5. CONTRAINDICATIONS TO MALE CIRCUMCISION AT THE CLINIC LEVEL

Various abnormalities may be detected during screening (for photos, see Annex 7.2) and, depending on what is found, circumcision may be undertaken by a midlevel provider in a circumcision clinic or the client may be referred to a specialist. Also, some abnormalities may preclude one or more methods of circumcision (see Table 7.1 for various conditions that may be encountered during screening and for guidance on their appropriate management; some of these conditions are also discussed in the text that follows the table.)

7.5.1. Sexually transmitted infections and genital abnormalities

Identification and treatment of sexually transmitted infections is an important HIV prevention strategy; therefore, all males presenting for male circumcision should undergo screening for sexually transmitted infections. They should also be examined for any genital abnormalities that make them ineligible for male circumcision at the clinic level. Ideally, sexually transmitted infections should be treated at the male circumcision clinic. If this is not possible, they should be referred to the appropriate sexually transmitted infection clinic. Clients should be encouraged to return for male circumcision once the sexually transmitted infection has been successfully treated.

Clients with genital abnormalities should be referred for specialist opinion and treatment where indicated. Male circumcision facilities should follow the national sexually transmitted infection diagnosis and treatment guidelines, and,

depending on location of nearby clinics that treat sexually transmitted infections, facilities should stock essential drugs to treat these infections.

- **Acute sexually transmitted infections**
  - **Genital ulcer disease:** Open sores and pus- or fluid-filled bumps on genitals are among the findings that may indicate this condition—often caused by a sexually transmitted infection—and should be investigated and treated. Once treatment has been completed, the client may be eligible for circumcision by a midlevel provider at a clinic.
  - **Urethral discharge:** Abnormal (clear or purulent) fluid coming from the urethra, often caused by a sexually transmitted infection, should be investigated and treated. A sample of urethral discharge should be collected during genital examination for possible laboratory testing.

    Once treatment has been completed, active follow-up of the client is important, and they should be prioritized for circumcision because the presence of an acute sexually transmitted infection (genital ulcer disease or urethral discharge) is objective evidence of high-risk behaviour.
- **Penile warts:** Penile warts can cause a lot of bleeding during the circumcision procedure. Whether the circumcision can proceed will depend on the extent of the warts. Also, penile warts may indicate malignancy. It is usually possible to proceed with circumcision if there are one or two small warts on the foreskin because these will be removed with the foreskin. However, if there are extensive warts, circumcision is best undertaken in a specialist facility where diathermy is available.
- **Chronic paraphimosis:** In this condition, the foreskin is permanently retracted, thickened and swollen, and the client will indicate that this is a long-standing problem. The client should be referred to a specialist.
- **Other chronic disorders of the penis and foreskin:** For conditions such as filariasis (a parasitic infestation that blocks the lymph ducts and prevents drainage), the client should be referred to a specialist.
- **Scar tissue at the frenulum:** Sometimes young men suffer from repeated tearing of the frenulum. This can result in thick scar tissue in the frenulum area and may make circumcision and related healing more difficult. If there is a scarred frenulum, device-based surgical methods of circumcision should **not** be used. Conventional surgical circumcision may be performed by an experienced provider (see Chapter 9, Section 9.6.4).
- **Balanitis:** This is an inflammation of the foreskin and the glans of the penis. The condition occurs most often in adolescent boys and men who have not been circumcised and who have poor personal hygiene. Dead skin cells, smegma (a white substance excreted by small glands around the corona of the glans penis) and bacteria accumulate under the foreskin. Symptoms of balanitis include redness or swelling, itching, rash, pain and foul-smelling discharge. Factors that predispose males to balanitis or cause the condition include the following:
  - pathological phimosis (see Box 7.7)
  - dermatitis—this is an inflammation of the skin with irritation, itching and rash, often caused by an irritating substance or an allergic reaction to chemicals in certain products, such as soaps, detergents, perfumes and spermicides
  - infection with the yeast *Candida albicans*, which can result in an itchy, spotty rash
  - certain sexually transmitted infections (including gonorrhoea, herpes and syphilis) can produce symptoms of balanitis
  - diabetes—glucose (sugar) in the urine becomes trapped under the foreskin and serves as a breeding ground for bacteria
- **Other obvious visible pathology:** A circumcision provider will quickly learn to recognize appearances of the normal penis and the appearances of common pathologies, such as penile warts, ulcers or penile discharge. There are, however, a large number of rarer conditions. When a provider encounters a new or unusual condition, then the provider should refer the client to a specialist or take a photograph and consult with a specialist. Annex 7.2 has photographs of some, but not all, of the rarer conditions that may be seen.

- **Other abnormalities of the genitalia**, such as scrotal or testicular swellings, may be detected during screening. Although these are not contraindications to male circumcision, specialist advice is needed to exclude testicular cancer, which, although rare, occurs in younger males (aged 15–45 years).

Table 7.1. Contraindications to male circumcision and management in the clinic

CONDITION	MANAGEMENT, INCLUDING ADVICE ABOUT CIRCUMCISION METHOD
Illness and infections	
Acute illness	Defer circumcision until the illness has been treated by an appropriate provider.
Uncontrolled diabetes	Defer circumcision until the diabetes has been treated by an appropriate provider, and follow that provider's advice about when it is safe to do the circumcision.
Uncontrolled hypertension	Defer circumcision until the hypertension has been treated by an appropriate provider, and follow that provider's advice about when it is safe to do the circumcision.
Active infection	Defer circumcision until the infection has been treated by an appropriate provider.
Uncontrolled HIV or untreated tuberculosis	Defer circumcision until the HIV or tuberculosis treatment has been started by an appropriate provider. Device-based surgical circumcision, using any device, should not be done because there are no clinical data to confirm safety in the presence of these infections.
Urethral discharge	Defer circumcision until the discharge has been treated by an appropriate provider.
Penile warts involving foreskin and glans	Do not undertake circumcision in the clinic; instead, refer to a specialist centre.
Known, untreated sexually transmitted infections (for example, syphilis, gonorrhoea, chancroid)	Defer circumcision until the infection has been treated by an appropriate provider, and follow that provider's advice about when it is safe to do the circumcision. Once treatment has been completed, actively follow up with the clients and prioritize for the circumcision because the presence of an acute sexually transmitted infection (genital ulcer disease or urethral discharge) is objective evidence of high-risk behaviour.
Penile warts confined to the foreskin	If the warts are confined to the foreskin so that they will be removed with the foreskin during circumcision, male circumcision can be done in the clinic if the provider is experienced. Device-based surgical circumcision should not be done.
Balanitis associated with phimosis	Refer to a specialist centre. Circumcision should not be done in the clinic. (It is often necessary to do circumcision in the presence of active balanitis, even before it resolves, because pus gathers under the tight foreskin; the infection will not resolve until it is incised and the pus can freely drain.)
Yeast infection (*Candida albicans*)	Defer circumcision until the infection has been treated by an appropriate provider.
Dermatitis involving the penile shaft or foreskin	Defer circumcision until the condition has been diagnosed by an appropriate provider, and follow that provider's advice about when it is safe to do the circumcision.

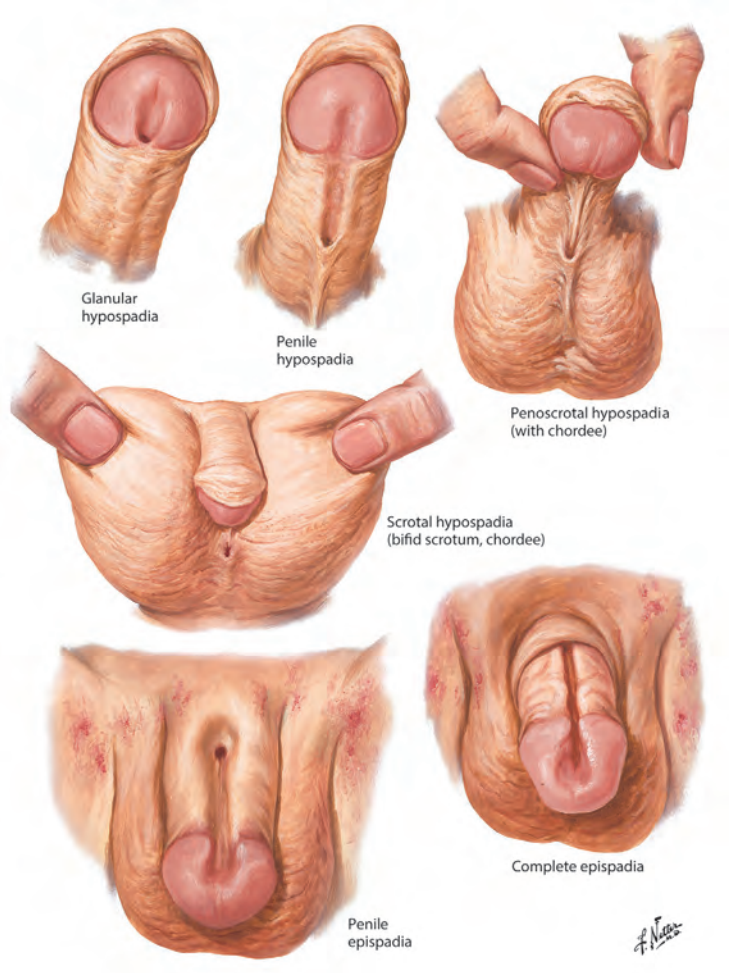
CONDITION	MANAGEMENT, INCLUDING ADVICE ABOUT CIRCUMCISION METHOD
Penile anatomical abnormalities (birth abnormalities and acquired abnormalities)	
Epispadias (rare)	Refer to a specialist centre. Circumcision should not be done in the clinic. (Foreskin is needed for plastic surgery repair.)
Hypospadias (with or without chordee, with or without bifid foreskin)	Refer to a specialist centre. Circumcision should not be done in the clinic. (Foreskin is needed for plastic surgery repair.)
Opening of urethral meatus near but not at tip of glans (glanular hypospadias), with no chordee and with normal foreskin	Where there is doubt, there should be referral to a specialist centre. However, glanular hypospadias has been reported more frequently from some clinics, and, depending on the experience of the provider, circumcision may be undertaken at the clinic level. (Also, depending on the frequency of this problem, the management protocol should be discussed with the specialist or referral centre to avoid clients being sent back and forth between facilities.)
Phimosis caused by scar tissue at the apex of the meatus	Refer to a specialist centre, generally. However, if the scar tissue is confined to the tip or the foreskin (and is seen nowhere else), circumcision using **only** the dorsal slit method may be undertaken at the clinic level, depending on the experience of the provider.
Chronic paraphimosis	Refer to a specialist centre.
Scar tissue involving the foreskin and glans (*balanitis xerotica obliterans*)	Refer to a specialist centre. Scar tissue often produces a poor cosmetic appearance (before circumcision); unfortunately, this appearance will not improve after circumcision. Circumcision may be done by a specialist.
Scar tissue involving the frenulum	Refer to a specialist centre, generally. The forceps-guided method of surgery and device-based circumcision methods should not be used. Circumcision may be undertaken at the clinic level, depending on the experience of the provider (see Chapter 9, Section 9.6.4).
Penile cancer	Refer to a specialist centre. This finding is rare in young men seeking male circumcision services.
Other penile abnormalities (for example, micropenis, bifid penis)	Refer to a specialist centre, generally. These findings are rare, but if the penis looks abnormal or if the provider has any doubt about whether to circumcise or about how to do so safely and correctly, the client should be referred.
Scrotal swelling	Refer to a specialist centre for diagnosis and management. Note that a rare cause of scrotal swelling is testicular cancer; this condition occurs in men aged 15–45 years.
Conditions seen in younger adolescents with less developed genitalia	
Physiological phimosis in younger adolescents	Physiological phimosis is often associated with fine adhesions between the glans and the foreskin, and is normal in younger adolescents. Circumcision can be undertaken at the clinic level, but the forceps-guided surgical method should **not** be used. Also, some device-based methods of circumcision should **not** be used (see manufacturer's instructions for users).
Less developed penis in younger adolescents, making it difficult to palpate the glans (this will include most under the age of 15 years)	Circumcision can be undertaken at the clinic level, but the forceps-guided surgical method should **not** be used in adolescent boys under 15 years of age or any male who has adhesions—or any male whose tip of the glans cannot be clearly identified by palpating the foreskin—because of difficulty identifying the glans and the risk of glans amputation. Also, device-based surgical methods of circumcision should **not** be used unless the clinic has appropriate, smaller device sizes.

7.5.2. Hypospadias and epispadias

Hypospadias and epispadias are birth defects in which the urinary opening (urethral meatus) is in the wrong place. These defects occur during the formation of the penis.

- Clients whose urethral meatus is on the underside of the penis (hypospadias) or on the upper side of the penis (epispadias) must not be circumcised at the clinic level because the foreskin may be needed in a repair operation (see Fig. 7.7).
- More severe degrees of hypospadias, where the urinary opening is in the frenular area (coronal hypospadias or on the shaft of the penis), are associated with a short urethra. The short urethra causes a downwards bend of the glans and penis, particularly when the penis is erect (chordee). Also, the foreskin is split and does not fully form across the frenular area.
- Minor variations in the urethral meatus cause difficulties in deciding whether the client should be referred to specialist, district hospital or higher level of care. If there is any doubt, it is best to refer. Such variations include a wider-than-normal meatus and glanular hypospadias, where the meatus extends more than usual towards the frenulum but not as far as the frenulum.

Fig. 7.7. Glanular hypospadias, shaft hypospadias and shaft epispadias[a,b]



[a] Also, see photo in Annex 7.2.

[b] Illustration used with permission of Elsevier Inc. All rights reserved.

7.5.3. Pathological phimosis

In pathological phimosis, scar tissue makes it difficult or impossible to retract the foreskin. Pathological phimosis caused by scar tissue is relatively uncommon in a young male population accessing male circumcision services. It is important to distinguish between physiological immaturity and pathological phimosis (see Box 7.7) and among different characteristics of pathological phimosis because they may help determine the most appropriate course of action. The safe protocol for clients with pathological phimosis is to refer to a higher level of care, but there may be exceptions, depending on whether the provider who will be doing the circumcision is experienced in the dorsal slit method. Whether all or some clients with pathological phimosis should be referred will depend on the severity of the problem and the skill of the provider who will be doing the circumcision.

- If the scar tissue is confined to the apex of the foreskin and seen nowhere else, the dorsal slit method of circumcision can be undertaken by a midlevel provider in a circumcision clinic if the provider is experienced.
- If there is phimosis and also a history of penile discharge or repeated infections (balanitis), the client should be referred to a specialist. Thick adhesions between the glans and foreskin may also require referral to a specialist.
- If the scar tissue also involves the glans or urethral meatus, the client must be referred to a specialist because the cause of the scarring is likely to be the more severe condition of lichen sclerosus (*balanitis xerotica obliterans*).

7.6. PREPROCEDURE PREPARATIONS

7.6.1. Timing of consent or assent

Appropriate timing of the consent/assent process and client education on the different male circumcision methods that are available will vary among clinics. The timing will also depend on clinic protocols and whether the clinic offers a choice of methods. In general, it makes sense to undertake the screening before documenting the consent/assent—by having the client or his parent(s)/guardian(s) sign the consent/assent form. This is because screening will, in many cases, determine the most appropriate method for circumcision. For example, although general information about all methods offered at the clinic may be given through group education, it is not appropriate to give detailed information about specific device methods to a younger adolescent boy if screening shows that the use of that device is unsuitable for him (for any device that is being considered, see its manufacturer's instructions for use).

Clients—and their parent(s)/guardian(s)—can only give proper informed consent/assent when they have chosen (or been recommended) a suitable method and when that method has been explained to them. Even when all preparations are complete, **a client may withdraw consent/assent at any time**. The provider should try to reassure any client who expresses doubt about undergoing circumcision, but, whether the client is an adult or adolescent, the provider should respect the client's decision.

7.6.2. Use of a surgical safety checklist

By following a few critical steps, health care providers can minimize the most common and avoidable risks that endanger the lives and well-being of surgical patients. The checklist provided in Annex 7.3 identifies three phases of an operation or procedure, each corresponding to a specific period in the normal flow of work:

- before the induction of anaesthesia (sign-in phase);
- before the incision of the skin (in-the-procedure-room phase); and
- before the patient leaves the procedure room (sign-out phase).

In each phase, a checklist coordinator must confirm that the surgery team has completed the tasks listed before going ahead with the procedure. This checklist is a modified version of the World Health Organization's *Surgical safety checklist (1)*. The full version of this surgical checklist is in use worldwide and makes a strong contribution to safe surgery. This version has been adapted for male circumcision and may be further adapted to fit local practice. Using the checklist is

particularly important in those facilities where other types of surgery are performed in the same procedure room as the one used for male circumcision.

7.6.3. Client preparations

Ideally, on the day of the circumcision, the client should thoroughly wash his genital area and penis with clean water and soap, retracting the foreskin and washing under it. He should wear clean, tight-fitting underwear. For clients who are unable to wash at home, there should be washing facilities in the clinic.

If the pubic hair is long and likely to get in the way of surgery or device application or interfere with the dressing, scissors should be used to cut the hair slightly shorter but not close to the skin—leaving about 0.5 cm of hair. This should be done before the client enters the procedure room. The client can do this at home on the day of the procedure, or it can be done at the clinic. **Shaving is not recommended because it can increase the risk of surgical site infection.**

The client should be given the opportunity to empty his bladder before going into the procedure room.

7.6.4. Hand hygiene, surgical hand preparation and protective clothing

Before entering the procedure room, anyone who will touch the sterile surgical field, touch the sterile surgical instruments, touch the wound, or apply or remove circumcision devices should:

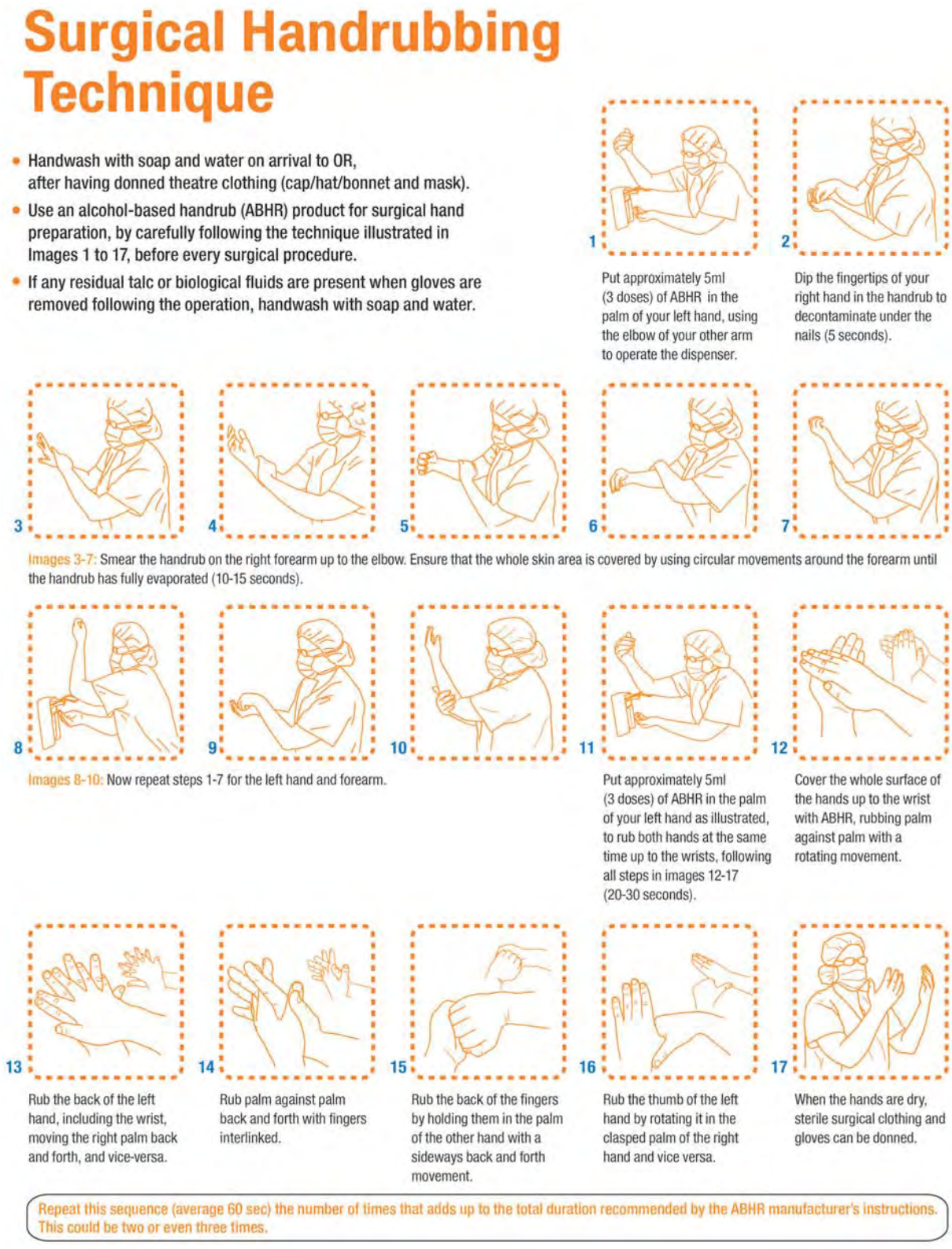
- Remove any artificial nails or nail polish.
- Remove all jewellery, and ensure that nails are trimmed or filed.
- Make sure that hands and nails are not visibly soiled.
- Wash hands and arms up to the elbow with a nonmedicated soap.
- Perform a surgical scrub using an antiseptic handwash solution (see Box 7.8).

Box 7.8. Definition of surgical hand antisepsic, surgical hand preparation and presurgical hand preparation

Antiseptic handwash or antiseptic handrub is performed preoperatively by the surgical team to eliminate transient flora and reduce resident skin flora. Such antiseptics often have persistent antimicrobial activity. Surgical handscrubbing or presurgical scrubbing refers to surgical hand preparation with antimicrobial soap and water. Surgical handrubbing refers to surgical hand preparation with a waterless, alcohol-based handrub *(11)*.

Surgical hand preparation will not sterilize the skin but will decrease the bacterial load and risk of wound contamination from the hands. Each surgical hand preparation with medicated soap should take three to five minutes and should be done at the start of a session of circumcision procedures. If more than one circumcision is planned for the day, hand cleansing with an alcohol-based preparation can be done between procedures (see Fig. 7.8). If hands are visibly soiled, they should be washed with soap and water. The surgical team should **clean their hands by washing them with a nonmedicated** soap before entering the surgical area, such as at the beginning of the surgical day, or re-entering the surgical area after leaving it, for example, for lunch or using the bathroom. The five moments of hand hygiene should be followed in addition to a surgical scrub *(11)*.

Fig. 7.8. Surgical handrubbing technique



Source: (12)

7.6.4.3. Gloves and other protective wear

After scrubbing, put on sterile operating gloves, taking care not to contaminate the sterile outer surface of the gloves (see Fig. 7.9). Gloves should be of the correct size because using gloves that are too small or too large increases the risk of glove perforation. Wearing two layers of gloves (double-gloving) is not recommended in the context of male circumcision. Remove sterile gloves carefully (see Fig. 7.10).

Surgical gloves prevent transmission of HIV, hepatitis and other infections that are transmitted by contact with blood and bodily fluids (see Box 7.9). However, there is always a possibility that a glove will be accidentally punctured. If this happens during the circumcision procedure, promptly remove the glove, clean and decontaminate hands with an antiseptic, and put on a new sterile glove. If the glove has leaked as a result of the puncture, rescrub before putting on new gloves. Client safety is of primary concern and must not be compromised. Change gloves only when it is safe for the client. For example, if the client is bleeding, control the bleeding with an artery forceps before changing the punctured glove. Once clean gloves are in place, then stop the bleeding with suture ligation or diathermy as appropriate.

Box 7.9. When providers should not perform circumcisions

Providers should not perform circumcisions if they have any open wounds, scabs or ulcers on their hands or arms. Such injuries must fully heal before the provider returns to performing conventional or device-based surgical circumcision duties.

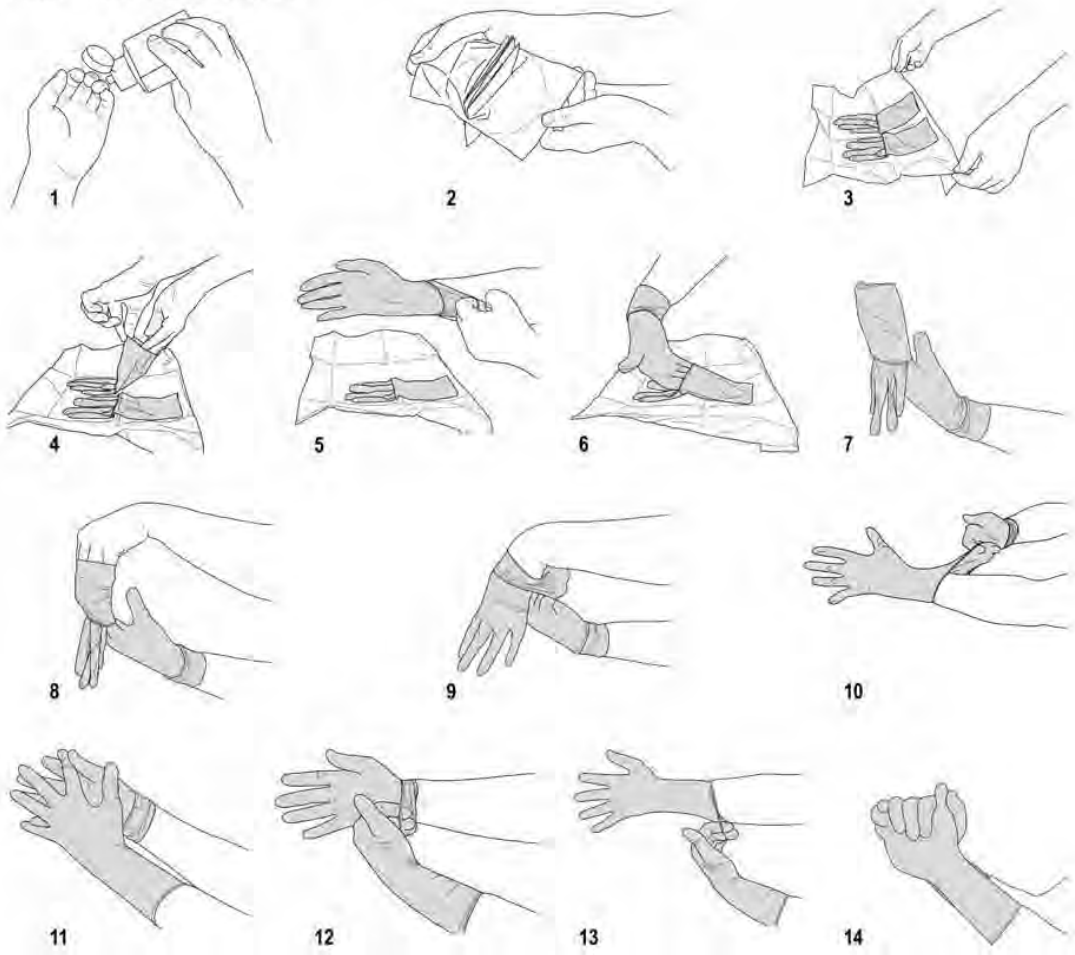
Whether to use a gown: A surgical gown is recommended, although some providers wear sterile operating gloves without a sterile gown. It is less expensive to only use gloves, and this is the practice in many clinic settings. The provider who is doing the procedure should, in any case, wear a clean theatre uniform (scrub suit, cap and suitable footwear). If a surgical gown is not used, including in the case of device placement or removal, both the provider who is doing the procedure and the provider's trained assistant should wear a new, clean apron for each case. Aprons protect clothes from splashes of blood and bodily fluids during the circumcision procedure and should be replaced between clients.

Face masks and protective eyewear: Face masks are recommended during circumcision because they reduce the client's exposure to droplet contaminants if the provider who is doing the procedure coughs or sneezes. The face mask also prevents the provider's mouth from being exposed to any spray of blood and bodily fluids from the circumcision site. Eyewear is also recommended during surgery because of risks of an accidental splash of blood onto the face. For those who wear glasses, no additional protection is needed; for others, particularly those who are less experienced in doing circumcision, consideration should be given to providing nondisposable, nonprescription eyeglasses. These eyeglasses must be cleaned and disinfected, per local protocol, before they are used by another provider. Eyewear is not considered necessary for most device-based surgical circumcisions.

Fig. 7.9. Putting on surgical gloves

The purpose of this technique is to ensure maximum asepsis for the patient and to protect the health-care worker from the patient's body fluid(s). To achieve this goal, the skin of the health-care worker remains exclusively in contact with the inner surface of the glove and has no contact with the outer surface. Any error in the performance of this technique leads to a lack of asepsis requiring a change of gloves.

I. HOW TO DON STERILE GLOVES



1. Perform hand hygiene before an "aseptic procedure" by handrubbing or hand washing.
2. Check the package for integrity. Open the first non-sterile packaging by peeling it completely off the heat seal to expose the second sterile wrapper, but without touching it.
3. Place the second sterile package on a clean, dry surface without touching the surface. Open the package and fold it towards the bottom so as to unfold the paper and keep it open.
4. Using the thumb and index finger of one hand, carefully grasp the folded cuff edge of the glove.
5. Slip the other hand into the glove in a single movement, keeping the folded cuff at the wrist level.

6-7. Pick up the second glove by sliding the fingers of the gloved hand underneath the cuff of the glove.

8-10. In a single movement, slip the second glove on to the ungloved hand while avoiding any contact/resting of the gloved hand on surfaces other than the glove to be donned (contact/resting constitutes a lack of asepsis and requires a change of glove).

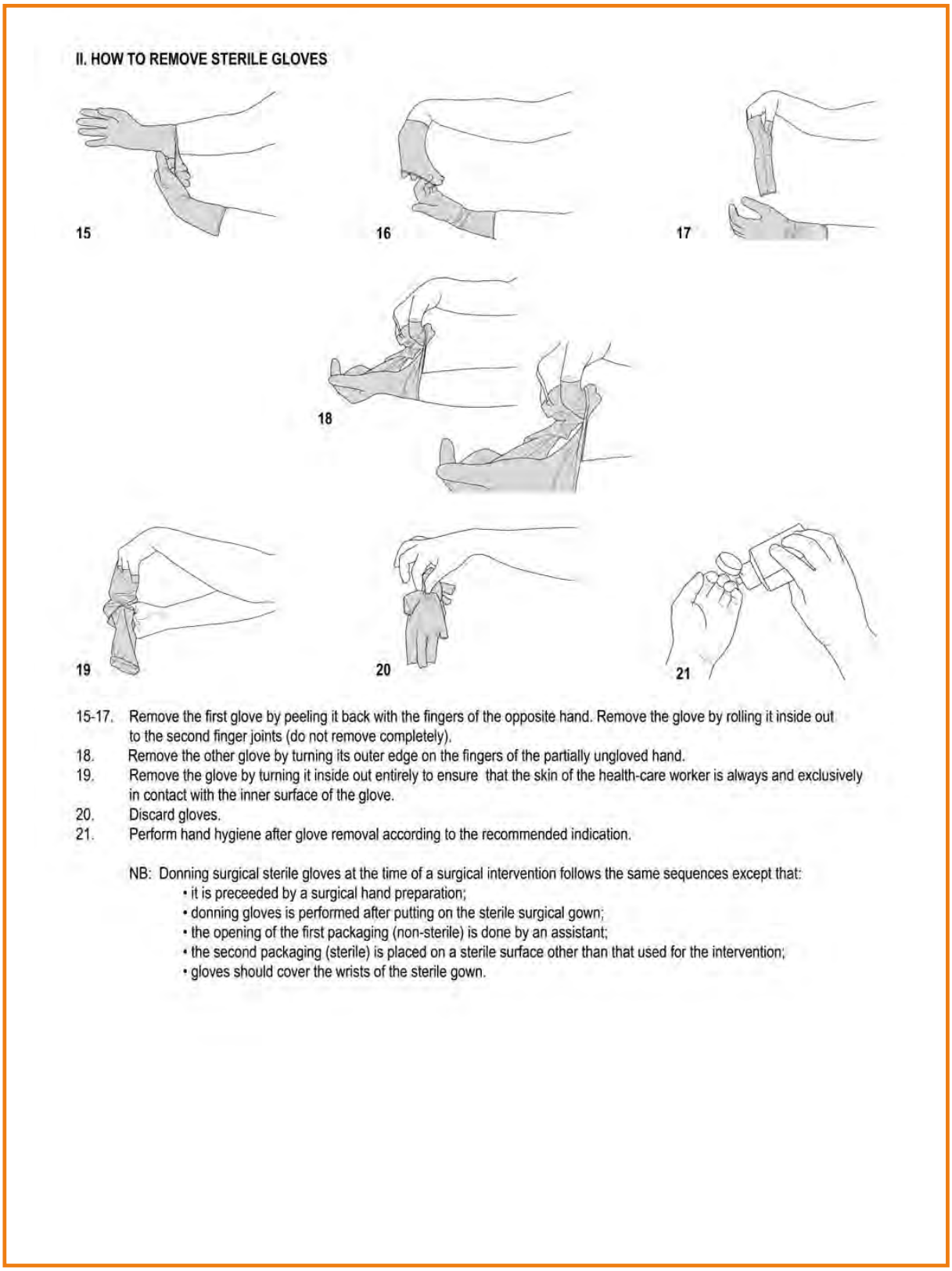
11. If necessary, after donning both gloves, adjust the fingers and interdigital spaces until the gloves fit comfortably.

12-13. Unfold the cuff of the first gloved hand by gently slipping the fingers of the other hand inside the fold, making sure to avoid any contact with a surface other than the outer surface of the glove (lack of asepsis requiring a change of gloves).

14. The hands are gloved and must touch exclusively sterile devices or the previously-disinfected patient's body area.

Source: (13)

Fig. 7.10. Taking off surgical gloves



Source: (13)

KEY MESSAGES

- Client assessment should include focused history taking and physical examination, including a male genital examination.
- During this process, particular care should be taken to identify bleeding disorders and tetanus toxoid-containing vaccination status of the client.
- Before circumcision, clients should be assessed for contraindications to surgery and to identify conditions that need treatment or referral. If there is any doubt, the client should be referred to a district hospital or higher level of care. It is safer for the client if providers refer clients too often rather than refer too seldom.
- Providers should have established referral pathways with specialists or higher levels of care identified in advance of any circumcision procedure. Each referral centre's contact details need to be known, readily available and kept up to date.
- Specialists and staff at referral centres should appreciate the skill level of staff at the male circumcision clinic but also recognize that there is difficulty in assessing some cases. In the event of having received an inappropriate referral, the referral centre should educate the clinic, be supportive of clinic staff, and encourage good care and safe practices—bearing in mind that it is always safer to refer too many clients than too few.

ANNEX 7.1. SAMPLE MALE CIRCUMCISION CLIENT RECORD FORM

Some of the questions in this form may not be relevant or appropriate in all settings. Therefore, male circumcision clinics should customize the form to suit their individual capacity and protocols, and the needs of the local population.

General information

1. Name: _____

2. Address: _____ **Cellphone no.:**_____

3. Date of visit:

Day/Month/Year: _____/_____/_____

4. Client ID number: | | | | | | | |

5. Hospital ID number (if different from above): | | | | | | | |

6. Date of birth:

Day/Month/Year: _____/_____/_____ **Age:** ___ Years

7. Client is referred by:

a. Self or parent(s)/guardian(s)

b. Family planning clinic

c. Voluntary testing and counselling centre

d. Urology clinic

e. Outpatient department

f. Nongovernmental organization

g. Other (specify) _____

8. Marital status:

a. Single

b. Married

c. Divorced/separated

d. Other (specify) _____

9. Tribe/ethnicity: _____

10. Religion:

a. Buddhist

b. Christian

c. Hindu

d. Jewish

e. Muslim

f. Other (specify) _____

11. Primary indication for circumcision (circle one):

a. For partial protection against HIV

b. Social or religious

c. Personal hygiene

d. Phimosis

e. Paraphimosis

f. Erectile pain

g. Recurrent balanitis

h. Preputial neoplasm

i. Other (specify) _____

12. Client is sexually active: ☐ Yes ☐ No
(Activity within past three months?)

13. Previous contraceptive use:

a. None

b. Condoms

c. Vasectomy

d. Other (specify) _____

14. HIV test date and location:

a. HIV test offered? ☐ Yes ☐ No

b. HIV test performed? ☐ Yes ☐ No

c. HIV test result: ☐ Positive ☐ Negative

d. Post-test counselling given? ☐ Yes ☐ No

e. If test result positive, linked with treatment and care? ☐ Yes ☐ No

Medical history

15. Does the client have evidence of sufficient tetanus toxoid-containing vaccination?

☐ Yes ☐ No

If yes, record dates of past tetanus toxoid-containing vaccinations:

_____

If no:

a. Tetanus toxoid-containing vaccine offered? ☐ Yes ☐ No

b. Tetanus toxoid-containing vaccine given? ☐ Yes ☐ No

c. Next dose planned? If so, for when? _____

16. Does the client have a history of any of the following?

a. Haemophilia or bleeding disorder? ☐ Yes ☐ No
(Self or family history [blood relative] of diagnosis, or signs or symptoms of bleeding disorder, for example, more bleeding or bruising than normal)

b. Diabetes? ☐ Yes ☐ No

17. Is client currently being treated for any of the following?

a. Anaemia ☐ Yes ☐ No

b. Diabetes ☐ Yes ☐ No

c. HIV ☐ Yes ☐ No

d. AIDS ☐ Yes ☐ No

e. Other (specify)_____ ☐ Yes ☐ No

18. Does client have any known allergy to medications, iodine or latex? ☐ Yes ☐ No

If yes, specify: _____

19. Has client had a surgical operation? ☐ Yes ☐ No

If yes, specify nature, date and any complications: _____

20. Does the client report having any of the following symptoms?

a. Urethral discharge ☐ Yes ☐ No

b. Genital sore (ulcer) ☐ Yes ☐ No

c. Pain on erection ☐ Yes ☐ No

d. Swelling of the scrotum ☐ Yes ☐ No

e. Pain on urination ☐ Yes ☐ No

f. Difficulty in retracting the foreskin ☐ Yes ☐ No

g. Concerns about erection or sexual function ☐ Yes ☐ No

h. Keloids ☐ Yes ☐ No

i. Other (specify)_____ ☐ Yes ☐ No

21. Physical examination (general)

a. Vital signs:

Body temperature: _____

Blood pressure: _____

Pulse rate: _____

Respiratory rate: _____

b. Weight: _____

c. Open wound (for example, jigger): _____

d. Other: _____

22. Physical examination of genitals

23. Any significant abnormality on general genital examination?

a. Epispadias (rare) ☐ Yes ☐ No

b. Hypospadias (with or without chordee, with or without bifid foreskin) ☐ Yes ☐ No

c. Opening of urethral meatus near but not at tip of glans (glanular hypospadias), with no chordee and with normal foreskin ☐ Yes ☐ No

d. Phimosis caused by scar tissue at the apex of the meatus ☐ Yes ☐ No

e. Chronic paraphimosis ☐ Yes ☐ No

f. Scar tissue involving the foreskin and glans (*balanitis xerotica obliterans*) ☐ Yes ☐ No

g. Scar tissue involving the frenulum ☐ Yes ☐ No

h. Penile cancer ☐ Yes ☐ No

i. Other penile abnormalities (for example, filiariasis, micropenis) ☐ Yes ☐ No

j. Scrotal swellings ☐ Yes ☐ No

24. Examination of penis:

a.	Physiological phimosis in younger adolescents	☐ Normal	☐ Abnormal
b.	Smaller penile size in younger adolescents, making it difficult to palpate the glans (this will include most under the age of 13 years)	☐ Normal	☐ Abnormal
c.	Uncontrolled hypertension	☐ Normal	☐ Abnormal
d.	Active infection	☐ Normal	☐ Abnormal
e.	Uncontrolled HIV or untreated tuberculosis	☐ Normal	☐ Abnormal
f.	Urethral discharge	☐ Normal	☐ Abnormal
g.	Penile warts involving foreskin and glans	☐ Normal	☐ Abnormal
h.	Penile warts confined to the foreskin	☐ Normal	☐ Abnormal
i.	Genital ulcers	☐ Normal	☐ Abnormal
j.	Known, untreated sexually transmitted infections (for example, syphilis, gonorrhoea, chancroid)	☐ Normal	☐ Abnormal
k.	Balanitis associated with phimosis	☐ Normal	☐ Abnormal
l.	Yeast infection (*Candida albicans*)	☐ Normal	☐ Abnormal
m.	Dermatitis	☐ Normal	☐ Abnormal
n.	Filiariasis	☐ Normal	☐ Abnormal

25. Contraindications

If any contraindications to circumcision are found, please indicate below or, if other, specify:

_____

If contraindications are found during the screening, please check any of the following findings, which may indicate a need for further evaluation or treatment, or referral to a specialist or higher level of care, as described in Table 7.1.

A. Illness and infection

Acute illness

☐ Yes ☐ No

Uncontrolled diabetes

☐ Yes ☐ No

Uncontrolled hypertension

☐ Yes ☐ No

Active infection

☐ Yes ☐ No

Uncontrolled HIV or untreated tuberculosis

☐ Yes ☐ No

Urethral discharge

☐ Yes ☐ No

Penile warts involving foreskin and glans

☐ Yes ☐ No

Penile warts confined to the foreskin

☐ Yes ☐ No

Genital ulcers

☐ Yes ☐ No

Known, untreated sexually transmitted infections

☐ Yes ☐ No

Balanitis associated with phimosis

☐ Yes ☐ No

Yeast infection *(Candida albicans)*

☐ Yes ☐ No

Dermatitis

☐ Yes ☐ No

Filiariasis

☐ Yes ☐ No

Good general health

☐ Yes ☐ No

B. Penile abnormalities

Epispadias (very rare)

☐ Yes ☐ No

Hypospadias

☐ Yes ☐ No

Opening of urethral meatus near but not at tip of glans (glanular hypospadias)

☐ Yes ☐ No

Phimosis caused by scar tissue at the apex of the meatus

☐ Yes ☐ No

Chronic paraphimosis

☐ Yes ☐ No

Scar tissue involving the foreskin and glans *(balanitis xerotica obliterans)*

☐ Yes ☐ No

Scar tissue involving the frenulum

☐ Yes ☐ No

Penile cancer

☐ Yes ☐ No

Other penile abnormalities (for example, filiariasis, micropenis)

☐ Yes ☐ No

Scrotal swellings

☐ Yes ☐ No

C. Conditions in younger adolescents

Physiological phimosis in younger adolescents

☐ Yes ☐ No

Smaller penile size in younger adolescents, making it difficult to palpate the glans

☐ Yes ☐ No

Physiological phimosis in younger adolescents

☐ Yes ☐ No

26. For any of the contraindications marked Yes in Question 25, please describe the treatment plan:

a. Was client referred to a specialist? ☐ Yes ☐ No

b. If so, to whom? _____

c. Did you treat the client on site for the condition? ☐ Yes ☐ No

d. Is the client able to rescreen for male circumcision eligibility in the future? ☐ Yes ☐ No

e. If yes, at what date can the client return for rescreening? _____

Eligibility for circumcision procedure

27. Has client given informed consent/assent for circumcision? ☐ Yes ☐ No

28. Is client eligible for circumcision at the clinic? ☐ Yes ☐ No
If yes, proceed to Question 30.

29. If client is ineligible today, list the contraindication from the table above (Question 25) here:

_____

If other reason, describe: _____

Circumcision procedure

30. Preprocedure medications: _____

31. Anaesthetic agent and dose used:

- Lidocaine/lignocaine alone _____
- Bupivacaine and lidocaine/lignocaine _____
- Topical local anaesthetic cream _____

32. Iodine skin prep: ☐ Yes ☐ No *If no, explain:* _____

33. Type of anaesthesia: ☐ Local (penile ring block) ☐ Dorsal nerve block

☐ Other (specify) _____

34. Type of surgical circumcision procedure done:

☐ Dorsal slit method ☐ Forceps-guided method

☐ Sleeve method ☐ Other method (for example, device-based surgical circumcision)

If other method, specify device, indicate name, size of device, lot number: _____

35. Date of conventional circumcision procedure or device placement:

Day/Month/Year: _____/_____/_____

36. Provider name: _____ **Assistant name:** _____

37. Start time: _____ **End time:** _____ **Duration:** _____ **minutes**

38. Pain during the procedure requiring further administration of anaesthetic: ☐ Yes ☐ No

39. Postprocedure medications: _____

40. Postprocedure written and verbal instructions given: ☐ Yes ☐ No

If client is a minor, was parent(s)/guardian(s) provided with written and verbal instructions? ☐ Yes ☐ No

41. Details of follow-up plan: _____

Follow-up visit scheduled—date #1: _____

Follow-up visit scheduled—date #2: _____ (if applicable)

Follow-up visit scheduled—date #3: _____ (if applicable)

Complications *(14)*

42. Intraoperative complications (during surgery or prior to discharge from clinic)

If complications are found during the postprocedure follow-up, check any of the following findings. They may indicate a need for further evaluation or treatment, referral to a specialist/higher level of care or emergency care. Refer to **Chapter 10 (see Annex 10.3)** for managing adverse events and the *Adverse event action guide for voluntary medical male circumcision by surgery or device, 2nd edition (13).*

Adverse events diagnosed? ☐ Yes ☐ No

If yes, indicate the adverse event and severity.

COMPLICATION	MILD	MODERATE	SEVERE
Excessive bleeding			
Infection			
Wound disruption			
Pain			
Scarring/disfigurement			
Torsion of penis			
Insufficient skin removal			
Excess skin removal			
Injury to penis			
Excess swelling of penis/scrotum, including haematoma			
Problem with voiding (urinating)			
Sexual complications/undesirable sensory changes			
Anaesthesia-related event			

Follow-up

43. First follow-up visit:

Day/month/year: _____/_____/_____

Postoperative (one to six days after surgery and discharge from clinic)

Adverse events diagnosed? ☐ Yes ☐ No

If yes, indicate the adverse event and severity.

COMPLICATION	MILD	MODERATE	SEVERE
Excessive bleeding			
Infection			
Wound disruption			
Pain			
Scarring/disfigurement			
Torsion of penis			
Insufficient skin removal			
Excess skin removal			
Injury to penis			
Excess swelling of penis/scrotum, including haematoma			
Problem with voiding (urinating)			
Sexual complications/undesirable sensory changes			
Anaesthesia-related event			

44. Healing normal? ☐ Yes ☐ No

If no, specify: _____

45. Additional treatment/care given? ☐ Yes ☐ No

If yes, specify: _____

46. Further follow-up planned? ☐ Yes ☐ No

If yes, specify: _____

47. Second follow-up visit:

Day/month/year: _____/_____/_____

Postoperative complications (seven or more days after surgery and discharge from clinic)

Adverse events diagnosed? ☐ Yes ☐ No

If yes, indicate the adverse event and severity.

COMPLICATION	MILD	MODERATE	SEVERE
Excessive bleeding			
Infection			
Wound disruption			
Pain			
Scarring/disfigurement			
Torsion of penis			
Insufficient skin removal			
Excess skin removal			
Injury to penis			
Excess swelling of penis/scrotum, including haematoma			
Problem with voiding (urinating)			
Sexual complications/undesirable sensory changes			
Anaesthesia-related event			

48. Healing normal? ☐ Yes ☐ No

If no, specify: _____

49. Additional treatment/care given? ☐ Yes ☐ No

If yes, specify: _____

50. Further follow-up planned? ☐ Yes ☐ No

If yes, specify: _____

51. Third follow-up visit:

Day/month/year: _____/_____/_____

Postoperative complications

Adverse events diagnosed at third follow-up visit? ☐ Yes ☐ No

If yes, indicate the adverse event and severity.

COMPLICATION	MILD	MODERATE	SEVERE
Excessive bleeding			
Infection			
Wound disruption			
Pain			
Scarring/disfigurement			
Torsion of penis			
Insufficient skin removal			
Excess skin removal			
Injury to penis			
Excess swelling of penis/scrotum, including haematoma			
Problem with voiding (urinating)			
Sexual complications/undesirable sensory changes			
Anaesthesia-related event			

52. Healing normal? ☐ Yes ☐ No

If no, specify: _____

53. Additional treatment/care given? ☐ Yes ☐ No

If yes, specify: _____

54. Further follow-up planned? ☐ Yes ☐ No

If yes, specify: _____

ANNEX 7.2. ABNORMALITIES THAT MAY BE ENCOUNTERED DURING SCREENING

Fig. A7.2.1. Urethral fistula (previous failed repair operation)[a,b]

[a] This client requires a referral to a specialist.
[b] Photo courtesy of Mr. L. Stewart

Fig. A7.2.2. Coronal hypospadias[a,b]

[a] This client requires a referral to a specialist.
[b] Photo courtesy of Jhpiego/Adrian Musiige

Fig. A7.2.3. Pathological phimosis caused by scar tissue at the tip of the foreskin[a,b]

[a] This client could have circumcision at the clinic level if the provider is experienced in doing the dorsal slit method, but the client may need a referral.
[b] Photo courtesy of Professor Kasonde Bowa, Lusaka

Fig. A7.2.4. Chronic paraphimosis[a,b]

[a] This client requires a referral to a specialist.
[b] Photo courtesy of Professor Kasonde Bowa, Lusaka

Fig. A7.2.5. Balanoposthitis[a,b]

[a] This client should have treatment before male circumcision and may need a referral.
[b] Photo courtesy of Jhpiego

Fig. A7.2.6. Urethral discharge[a,b]

[a] This client should have treatment before male circumcision and needs a referral to a sexually transmission infection clinic.
[b] Photo courtesy of Jhpiego

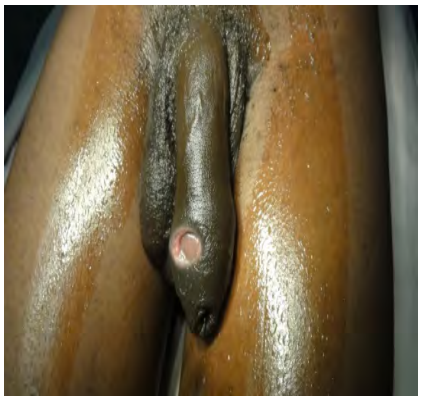
Fig. A7.2.7. Penile warts[a,b]

[a] This client needs referral to a higher level of care.
[b] Photo courtesy of Adam Groeneveld

Fig. A7.2.8. Scarring of foreskin and glans caused by lichen sclerosus[a]

[a] Photo courtesy of Brian Birch, UK

Fig. A7.2.9. Preputal ulcer[a,b]



[a] This client should be referred to a specialist for diagnosis.
[b] Photo courtesy of Professor Kasonde Bowa, Lusaka

Fig. A7.2.10. Primary syphilis[a,b]

[a] This client should be referred to a specialist for diagnosis.
[b] Photo courtesy of Jhpiego

Fig. A7.2.11. Chancroid[a,b]

[a] This client should be referred to a specialist for diagnosis.
[b] Photo courtesy of Jhpiego

Fig. A7.2.12. Gross keratinisation[a,b]

[a] This client should be referred to a specialist for diagnosis.
[b] Photo courtesy of Professor C. Lei Kuching, Malaysia

Fig. A7.2.13. Penile cancer[a,b]

[a] This client should be referred to a specialist for diagnosis.
[b] Photo courtesy of Professor Kasonde Bowa, Lusaka

ANNEX 7.3. SURGICAL CHECKLIST

<table>
<tr><th colspan="6">Surgical or device circumcision safety checklist—modified from the World Health Organization's Surgical safety checklist and implementation manual (1)</th></tr>
<tr><th colspan="2">Before the client lies on the procedure table</th><th colspan="2">Before the provider starts the procedure (giving the anaesthetic, incising the skin or applying a device)</th><th colspan="2">Before the client leaves the procedure room</th></tr>
<tr><td colspan="2">Sign-in phase</td><td colspan="2">In-the-procedure-room phase</td><td colspan="2">Sign-out phase</td></tr>
<tr><td rowspan="3">Client has confirmed</td><td>Identity</td><td rowspan="2">Provider doing the procedure</td><td rowspan="2">Has introduced himself/herself by name</td><td rowspan="3">Nurse verbally confirms with team:</td><td rowspan="2">Name of client recorded in procedure room log</td></tr>
<tr><td>That he has come for circumcision (this is relevant if other types of surgery are done in the same procedure room)</td></tr>
<tr><td>That he has completed the consent/assent process (has been given information and has agreed to circumcision) by signing consent form</td><td rowspan="3">Confirm: provider doing the procedure and assistant and/or theatre nurse</td><td>If diathermy is to be used, then:
Diathermy dispersive electrode (diathermy plate) is applied properly.
Machine power settings are set correctly.</td><td>Whether there are any problems with supplies or device; stock size to be addressed</td></tr>
<tr><td>Anaesthesia safety check</td><td>The client's weight has been recorded, and starting and maximum does of local anaesthetic agent have been calculated.</td><td rowspan="3">Check that equipment packaging is intact.
Check sterility indicators.</td><td rowspan="4">Provider doing the procedure and nurse:</td><td rowspan="2">Check dressings.</td></tr>
<tr><td rowspan="3">Screening safety check (review screening document)
Does the client have:</td><td>Known allergy?</td></tr>
<tr><td>Known bleeding disorder or history of prolonged bleeding?</td><td rowspan="4">Anticipated critical events</td><td rowspan="3">Review concerns for recovery and management of client.</td></tr>
<tr><td>Adequate tetanus immunization?</td></tr>
<tr><td rowspan="3">Supplies check</td><td>Sterile instrument kits (or necessary instruments and supplies) available</td><td>Discovery of contraindication to circumcision after anaesthetic has been given (more likely in young adolescent)
If this happens, follow clinic protocol.</td></tr>
<tr><td>Sutures available</td><td rowspan="2">Inadequate anaesthesia
If necessary, give more anaesthesia.</td></tr>
<tr><td>Device stock sizes available</td></tr>
</table>

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