

# **South African National Guidelines for Medical Male Circumcision 2016**



health

Department:  
Health  
REPUBLIC OF SOUTH AFRICA

# CONTENTS

<b>Acknowledgements</b>	<b>vii</b>
<b>Foreword</b>	<b>viii</b>
<b>Abbreviations and Acronyms</b>	<b>ix</b>
<b>Definition of Key Terms</b>	<b>ix</b>

## 1. INTRODUCTION

1.1. BACKGROUND	10
1.2. MEDICAL MALE CIRCUMCISION IN SOUTH AFRICA	12
1.3. TARGET AUDIENCE AND SCOPE	13
1.4. STRUCTURE AND CONTENT	14

## 2. TARGET POPULATION, BENEFITS AND RISKS OF MALE CIRCUMCISION

SUMMARY	16
2.1. INTRODUCTION	17
2.1.1. What is male circumcision?	17
2.1.2. How male circumcision is performed	17
2.1.3. Target population for MMC	17
2.2. BENEFITS AND RISKS	18
2.2.1. Benefits	18
2.2.2. Risks	19
2.3. MALE CIRCUMCISION AND HIV INFECTION	19
2.3.1. A comprehensive prevention package of services	19
2.3.2. The evidence linking male circumcision and HIV	20
2.3.3. Male circumcision and regional differences in HIV prevalence	21
2.3.4. Randomised controlled trials to assess the efficacy of male circumcision in reducing risk of HIV infection	22
2.3.5. Possible biological explanations for the protective effect of male circumcision	23
2.3.6. Protection for women	23
2.3.7. Other health benefits of circumcision	23
2.3.8. Acceptability of circumcision among African men	24
2.4. TRADITIONAL MALE CIRCUMCISION	24

## 3. LINKING MALE CIRCUMCISION TO OTHER MALE SEXUAL AND REPRODUCTIVE HEALTH SERVICES

SUMMARY	27
3.1. MEN'S SEXUAL AND REPRODUCTIVE HEALTH NEEDS AND SERVICES	28
3.1.1. HIV Testing Services (HTS)	29
3.1.2. Barriers to male sexual and reproductive health services	30
3.2. MEETING MEN'S SEXUAL AND REPRODUCTIVE HEALTH NEEDS	31
3.3. MEN'S ROLES IN WOMEN'S AND CHILDREN'S HEALTH	32
3.3.1. Who should provide sexual and reproductive health services and information to boys and men?	32

3.4. DETECTION AND TREATMENT OF SELECTED MALE SEXUAL AND REPRODUCTIVE HEALTH PROBLEMS	34
3.4.1. Sexually transmitted infections	34
3.4.2. Phimosi	35
3.4.3. Balaniti	35
3.4.4. Paraphimosis	36
3.4.5. Urinary tract infections	37
3.4.6. Infertility	38

## 4. EDUCATING, COUNSELLING AND INFORMED CONSENT

SUMMARY	40
4.1. EDUCATION ABOUT SEXUAL AND REPRODUCTIVE HEALTH AND MALE CIRCUMCISION	41
4.2. COUNSELLING	45
4.2.1. Basic facts about counselling	45
4.2.2. Confidentiality	46
4.2.3. Counselling skills	46
4.3. INFORMED CONSENT FOR SURGERY	50
4.3.1. General	50
4.3.2. Legal age of consent	50
4.3.3. Adolescent boys: consent and confidentiality	51
4.3.4. Documenting informed consent for surgery	52
4.3.5. Infant circumcision: counselling and consent	52
4.4. ADDITIONAL SCRIPT FOR COUNSELLING ON REPRODUCTIVE HEALTH	53
4.5. MALE CIRCUMCISION EVENTS	57

## 5. FACILITIES AND SUPPLIES, SCREENING OF PATIENTS AND PREPARATION FOR SURGERY

SUMMARY	59
5.1. EQUIPMENT AND SUPPLIES	60
5.2. MAINTENANCE AND REVIEW OF EQUIPMENT	62
5.3. SCREENING ADULT CLIENTS	63
5.3.1. History	63
5.3.2. Physical examination	63
5.3.3. HIV testing	65
5.4. PREOPERATIVE WASHING BY THE PATIENT	65
5.5. SCRUBBING AND PUTTING ON PROTECTIVE CLOTHING	66
5.5.1. Whether to use a gown	68
5.5.2. Face masks and protective eyewear	68
5.6. SAMPLE DISPOSABLE CONSUMABLES FOR ONE ADULT MALE CIRCUMCISION	68
5.7. DETAILED ANATOMY OF THE PENIS	69
5.8. SELECTED ANATOMICAL ABNORMALITIES OF THE PENIS	71

## CONTENTS (continued)

### 6. SURGICAL PROCEDURES FOR ADULTS AND ADOLESCENTS

SUMMARY	73
6.1. SURGICAL SKILLS REQUIRED FOR SAFE CIRCUMCISION	74
6.1.1. Anatomy of the penis and choice of surgical technique	74
6.1.2. Tissue handling	74
6.1.3. Haemostasis	74
6.1.4. Diathermy	76
6.1.5. Suturing	77
6.1.6. Tying knots	80
6.2. SKIN PREPARATION AND DRAPING	81
6.2.1. Skin preparation with povidone iodine	81
6.2.2. Draping	81
6.3. ANAESTHESIA	82
6.3.1. Penile nerve supply	82
6.3.2. Maximum dose of local anaesthetic	82
6.3.3. Safe injection of local anaesthetic	83
6.3.4. Additional analgesia	83
6.3.5. Ring block technique	83
6.3.6. Modified approach used in high volume settings in South Africa	84
6.4. RETRACTION OF THE FORESKIN AND DEALING WITH ADHESIONS	85
6.5. MARKING THE LINE OF THE CIRCUMCISION	86
6.6. SURGICAL METHODS	87
6.6.1. Forceps-guided method of circumcision	87
6.6.2. Dorsal slit method of circumcision	92
6.7. VARIATIONS IN TECHNIQUE FOR MINOR ABNORMALITIES OF THE FORESKIN	95
6.8. USE OF DEVICES IN ADULTS AND ADOLESCENTS	96
6.8.1. The PrePex™ device	96
6.8.2. The ShangRing	105

### 7. CIRCUMCISION OF INFANTS AND CHILDREN

SUMMARY	109
7.1. INTRODUCTION	110
7.2. SCREENING MALE BABIES AND YOUNG BOYS FOR CIRCUMCISION	110
7.3. CONSENT	110
7.4. PREPARATION	111
7.5. ANAESTHESIA	111
7.5.1. Safe injection of local anaesthetic	111
7.5.2. EMLA cream	112
7.5.3. Glucose by mouth	113
7.5.4. Vitamin K	113
7.6. SKIN PREPARATION AND DRAPING	113
7.7. RETRACTION OF THE FORESKIN AND DIVISION OF ADHESIONS	113
7.8. PAEDIATRIC SURGICAL METHODS	114
7.8.1. Dorsal slit method for children	116
7.8.2. The Plastibell method	118
7.8.3. The Mogen clamp method	121



7.8.4. The Gomco clamp method	123
7.9. INFORMATION FOR PARENTS CONSIDERING CIRCUMCISION FOR THEIR CHILD	127

## 8. POSTOPERATIVE CARE AND MANAGEMENT OF COMPLICATIONS

SUMMARY	129
8.1. POSTOPERATIVE CARE	130
8.1.1. Postoperative monitoring	130
8.1.2. Instructions for the client	130
8.1.3. Transfer of client records	131
8.2. FOLLOW-UP VISITS	131
8.2.1. Routine follow-up	131
8.2.2. Emergency follow-up	131
8.3. RECOGNITION, MANAGEMENT AND REPORTING OF COMPLICATIONS	132
8.3.1. Establishing effective referral pathways	132
8.3.2. Complications occurring during surgery	133
8.3.3. Complications occurring within the first 48 hours after surgery	134
8.3.4. Complications occurring within the first two weeks after surgery	134
8.3.5. Late complications	135
8.3.6. Postoperative instructions for men who have been circumcised	135

## 9. PREVENTION OF INFECTION

SUMMARY	137
9.1. BASIC CONCEPTS	138
9.2. STANDARD PRECAUTIONS	138
9.3. HAND HYGIENE	139
9.3.1. Washing hands with soap and water	140
9.3.2. Alcohol-based handrub	141
9.3.3. Surgical hand scrub	142
9.4. PERSONAL PROTECTIVE EQUIPMENT	142
9.4.1. Gloves	142
9.4.2. Masks, caps and protective eyewear	143
9.4.3. Aprons and the circumcision provider's gown	144
9.4.4. Footwear	144
9.4.5. Immunisations	144
9.5. SAFE HANDLING OF HYPODERMIC NEEDLES AND SYRINGES	144
9.5.1. Tips for safe use of hypodermic needles and syringes	144
9.5.2. Sharps containers	145
9.6. PROCESSING OF INSTRUMENTS, ENVIRONMENTAL CLEANING AND MANAGEMENT OF SPILLS	145
9.6.1. Disinfection	145
9.6.2. Cleaning	145
9.6.3. High-level disinfection	146
9.6.4. Sterilisation	146
9.6.5. Environmental cleaning	146
9.6.6. Management of spills	147
9.7. SAFE DISPOSAL OF INFECTIOUS WASTE MATERIALS	147
9.7.1. Waste management	147
9.7.2. Tips for safe handling and disposal of infectious waste	147

## CONTENTS (continued)

9.7.3. Disposing of sharp items	147
9.7.4. Burning waste containers	147
9.7.5. Encapsulating waste containers	148
9.7.6. Burying waste	148
9.8. POST-EXPOSURE PROPHYLAXIS	148
9.8.1. Immediate management of occupational exposure to hepatitis B, hepatitis C and HIV	148
9.8.2. Management of exposure to hepatitis B	149
9.8.3. Management of exposure to hepatitis C	149
9.8.4. Post-exposure prophylaxis for HIV	149
9.8.5. Clinic staff should know their HIV status	151

## 10. MANAGING A CIRCUMCISION SERVICE

SUMMARY	153
10.1. RATIONALE FOR MANAGING A CIRCUMCISION SERVICE	154
10.2. RECORD KEEPING, MONITORING AND EVALUATION	154
10.2.1. Indicators	154
10.2.2. What is monitoring?	155
10.2.3. What is a monitoring system?	155
10.2.4. What is evaluation?	155
10.2.5. Why evaluate male circumcision programmes?	155
10.2.6. What is “good data”?	156
10.3. PROVIDING QUALITY MMC SERVICES	157
10.3.1. What Is Quality Assurance, Quality Improvement And External Quality Assessment	157
10.3.2. Dimensions of quality	157
10.3.3. Quality assurance (QA)	158
10.3.4. Continuous Quality improvement (CQI)	158
10.3.5. External Quality Assessment (EQA)	158
10.3.6. The Goal of CQI in MMC	158
10.3.7. Quality standards	160
10.3.8. The quality improvement approach	164
10.4. SUPERVISION	165

## ANNEXURES

1. MMC: Group Education Checklist	169
2. MMC: Individual Counselling Checklist	171
3. MMC: Client Record Form	172
4. MMC: Follow-up Visit Checklist	181
5. MMC: Adverse Event Reporting Tool	182
6. MMC: Adverse Event Form	184
7. MMC: Adult Emergency Supply Checklist	193
8. MMC: Medicine Stock Card	194
9. MMC: Infection Control	195
10. MMC: Sharps Disposal Process	200

## REFERENCES

202

## FOREWORD

South Africa remains the country with the highest number of people living with HIV. The HSRC estimated that 6.8 million people were infected with HIV in 2014. Only 54% of them are aware of their HIV status. The epidemic has varied significantly across and within the nine different provinces in South Africa. Its diversity and the presence of concentrated epidemics within the generalised epidemic have played an important role in its spread and had an impact on its effective control.

There is sparse evidence to show that HIV prevention programmes have impacted significantly on HIV incidence. However medical male circumcision (MMC) has been shown in recent randomised clinical trials to provide around 60% reduction in the risk of HIV acquisition through heterosexual transmission in men. The results of these trials support the results of observational studies showing a strong correlation between high rates of male circumcision and lower rates of HIV prevalence. Furthermore, findings from male circumcision (MC) trials conducted in South Africa and Uganda showed that circumcision offers men partial protection against human papillomavirus and herpes simplex virus type 2. Providing MMC in the public sector provides men with the opportunity of protecting themselves and their partners from HIV infection.

HIV prevention is central to the fight against HIV and South Africa has adopted the combination HIV prevention approach, which includes biomedical, socio-behavioural and structural interventions. The package of HIV prevention services to men include HIV testing services (HTS), sexually transmitted infections (STI) screening and treatment, condom provision, medical male circumcision, HIV risk reduction counselling and referral to other male sexual health and reproductive services.

South Africa has practiced male circumcision within traditional settings for cultural and religious reasons for many years. There are inter-provincial variations in the proportion of men who are circumcised within the traditional settings. It is important to ensure that circumcision as a whole is safe and that human rights are respected when men are circumcised.

These guidelines provide all stakeholders with the necessary guidance for the provision of safe, effective and accessible voluntary MMC services. They promote cost effective and efficient methods for rapid implementation of this potentially life-saving HIV prevention intervention. They are also aligned to existing HIV policies and strategies of the National Department of Health.

It is envisaged that scaling up MMC and equipping the service providers with the necessary competency and skill will contribute towards the reduction of new HIV infections and will improve access to other health services for men.

**Minister of Health**  
**Dr A. Motsoaledi**





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## ABBREVIATIONS AND ACRONYMS

AIDS	acquired immunodeficiency syndrome
ALT	alanine amino transferase
ARV	antiretroviral drugs
CDC	US Centers for Disease Control
EMLA	eutectic mixture of local anaesthetics
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
HPV	human papilloma virus
HTS	HIV testing services
MMC	medical male circumcision
NDOH	National Department of Health
NRTI	nucleoside reverse transcriptase inhibitor
PEP	post-exposure prophylaxis
STI	sexually transmitted infection
TMC	traditional male circumcision
UNAIDS	Joint United Nations Program on HIV/AIDS
USAID	United States Agency for International Development
WHO	World Health Organization

## DEFINITION OF KEY TERMS

medical male circumcision	the complete surgical removal of the foreskin covering the head of the penis under local anaesthesia, performed in a sterile setting by a trained clinician
foreskin	the fold of skin that covers the head of the penis (glans)
balanitis	inflammation of the glans
posthitis	inflammation of the foreskin
phimosis	inability to retract the foreskin
paraphimosis	inability to return the retracted foreskin to its original location
haematoma	formation of a blood clot under the skin
meatitis	inflammation of the opening of the urethra



# 1

## INTRODUCTION

## 1.1. BACKGROUND

HIV is one of the greatest challenges facing South Africa today, with a generalised HIV epidemic and an estimated 6.8 million people infected in 2014. The estimated prevalence rate of HIV amongst pregnant women is 29.4%<sup>1</sup> and in the general population 12.2%.<sup>2</sup> The HIV prevalence in the general population varies across provinces from 27.6% in KwaZulu-Natal (KZN) and 26.0% in Mpumalanga to 9.2% in the Western Cape and 9.0% in the Northern Cape. Male circumcision is not commonly practiced in the first two provinces (KZN and Mpumalanga) but is more common in the Western and Northern Cape provinces. In South Africa it is estimated that 85% of HIV infections occur through heterosexual sex.<sup>3</sup> HIV prevalence amongst men peaks in the age cohort of 30 – 34 years at 25.8%, while amongst women HIV prevalence peaks in the age cohort 25 – 29 years at 32.7%.

The only available data on country-wide male circumcision is from the 2003 South African Demographic Health Survey. In South Africa between 32% and 45% of men reported being circumcised (medical and traditional), with circumcision rates being the highest in the Western Cape (67.5%) and lowest in KwaZulu-Natal (26.8%) and Gauteng (25.2%). The circumcision rate in Eastern Cape was 44.0%. Reported levels of circumcision are highest amongst men over the age of 30 (53%).<sup>4</sup>

Male circumcision has been shown to reduce men's risk of becoming infected with HIV by between 51% and 60% in three randomized clinical trials (South Africa,<sup>5</sup> Uganda<sup>6</sup> and Kenya<sup>7</sup>). The outcomes from these trials confirm cross-sectional epidemiological, observational and other studies that have shown that circumcised men have lower HIV

prevalence than uncircumcised men.<sup>8</sup> The results from the South African study showed a 60% lower incidence of HIV infection compared with those who delayed circumcision.

This finding is supported by over 40 sociological and epidemiological studies showing a strong link between circumcision and reduced HIV prevalence.<sup>9,10</sup> One biological explanation as to why circumcision may reduce HIV acquisition has been shown by a study that revealed that the foreskin has a high concentration of target cells that are very susceptible to HIV infection.<sup>11</sup> Circumcision has been shown to reduce sexually transmitted infections (STIs) and the likelihood of micro-tears and trauma of the foreskin during sexual intercourse - both conditions provide an entry point for HIV infection.

This protective effect is present after complete circumcision, as the skin of the penis thickens and becomes a stronger barrier to HIV infection. The impact from the Orange Farm MMC Roll out study (ARN12126) was assessed after three years and the findings suggest that the effectiveness of male circumcision in reducing the risk of female-to-male transmission only occurs when the foreskin is completely removed.<sup>12</sup> There is no evidence that incomplete removal of the foreskin reduces the risk of HIV infection.

Strong evidence has also been provided that failure to abstain from sexual activity for six weeks after circumcision increases the risk of transmission of HIV because of an unhealed wound.<sup>13</sup> In addition, resumption of sexual activity before wound healing in HIV positive men increases the risk of HIV transmission to a partner.

Studies conducted in 2001 and 2002 in South Africa indicate high levels of acceptability of male circumcision amongst men and women. More than 50% of men indicated they are willing to undergo male circumcision and more than 50% of women indicated they would be in favour of male circumcision.<sup>14</sup> However, there is low acceptability of medical male circumcision as an HIV/AIDS prevention intervention within communities that practice traditional circumcision.<sup>15</sup>

A SADC Expert Think Tank Meeting in 2006 identified the key drivers of the HIV/AIDS epidemic within Southern Africa as being multiple and concurrent partners, combined with low levels of condom use and low levels of male circumcision. The SADC thus encouraged member states to prepare for the possible roll-out of MMC within their countries.<sup>16</sup>

Data from Uganda has shown that in the five years since the Uganda trial was completed, high effectiveness has been maintained among the men who were circumcised, with a 73% protective effect against HIV infection.<sup>17</sup> The impact of male circumcision would be greater in countries with high HIV prevalence and low to moderate male circumcision rates, both factors that apply to South Africa.<sup>18</sup>

Medical male circumcision offers excellent value for money in high HIV prevalence settings as it saves costs by averting new HIV infections and reducing the number of people

needing HIV treatment and care. WHO, using South African data and heterosexual transmission models, estimates that one new HIV infection can be averted with every 5 to 15 male circumcisions performed.<sup>19</sup> This estimate takes into account possible risk compensation across the entire population.

By increasing the uptake of MMC, the risk of HIV infection in men may be reduced. An indirect benefit of MMC will thus be conferred to women due to the reduced HIV incidence in men.

Male circumcision has been found to reduce other sexually transmitted infections like herpes, chancroid, syphilis and penile human papilloma virus (HPV) infection, which greatly reduces the risk of penile cancer in men as well as cervical cancer in female partners.<sup>20,21</sup> Cervical cancer remains the most common cancer among South African women. Male circumcision reduces other medical conditions like urinary tract infection in children, phimosis (adherence of the foreskin to the penis)<sup>22,23</sup> and balanitis (yeast infection of the penis). In female partners of circumcised men, evidence from trials showed a significant reduction of female genital ulceration, bacterial vaginosis, and trichomoniasis.<sup>24</sup>

*Male circumcision may reduce the risk of getting some of the infections mentioned above, including HIV and related complications, but does not guarantee complete protection.*



## 1.2. MEDICAL MALE CIRCUMCISION IN SOUTH AFRICA

The South African National Department of Health (NDOH) has endorsed Medical Male Circumcision (MMC) as an HIV prevention strategy for men in South Africa. These technical guidelines, called *South African National Guidelines for Medical Male Circumcision*, adapted from World Health Organization (WHO) guidelines, are intended for health care workers and programme managers to provide universal, integrated, safe and accessible voluntary MMC services. They support the National HIV/AIDS Strategic Plan 2012-2016 for South Africa (NSP) to reduce new HIV infections by 50% by 2016.

The guidelines form part of a comprehensive HIV prevention package and include:

- Quality improvement framework for use by providers, programme managers and national medical authorities to ensure high-quality services
- Detailed technical information on the different surgical approaches
- Guidance on addressing broader issues of male sexual and reproductive health

The guideline further emphasises that male circumcision must be set within the context of other strategies for reducing the risk of HIV infection.

### Other relevant documents are:

Document	Description
<i>Surgical care at the district hospital</i> (WHO, 2003) <sup>1</sup>	Provides guidance for non-specialist health care providers who practice surgery and anaesthesia. It provides a comprehensive guide to surgical procedures that are commonly performed at the district hospital. It is intentionally limited to emergency and very common problems and is not designed as a major textbook of surgery.
<i>New data on male circumcision and HIV prevention: Policy and programme implications</i> (WHO/UNAIDS, 2007)	Provides guidance to policy makers and programme managers on issues that need to be considered and addressed when planning for programme scale-up.
<i>Operational guidance for scaling up male circumcision services for HIV prevention</i> (WHO/UNAIDS, 2009)	Provides operational and programmatic guidance to decision-makers, programme managers and technical support agencies on scaling up programmes in the public and private sectors.
<i>Male circumcision quality assurance: A guide to enhancing the safety and quality of services</i> (WHO, 2008)	Outlines the roles and responsibilities of national and district programme managers for implementing safe, quality male circumcision services. It also provides guidance for the planning of a national quality assurance programme. It defines ten quality standards against which the quality of services can be measured and used as part of a continuous process of service improvement.

<sup>1</sup>[http://www.who.int/surgery/publications/scdh\\_manual/en](http://www.who.int/surgery/publications/scdh_manual/en)

<p><i>Male circumcision services quality assessment toolkit (WHO, 2009)</i></p>	<p>This is used by facility managers and providers to assess their performance. It can also be used by national and district managers to conduct external assessments of facilities. The toolkit includes a scoring tool, where users can enter assessment findings and monitor progress towards meeting the standards.</p>
<p><i>Considerations for implementing models for optimizing the volume and efficiency (MOVE) of male circumcision services for HIV prevention (PEPFAR)</i></p>	<p>Provides guidance on the MOVE model, developed in South Africa, to help programmes improve the efficiency of clinical and surgical activities so that they can strengthen their capacity to meet demand for male circumcision services. It addresses clinical techniques, staffing, facility space, client scheduling and flow, commodities management, cost efficiencies and quality assurance. It also includes detailed model lists of equipment and supplies required to support a male circumcision programme.</p>
<p><i>A guide to indicators for male circumcision programmes in the formal health care system (WHO, 2009)</i></p>	<p>Lists indicators that programmes can use to monitor and evaluate progress towards their programme objectives. Adaptable to different country situations, the guide includes indicators of demand for, and supply of, male circumcision services, as well as measures to assess secondary effects of the programme, such as changes in sexual behaviours at the individual and community levels.</p>

### 1.3. TARGET AUDIENCE AND SCOPE

These guidelines are intended for use by health care workers responsible for performing MMC, as well as DOH officials, nongovernmental organisations and various implementing partners responsible for the implementation of MMC. It provides step-by-step guidance on the performance of MMC and various aspects related to counselling, surgical procedures, quality assurance, supplies and operational issues. The content of these guidelines was reviewed by experts and providers of male circumcision services representing a range of health care settings.

## 1.4. STRUCTURE AND CONTENT

The document comprises non-clinical (Chapters 1 – 4), clinical (Chapters 5 – 9) and managerial (Chapter 10) sections. The non-clinical chapters provide a background on MMC and HIV infection, describe HIV testing services and linking MMC to HIV services and male sexual and reproductive health services and provide guidance on MMC counselling and informed consent. The clinical chapters describe the procedures required prior to surgery, the surgical techniques for adults and children, post-operative care and prevention of infection. The managerial chapters describe the procedures required to manage a circumcision service including programme planning, monitoring and evaluation, quality assurance and supportive supervision.

**Chapter 1:** The introduction that describes the background, context, target audience for the guidelines

**Chapter 2:** Outlines the benefits and risks of male circumcision, the targeted population and linkages with circumcision in traditional settings

**Chapter 3:** Summarises linkages between male circumcision and other male sexual and reproductive health services.

**Chapter 4:** Gives guidance on education, counselling and obtaining informed consent. It outlines the legal age of consent as stipulated in the legislation.

**Chapter 5:** Outlines the requirements for facilities and supplies, screening and preparation of patients for surgery including pre-operative procedures.

**Chapter 6:** Provides guidance on the surgical procedure for adults and adolescents

**Chapter 7:** Provides guidance on the surgical procedure for infants and children

**Chapter 8:** Gives guidance on the post-operative care and management of complications

**Chapter 9:** Summarises processes for prevention of infection and disposal of waste

**Chapter 10:** Gives guidance on the management of a circumcision service

### Annexures

# 2

## **TARGET POPULATION, BENEFITS AND RISKS OF MALE CIRCUMCISION**



## SUMMARY

- *Medical male circumcision is the complete surgical removal of the foreskin.*
- *Target population is 15-49 year old HIV negative males. Those between 10-14 years can be circumcised if they present voluntarily and meet the eligibility criteria.*
- *Benefits of male circumcision include: reduced risk of urinary tract infections in children*
  - *reduced risk of ulcerative STIs in adults*
  - *protection against prostate and penile cancer*
  - *reduced risk of cervical cancer in female sex partners*
  - *prevention of balanitis, posthitis, phimosis and paraphimosis*
- *Complication rates after medical male circumcision (MMC) are very low if performed by well-equipped and trained health care providers.*
- *There is a lower risk of HIV infection in circumcised men*
  - *Several regional and global studies since the 1980s have noted a lower risk of HIV infection in circumcised men, as well as lower HIV prevalence in populations where male circumcision is common.*
  - *Randomised controlled trials in South Africa, Kenya and Uganda have demonstrated that male circumcision reduces a man's risk of HIV infection by 60%*

## 2.1. INTRODUCTION

### 2.1.1. What is male circumcision?

Male circumcision is the surgical removal of the foreskin, which is the fold of skin that covers the head of the penis. It is widely practised for religious and traditional reasons, often within the first two weeks after birth, or at the beginning of adolescence as a rite of passage into adulthood. It is also done for medical reasons to treat problems involving the foreskin.

### 2.1.2. How male circumcision is performed

During male circumcision, the foreskin is freed from the head of the penis (glans) and removed. In a newborn baby, circumcision is simpler and quicker than in adolescents and adults. Superficial wound healing after male circumcision in adults generally takes 5 – 7 days. However, about 4 – 6 weeks are needed for the wound to heal fully. In babies and young boys, the healing time is considerably shorter, around one week.

### 2.1.3. Target population for MMC

The target population for MMC is 15-49 year old HIV negative males. The preliminary findings of the recent MMC investment case conducted in South Africa provided a list of interventions and technical efficiency (TE) factors. The findings revealed that targeting age groups with the greatest risk of future exposure impacted efficiency.

Age group	Outcome & Recommendation
20-35 years	Resultant Impact - Immediate, prioritise for demand creation
15-19 years	Resultant Impact - Will be shown in next 15 years, should be prioritised after age group 20-35 years
10-14 years	No demand creation but they should not be turned away if they present for MMC services voluntarily  Caution should be applied when doing MMC in the 10-14 year age group as the risk of injury in this age group is high. It is recommended that the dorsal slit method should be performed in this age group by a service provider trained to perform this procedure in children

Circumcision will be done for all eligible males presenting at the MMC services, regardless of the age. Prioritisation only refers to demand creation, and not access to MMC services.

MMC, when performed in HIV negative males, reduces the risk of HIV infection as the foreskin's target cells that are vulnerable to HIV infection are removed. In addition MMC also reduces the risk of genital ulcers. There is a reduction in the risk of men acquiring HIV from their female partners.

However, for HIV positive men, MMC does not reduce their risk of transmitting HIV to their sexual partners. Furthermore, if men who are already HIV positive become circumcised, it will not reverse their HIV positive status.

All men who request circumcision to reduce their risk of HIV infection should be offered an HIV test.

MMC services will be provided as an integral part of male sexual and reproductive health services and will embrace HIV prevention, care and treatment.

#### Known HIV positive men presenting for MMC:

- should not be turned away
- should be informed that MMC is an HIV prevention intervention and that it has very limited benefits on those that are already HIV infected
- if they still wish to be circumcised, they should be offered MMC only at the recommendation of an HIV clinician after having considered their total health status

Those who test positive for the first time while presenting for MMC services:

- should also be informed that MMC is an HIV prevention intervention
- should be referred for further investigation at an HIV facility and can come back for MMC at a recommendation of a clinician treating them for HIV

## 2.2. BENEFITS AND RISKS

The necessity for male circumcision is a subject of heated debate in many countries. In some settings male circumcision is widely performed for religious or cultural reasons, while in others it is performed mainly for medical reasons. Every potential client or parent has to get full information about the benefits and risks of circumcision to make an informed decision.

Voluntary male medical circumcision (VMMC) services add value by connecting men to health care and offering them, at a minimum, a package of services including education on safer sex, access to condoms and HIV testing and counselling services, with links to HIV care and treatment.

The decision of a male to be circumcised, or the decision of a parent to have his or her son circumcised, should not only be based on culture, religion or personal preference, but should also be informed by information provided by a health care worker.

### 2.2.1. Benefits

If male circumcision is being done for reasons other than the treatment of a medical problem, health benefits are primarily preventive, and may only be accrued long after the procedure. Male circumcision may reduce the risk of getting some infections and related complications, but does not guarantee complete protection. Some of these conditions are common, while others are less so, and the degree of risk for the person is likely to depend on his behaviour and where he lives. Medical male circumcision offers excellent value for money in high HIV prevalence settings. It saves costs by averting new HIV infections and reducing the number of people needing HIV treatment and care.

### Benefits of Male Circumcision (the strength of the evidence varies by disease):

- It is easier to keep the penis clean
- It reduces the risk of urinary tract infections in childhood<sup>25</sup>
- It prevents balanitis and posthitis
- It prevents the potential development of scar tissue on the foreskin, which may lead to phimosis and paraphimosis
- It reduces the risk of some STIs, especially ulcerative diseases like chancroid and syphilis<sup>26,27</sup>
- It reduces the risk of getting infected with HIV<sup>28,29,30,31,32</sup>
- It reduces the risk of penile cancer<sup>33,34</sup>
- It reduces the risk of cancer of the cervix in female sex partners<sup>35</sup>
- It reduces the risk of prostate cancer

### 2.2.2. Risks

As with any surgical procedure, there are risks associated with male circumcision. While the benefits of male circumcision may be wide-ranging and long-term, any problems generally occur during or soon after the procedure.

#### Risks of Male circumcision:

- pain
- bleeding
- haematoma
- infection at the site of the circumcision
- increased sensitivity of the glans penis for the first few months after the procedure
- irritation of the glans
- meatitis
- injury to the penis
- adverse reaction to the anaesthetic used during the male circumcision

These complications are rare when the circumcision is done by well trained, adequately equipped, experienced health care personnel, and are usually easily and rapidly resolved. Data from controlled trials show that fewer than 1 in 50 circumcisions result in complications.<sup>27,29</sup>

## 2.3. MALE CIRCUMCISION AND HIV INFECTION

### 2.3.1. A comprehensive prevention package of services

Male circumcision is a proven intervention that offers partial protection against sexually acquired HIV in men. WHO and UNAIDS in 2007 recommended that it should always be considered as part of a comprehensive HIV prevention package.<sup>36</sup>

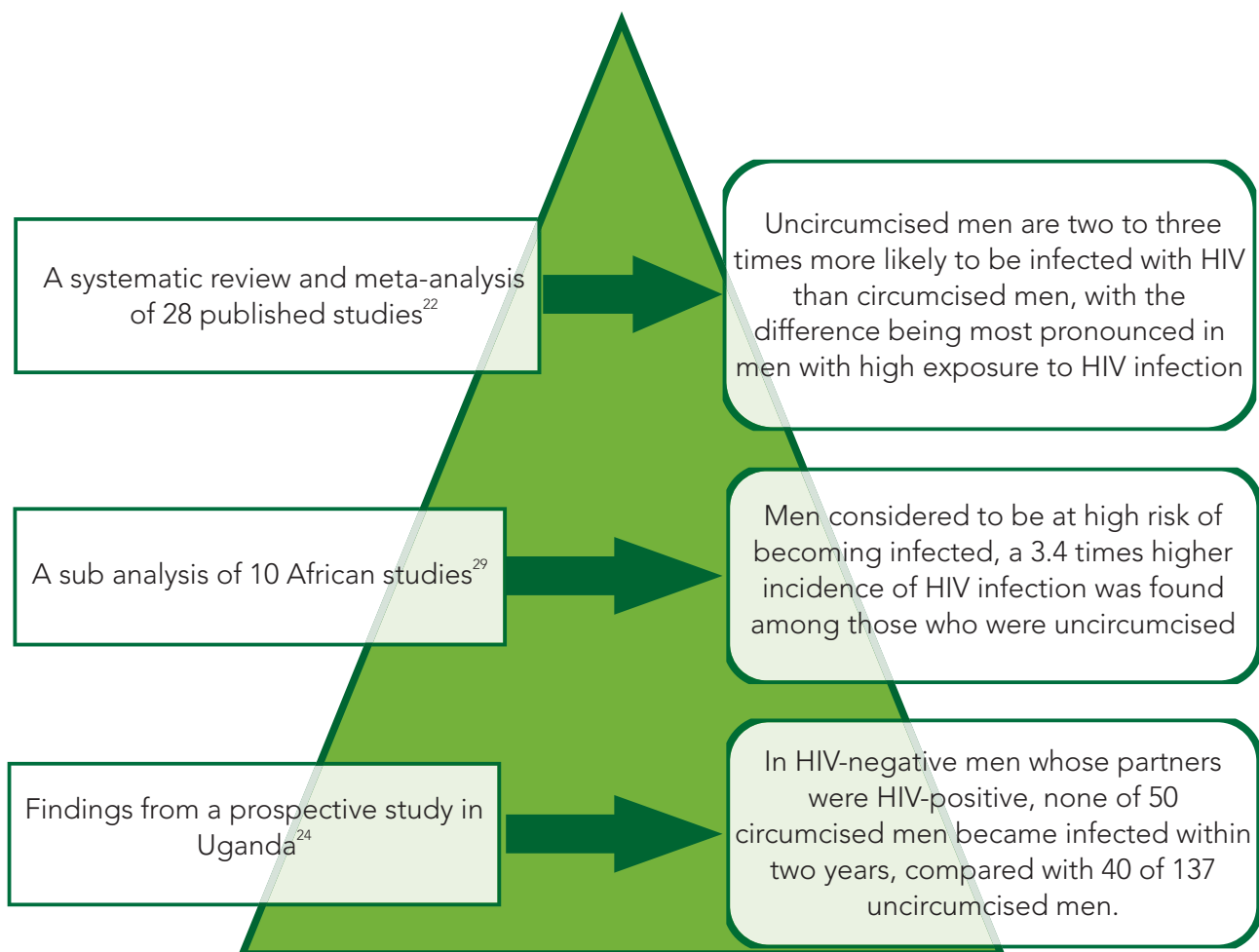
#### A comprehensive HIV Prevention Package includes:

- HIV testing and counselling
- Provision of female or male condoms and promotion of their correct and consistent use
- Active exclusion of symptomatic STIs and syndromic treatment where required
- Counselling on risk reduction
- Promotion of safer sexual practices, such as avoidance of penetrative sex
- Male circumcision surgical procedures performed as described in these guidelines



### 2.3.2. The evidence linking male circumcision and HIV

A summary of the evidence linking male circumcision and a reduced incidence of HIV infection is presented below:



### 2.3.3. Male circumcision and regional differences in HIV prevalence

The sub-Saharan Africa regions where men are more commonly circumcised overlap with areas of lower HIV prevalence. An extensive UNAIDS study investigated behavioural and other factors that could explain the differences in HIV prevalence across different African regions.<sup>37</sup> A low prevalence of male circumcision and a high prevalence of genital herpes (which is more common in uncircumcised men) emerged as the principal determinants of the differences in HIV rates.

Table 2.1 shows the prevalence of HIV infection in several countries with low or high rates of male circumcision. Countries in sub-Saharan Africa where male circumcision is common (more than 80%) generally have HIV prevalence levels well below those of countries where male circumcision is less common (less than 20%), despite the presence of other risk factors for heterosexual HIV transmission, such as high frequency of multiple sexual partners, low rates of condom use and high prevalence of other STIs. HIV prevalence in the countries of south and south-east Asia where nearly all men are circumcised (Bangladesh, Indonesia, Pakistan, Philippines) remains low, despite patterns of risk factors for HIV and other STIs similar to those found elsewhere in the region.

**Table 2.1 HIV prevalence according to rates of male circumcision**

Low circumcision rate (<20%)		High circumcision rate (>80%)	
Country	HIV prevalence (%)	Country	HIV prevalence (%)
<i>Sub-Saharan Africa</i>			
Botswana	24.1	Benin	1.8
Malawi	14.1	Cameroon	5.4
Mozambique	16.1	Democratic Republic of Congo	3.2
Namibia	19.6	Gabon	7.9
Rwanda	3.1	Gambia	2.4
Swaziland	33.4	Ghana	2.3
Zambia	17.0	Guinea	1.5
Zimbabwe	20.1	Kenya	6.1
		Liberia	5.9
		Nigeria	3.9
		Sierra Leone	1.6
<i>South and south-east Asia</i>			
Cambodia	1.6	Bangladesh	<0.1
India	0.9	Indonesia	0.1
Myanmar	1.3	Pakistan	0.1
Nepal	0.5	Philippines	<0.1
Thailand	1.4		
Source: Updated from Halperin & Bailey, <sup>38</sup> using most recent UNAIDS data. <sup>39</sup>			

### 2.3.4. Randomised controlled trials to assess the efficacy of male circumcision in reducing risk of HIV infection

Studies have demonstrated the efficacy of male circumcision in reducing HIV infection as described below:

2005	<p><b>Orange Farm Intervention Trial in South Africa</b></p> <p>A total of 3 274 HIV uninfected men, aged between 18 and 24, were randomly assigned to undergo circumcision either immediately or after 21 months. The incidence of HIV infection was 60% lower among those who were circumcised.<sup>5</sup></p>
2007	<p><b>Randomised Control Trials: Kisumu, Western Kenya and Rakai, Uganda</b></p> <p>Random allocation of HIV-negative volunteers to either immediate circumcision, done by trained medical professionals in a clinic (intervention group), or circumcision delayed for two years (control group)</p> <p>Kisumu Trial: performed among men aged between 18 and 24, the study showed a 53% reduction in HIV incidence.<sup>7</sup></p> <p>Rakai Trial: performed among men aged between 15 and 49, the study showed a 51% reduction in HIV incidence.<sup>6</sup></p>
2007-2010	<p><b>ANRS study 12126, Orange Farm, South Africa</b></p> <p>Between 2007 and 2010, the percentage of circumcised men increased from 16% to 50% in the 15 to 49 age group, peaking at 59% in the 15 to 24 age group. There were no differences between circumcised and uncircumcised men in terms of condom use. However, in circumcised men, there were reductions of 55% in HIV prevalence and 76% in HIV incidence. The study also showed that if no man had been circumcised in this community over this period, HIV prevalence and incidence would have been 25% and 58% higher respectively.<sup>12</sup></p>
2012	<p><b>Uganda trial</b></p> <p>5 year post-trial follow-up revealed high effectiveness has been maintained among the men who were circumcised, with a 73% protective effect against HIV infection.<sup>17</sup></p>

### 2.3.5. Possible biological explanations for the protective effect of male circumcision

The primary cells through which HIV enters the body are Langerhans cells. These cells are present in high density in the epithelium of the inner foreskin, and are close to the surface because the layer of keratin is thin.<sup>40,41</sup>

In an in vitro study, viral uptake by cells from the mucosal surface of foreskin was seven times more efficient than that by tissue from the female cervix.<sup>42</sup> The inner mucosal surface of the foreskin lacks the thick layer of keratin that covers most exposed skin. This leaves numerous mucosal Langerhans cells and other immune cell targets easily accessible to HIV infection.<sup>43</sup>

The highly vascularised foreskin mucosa, and in particular the frenulum, can tear and bleed during intercourse. These micro-injuries allow easy access of HIV to the bloodstream.

Another factor that may help entry of the virus is the presence of an ulcerative STI, such as herpes simplex, chancroid or syphilis, which tend to be more common in uncircumcised men.

### 2.3.6. Protection for women

A study in Uganda showed lower rates of male-to-female transmission of HIV if the man was circumcised. Among 47 couples in which the circumcised male partner was infected with HIV and whose viral load was below 50 000 copies per ml, none of the female partners became infected in two years. By contrast, 26 of the 147 women whose HIV-infected partners were not circumcised became infected.

A subsequent randomised controlled trial of circumcision among men with HIV infection did

not confirm this result. It showed there might be a higher risk of HIV transmission to women in the first two years after the operation.<sup>44</sup>

A further observational study has shown a 40% lower risk of HIV infection in couples where the male partner was infected and the female partner not infected with HIV, but the risk reduction was not significant.<sup>45</sup>

### 2.3.7. Other health benefits of circumcision

A multi-country study found a lower prevalence of human papillomavirus (HPV) infection in circumcised men than in uncircumcised men.<sup>46</sup> HPV infection is a necessary causal factor for cervical cancer and is associated with an increased risk of cancer of the vulva, vagina and anus in women, and of the penis and anus in men. Prospective studies have shown that circumcised men are less likely to have HPV infection.<sup>47,48,49</sup>

Carcinogenic subtypes of HPV which are believed to cause 100% of cervical cancers, 90% of anal cancers, and 40% of cancers of the penis, vulva, and vagina have also been associated with lack of circumcision in men.<sup>50</sup> In a South African trial, circumcision was also associated with a lower prevalence of high-risk HPV subtypes.<sup>51</sup> These prevalence associations may result from an effect of circumcision on HPV acquisition by men, its persistence, or both. The Ugandan RCT also found incidence of high-risk HPV infection among women to be lower among those with circumcised male partners.<sup>52</sup>

The incidence of penile cancer is significantly lower in circumcised men than in uncircumcised men, though this condition is extremely rare.<sup>53,34</sup>

### 2.3.8. Acceptability of circumcision among African men

Surveys and qualitative studies among young as well as older men in six African countries have found that a considerable proportion expressed interest in circumcision, ranging from 45% in Harare, Zimbabwe, to over 80% in a large survey in Botswana.<sup>54,55,56</sup> These studies show that many men would willingly undergo circumcision if it could be performed safely and at reasonable cost. In the surveys, the men reported that their main interest in circumcision was related to hygiene, infection control and, for some, a belief that condom use is easier for men who are circumcised.

Studies conducted in 2001 and 2002 in South Africa indicate high levels of acceptability of male circumcision amongst both men and women. More than 50% of men indicated that they are willing to undergo circumcision and more than 50% of women indicating that they would be in favour of male circumcision.<sup>57</sup> There was, however, lower acceptability amongst men who are circumcised within traditional settings.

## 2.4. TRADITIONAL MALE CIRCUMCISION

A review meeting of the African Ministers of Health at the 57th Session of the WHO Regional Committee in August 2007, agreed that the evidence in favour of MMC is compelling and endorsed the recommendations of the WHO/UNAIDS. They encouraged member states to consider and customise the recommendations to suit their local contexts. They noted that traditional male circumcision plays an important role in the African region and strongly recommended that regional and country consultations be

held to review and assess the role of traditional practitioners, determine synergies, investigate possible models of collaboration and make specific recommendations on their role to maximise the contribution of male circumcision to HIV prevention.

Male circumcision within traditional settings is regarded as a sacred and indispensable cultural rite intended to prepare initiates for the responsibilities of adulthood, and usually marks a transition from boyhood to manhood. This ritual is part of the indigenous knowledge systems that have been passed on from one generation to another in various communities. The details of what is taught during initiation are considered confidential and as such, have not been well documented. The actual cutting of the foreskin is usually performed by non-health individuals and may sometimes be only partially removed.

Government is trying to find ways of working with traditional leaders to make circumcision in these settings safe. Circumcising more than one person with the same instrument at the same time increases the risk of exposure to HIV and other infections and such procedures generally take place outside of formal medical settings. In these guidelines specific reference is made to different ways in which clinical and traditional male circumcision services can collaborate for better health outcomes. It is envisaged that this will improve the safety and acceptability of circumcision, reduce complications, enhance health education and improve the sexual and reproductive health of men, while preserving the sociocultural importance of the initiation process.



## Recommended process for male circumcision within traditional settings

- Identify health professionals to assist with health screening (counsellors, nurses, etc).
- Ensure all initiates undergo a health screen, including screening for non-communicable diseases prior to the initiation process. Allow sufficient time for referral and management of any condition.
- Establish clear referral mechanisms for screened initiates.
- Test all initiates for HIV prior to initiation and provide appropriate support and referral.
- Ensure that initiates who have been diagnosed with a medical condition obtain clearance from a medical doctor prior to undergoing circumcision and participating in the initiation process.
- It is recommended that medically trained doctors should do the surgical removal of the foreskin during the initiation process. (Using those who have undergone initiation improves acceptability).
- Allow medically trained male nurses to assist with wound care.
- Standardise training and include awareness on health issues and HIV prevention strategies for communities and initiation schools.
- Raise community awareness and promote health screening prior to initiation.
- If possible, separate the initiation process from the surgical removal of the foreskin, so that the ritual of initiation may not be compromised and at the same time, allow medical interventions to improve health outcomes of initiates.

# 3

## **LINKING MALE CIRCUMCISION TO OTHER MALE SEXUAL AND REPRODUCTIVE HEALTH SERVICES**

## SUMMARY

- *Men have different sexual and reproductive health needs at different ages.*
- *Male circumcision reduces the risk of acquiring HIV infection by 50–60%, but does not guarantee complete protection. It may also provide some protection against other sexually transmitted infections, such as syphilis and herpes, but offers little or no protection against gonorrhoea and chlamydia.*
- *Male circumcision does not prevent unwanted pregnancy. Comprehensive education and information programmes, and the provision of services for contraception and STI prevention and management, are needed to address male sexual and reproductive health issues.*
- *WHO and UNAIDS recommend that all men who request circumcision to reduce their risk of HIV infection should be offered an HIV test.*
- *The main goals for male sexual and reproductive health services include promoting responsible male sexual behaviour and encouraging men to support their female partners and children to meet their sexual and reproductive health needs.*
- *Sexual and reproductive health education and services are as important for men and adolescents as for women. Many people and organisations can provide information and services, including parents, teachers, non-governmental organisations, churches and youth groups, as well as health care providers in outpatient, family planning, STI and HIV clinics. Every opportunity to provide education and services should be taken.*
- *Male circumcision services for older boys and young men offer an opportunity to provide sexual and reproductive health education and counselling to these key groups.*

### 3.1. MEN'S SEXUAL AND REPRODUCTIVE HEALTH NEEDS AND SERVICES

For many men, accessing MMC services may be their first contact with health services. This contact offers an opportunity to address other aspects of men's sexual and reproductive health.

As noted in Chapter 1, male circumcision:

- does not give full protection against HIV, but can reduce the risk of infection by 50 to 60%
- gives little or no protection against STIs that affect the urethra, such as gonorrhoea and chlamydia
- does not give protection against HIV infection from unsafe injections, from infected blood products, or through receptive anal intercourse
- does not prevent pregnancy

Comprehensive education and information programmes are needed to prevent circumcised men potentially viewing themselves as immune to HIV infection and so increase their exposure to HIV, by ignoring other important strategies to reduce risk. Programmes on contraception and STI prevention services, management to reduce the risk of STIs, HIV, and unwanted pregnancy promote and educate on HIV risk reduction. These risk reduction strategies also include delaying the onset of sexual activity, reducing the number of sexual partners, and using condoms correctly and consistently every time they have sex.

In many societies where male circumcision is done at the beginning of adolescence, as a rite of passage to adulthood, the circumcision festival period is used also to educate young men about various health and social issues. These cultural traditions can be harmonised with modern clinical practice, to make male circumcision safe, and to educate the young men about several sexual and reproductive health issues.

Male circumcision should be seen as an entry point for sexual, reproductive and other health services for men (Fig. 3.1). These services include:

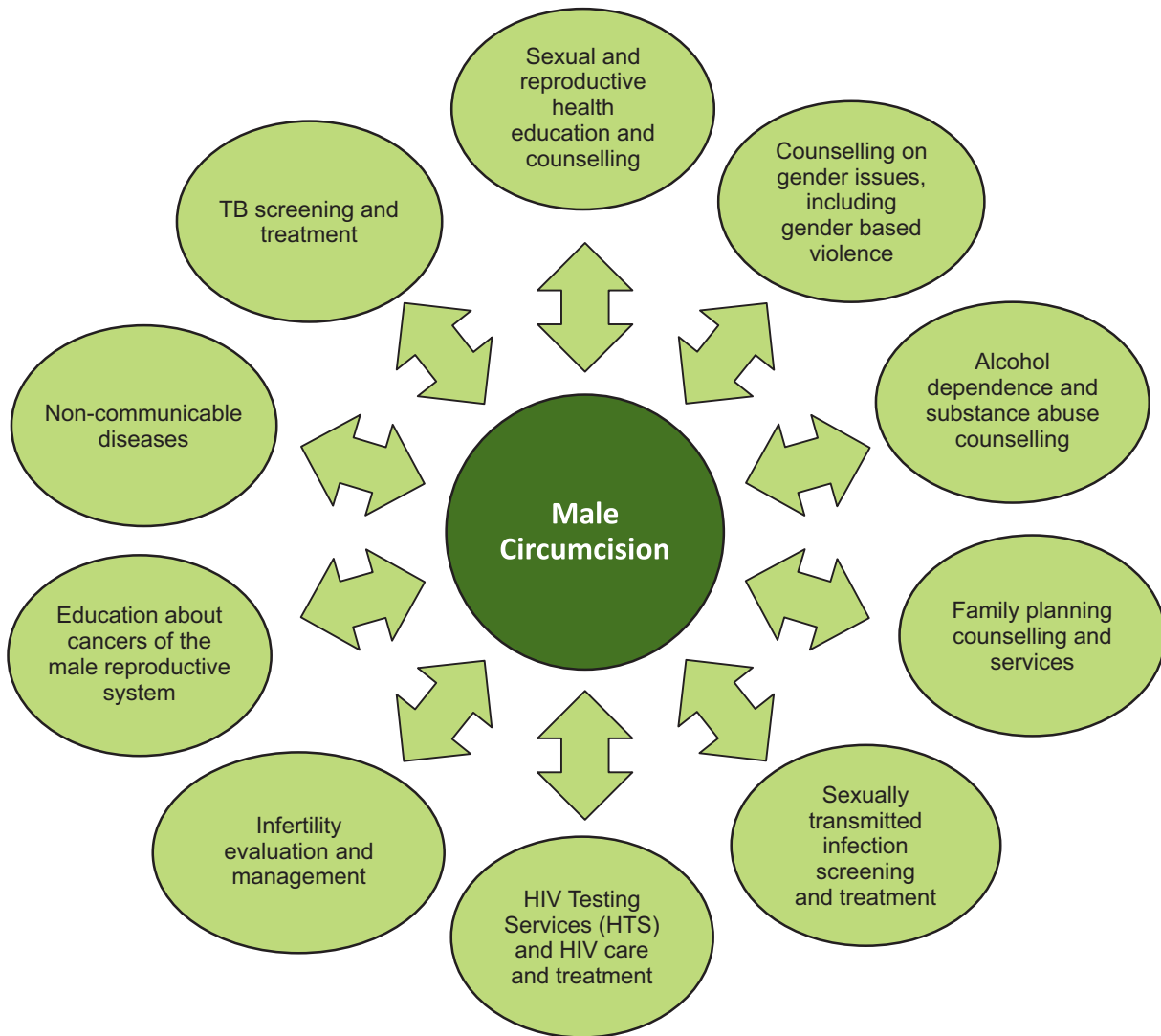
#### Counselling and Education

- sexual and reproductive health education and counselling
- counselling and testing for HIV (with referral for care and support for those testing positive)
- family planning education, counselling and services, including provision of condoms, lubricants and vasectomies
- counselling on gender issues, including promotion of respect for women's and girls' sexual and reproductive health needs and rights and the importance of preventing gender-based violence
- counselling for alcohol dependence and other substance abuse, which are associated with a number of health risks
- education about cancers of the male reproductive organs (testes, penis and prostate)

#### Screening and Treatment

- screening and treatment for TB and STIs
- evaluation and management of infertility
- screening for non-communicable diseases (NCDs) mainly hypertension and diabetes

*No opportunity should be missed for education and counselling about male sexual and reproductive health issues*



**Figure 3.1 Male circumcision as an entry point to other health services**

### 3.1.1. HIV Testing Services (HTS)

**All men who request circumcision to reduce their risk of HIV infection should be offered HIV counselling and testing.**

When known HIV positive men present for MMC, they should not be turned away. Instead, they should be informed that MMC is an HIV prevention intervention and that it has very limited benefits on men that are already HIV infected. If they still wish to be circumcised, they should be offered MMC only at the

recommendation of an HIV clinician after having considered their total health status and ensured the CD4 count  $\geq 350$ mmol/L. This is an opportunity to check if they are virally suppressed and whether they are still retained in care so that they can be referred appropriately.

For those who test positive for the first time while presenting for MMC services, they should also be informed that MMC is an HIV prevention intervention and they can be offered MMC if their CD4 is  $\geq 350$ , at the



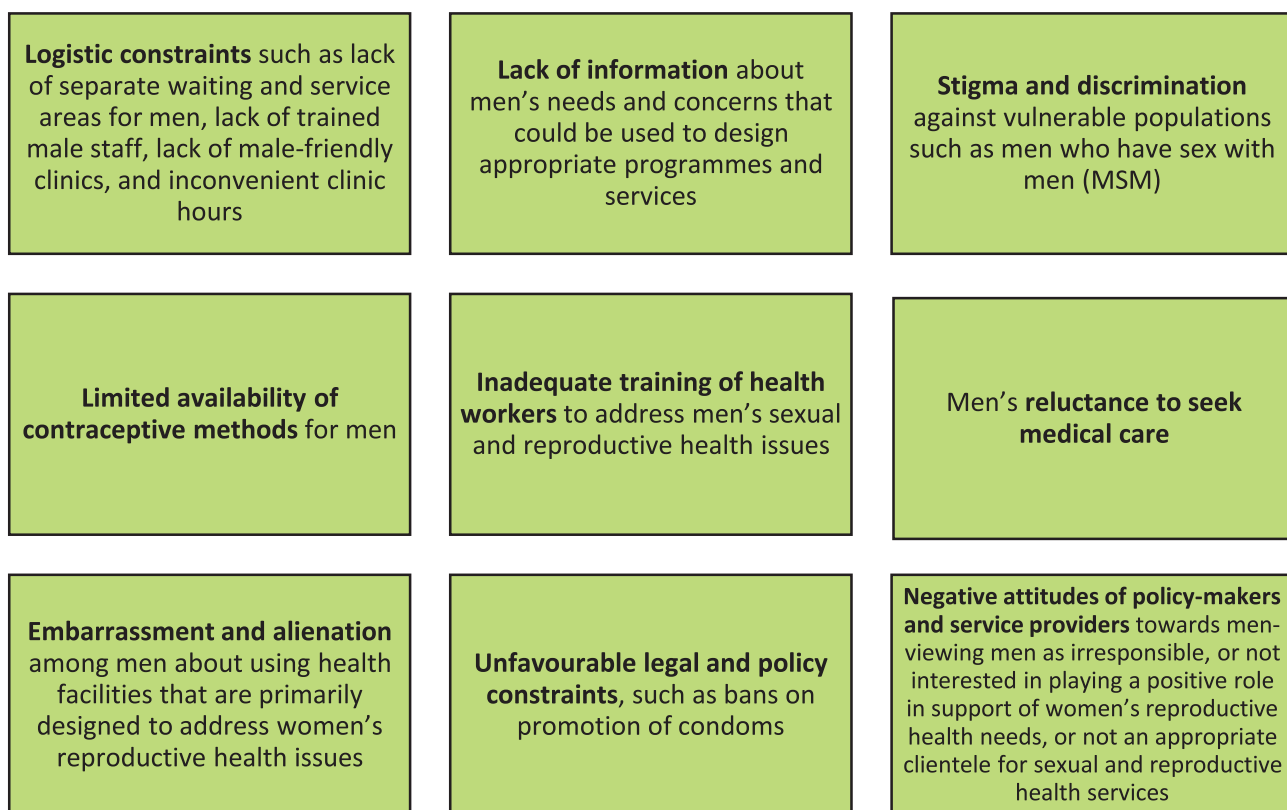


recommendation of an HIV clinician after having considered their total health status. They should be effectively linked to HIV care for further investigation at an HIV facility. MMC services will be provided as an integral part of male sexual and reproductive health services and will embrace HIV prevention, care and treatment.

All clients who come into contact with the health care system should be offered routine HIV counselling with optional opt-out for testing, without affecting the care and services they receive. Knowledge of HIV status is important, so that those infected can seek advice, support and proper care, and can take measures to avoid passing the infection to others. Care includes prophylaxis with cotrimoxazole to reduce the risk of *Pneumocystis pneumonia* (PCP) and the rate of progression to acquired immunodeficiency syndrome (AIDS), as well as antiretroviral treatment when indicated.

### 3.1.2. Barriers to male sexual and reproductive health services

There are several barriers to the development and use of reproductive health services for men, including:



These barriers must be addressed if men are to become more involved in sexual and reproductive health matters.

### 3.2. MEETING MEN'S SEXUAL AND REPRODUCTIVE HEALTH NEEDS

Access to sexual and reproductive health services is a human rights issue for every person – young or old. The lack of services to address the sexual and reproductive health needs of men contributes to their stress and anxiety.<sup>59</sup> Various strategies have been used to extend sexual and reproductive health services to men, and to engage them as partners in improving women's sexual and reproductive health, including the following:

- services for men may be offered in existing clinic-based services;
- separate services may be established to provide information, education and counselling on sexuality, physiological development, family planning, STIs and HIV, genital health and hygiene, interpersonal communication, and sexual and reproductive behaviour; and
- special services may be established to offer diagnosis and treatment of sexual dysfunction, STIs and HIV, cancer of the prostate, testes and penis, and medical indications for male circumcision.

Other approaches include:

- community-based distribution and social marketing of condoms
- getting information and services to men through the workplace, the military and men's groups
- special outreach campaigns to young men
- educational campaigns through the media
- special initiatives, such as outreach through football matches or other popular sporting events
- promotion of vasectomy



### 3.3. MEN'S ROLES IN WOMEN'S AND CHILDREN'S HEALTH

Men can influence women's health in numerous ways.<sup>60</sup> As husbands, boyfriends, fathers, brothers, and friends, men can have a positive effect on women's health by:

<b>Supportive Role</b>	<ul style="list-style-type: none"> <li>• supporting the use by partners, of contraception, so that couples are better able to control the number and timing of their children;</li> <li>• supporting women during pregnancy, childbirth and after the birth;</li> <li>• supporting women to take decisions about their health without reference to their partner;</li> <li>• responding to women's physical and emotional needs before and after miscarriage and abortion;</li> <li>• supporting women's full participation in civil society, including their access to social, political and educational opportunities, many of which have a direct or indirect impact on women's health; and</li> <li>• supporting the rights of daughters to the same health care, education, and respect as sons.</li> </ul>
<b>Role in Prevention</b>	<ul style="list-style-type: none"> <li>• preventing the spread of STIs by using condoms consistently and correctly and supporting and encouraging others to use condoms regularly;</li> <li>• refraining from, and insisting others avoid and prevent, all forms of violence against women and girls;</li> <li>• working to end harmful sexual practices, such as female genital mutilation and "dry sex"; and</li> <li>• sharing financial resources with women, and supporting the notion of shared property rights.</li> </ul>

#### 3.3.1. Who should provide sexual and reproductive health services and information to boys and men?

Many people and organisations can give sexual and reproductive health services and information to boys and men. Some of the key providers are listed below.<sup>61</sup>

Key Providers	Role
<b>Parents</b>	Ideally, boys and young men should get information and basic education on sexual and reproductive health from their parents. However, available data suggest that less than half of boys and young men discuss HIV/AIDS, STIs or family planning with their parents.
<b>Teachers</b>	Many adolescent boys now receive some education on health, family life and sexuality at school. However, for some, the instruction comes after they are sexually active.

Key Providers	Role
<b>Peers</b>	Boys and men of all ages often get information on sexual and reproductive issues from their peers. Much of this information, however, may be inaccurate. One approach is to educate key youth leaders, who can then pass on accurate information to their peers. This has to be an ongoing process, to reach each new generation or group of young men.
<b>Community-based organisations</b>	Places of worship and youth groups are important sources of information, and also provide an opportunity for counselling and skill-building about sexuality, relationships, marriage and parenting. In some cases, the only method taught for preventing pregnancy and STIs is sexual abstinence, despite the fact that young people find it difficult to adhere to abstinence. So, they may not know how to protect themselves from risk when they become sexually active <sup>62,63</sup>
<b>Family Planning clinic</b>	Some family planning clinics reach out to men, particularly to the partners of their female clients. The availability of male health care providers and separate consultation sessions for men may encourage men to use these services. Although family planning clinics have a long history of providing both medical and counselling services, many men see them as being only for women; equally, some providers may be uncomfortable serving men.
<b>Youth-friendly services</b>	Make existing services more welcoming and accessible to young people. Such programmes are an important way of reaching young men who often feel excluded from family planning and other reproductive health services.
<b>STI clinics</b>	These facilities have much experience addressing sexual health matters, and many men are comfortable seeking services in such settings. However, STI clinics tend to focus on treatment and secondary prevention. Primary prevention of STIs must, therefore, be addressed in other ways.
<b>HIV services</b>	HIV testing services can also provide counselling on sexual and reproductive health. If such centres are integrated within primary health care services, they can also provide some sexual and reproductive health services. Facilities providing care for patients with HIV infection and AIDS also can play a role in promoting sexual and reproductive health for men, women and young people.
<b>Physicians, clinical officers, nurses and other health care professionals</b>	Health care professionals play a critical role, not just as health care providers, but also as educators and counsellors. <ul style="list-style-type: none"> <li>▪ Urologists and other specialists commonly deal with certain aspects of male sexual and reproductive health, such as diagnosing and treating prostate cancer and performing circumcision or vasectomy.</li> <li>▪ Primary care physicians treat large numbers of men for their general health needs, but may not have the necessary training to provide comprehensive sexual and reproductive health education and services, or be comfortable doing so.</li> <li>▪ Staff providing male circumcision services should be trained to educate and counsel men about their sexual and reproductive health, and should make the time to do this.</li> <li>▪ Male circumcision services provide a unique opportunity to reach men with education and counselling about sexual and reproductive health.</li> </ul>

### 3.4. DETECTION AND TREATMENT OF SELECTED MALE SEXUAL AND REPRODUCTIVE HEALTH PROBLEMS



Some common sexual and reproductive health problems in men are:


- Sexually transmitted infections
- Balanitis
- Phimosis
- Paraphimosis
- Urinary Tract infections
- Infertility

These conditions are described below:

Condition	Cause	Symptoms/ Signs and Diagnosis	Treatment
<b>3.4.1.</b> <b>Sexually transmitted infections</b>	<ul style="list-style-type: none"> <li>• gonorrhoea</li> <li>• chlamydial infection (this is the commonest cause of non-gonococcal urethritis)</li> <li>• balanitis caused by <i>Candida albicans</i></li> <li>• trichomoniasis</li> <li>• chancroid (soft chancre)</li> <li>• syphilis</li> <li>• lymphogranuloma venereum</li> <li>• granuloma inguinale (donovanosis)</li> <li>• genital herpes</li> <li>• genital warts (condylomata acuminata)</li> </ul>	<ul style="list-style-type: none"> <li>• pain on urination</li> <li>• a burning sensation in the penis, or an ulcer on the genitals</li> <li>• urethral discharge or pain when passing urine</li> </ul> <p>Examine for evidence of a discharge. If none is seen, the urethra should be gently massaged from the ventral part of the penis towards the meatus.</p> <p>Diagnosis: Examination of a urethral smear under a microscope may show an increased number of polymorphonuclear leukocytes. In men, more than 5 polymorphonuclear leukocytes per high-power field (×1000) is indicative of urethritis. A Gram stain may demonstrate the presence of gonococci.</p>	<p>Urethral discharge or genital ulcer managed according to local treatment guidelines and procedures (syndromic approach)</p> <p>Non-medically indicated male circumcision should be delayed until the condition has been satisfactorily resolved.</p>



Condition	Cause	Symptoms/ Signs and Diagnosis	Treatment
<p><b>3.4.2. Phimosis</b></p>  <p><i>Figure 3.2 Phimosis showing that the foreskin cannot be retracted at erection.</i></p>	<ul style="list-style-type: none"> <li>infection (balanitis)</li> <li>scar tissue caused by injury or chronic inflammation</li> </ul>	<ul style="list-style-type: none"> <li>can occur at any age and may be present at birth</li> <li>the foreskin of the penis is so tight that it cannot be pulled back (retracted) from the head of the penis</li> <li>dead skin cells, smegma (a white substance excreted by small glands around the corona of the glans penis) and bacteria accumulate under the foreskin</li> <li>it is difficult to keep the area clean and inflammation can easily develop</li> <li>a tight phimosis can interfere with urination, resulting in a thin urinary stream</li> <li>in extreme cases, urine may collect between the foreskin and the glans, which balloons the foreskin</li> </ul>	<p>In the case of tight phimosis- male circumcision is necessary urgently, usually using the dorsal slit method.</p> <p>If seen at a peripheral health facility, adult patients with phimosis should be referred to a higher level of care for proper assessment and treatment; which will usually involve circumcision.</p>
<p><b>3.4.3. Balanitis</b></p>  <p><i>Figure 3.3 Balanitis</i></p>	<ul style="list-style-type: none"> <li>Phimosis</li> <li>Dermatitis</li> <li>Infection with the yeast <i>Candida albicans</i></li> <li>Certain STIs (including gonorrhoea, herpes and syphilis)</li> <li>Diabetes</li> </ul>	<ul style="list-style-type: none"> <li>inflammation of the foreskin and the glans of the penis</li> <li>redness or swelling</li> <li>itching and rash often caused by an irritating substance or an allergic reaction to chemicals in products such as soaps, detergents, perfumes and spermicides or a yeast infection,</li> <li>pain, and foul-smelling discharge</li> <li>Can occur if the sensitive inside surface of the foreskin is not washed regularly</li> <li>Condition occurs most often in men and boys who have not been circumcised and who have poor personal hygiene</li> <li>In diabetics, glucose (sugar) in the urine that is trapped under the foreskin is a breeding ground for bacteria</li> </ul>	<ul style="list-style-type: none"> <li>depends on the underlying cause</li> <li>treatment should include an appropriate antibiotic or antifungal medication, according to national guidelines</li> <li>if severe or persistent inflammation, or if there is difficulty in retracting the foreskin, circumcision is usually recommended</li> <li>good personal hygiene can help prevent balanitis</li> <li>patient should be advised to avoid strong soaps or chemicals, especially those known to cause a skin reaction</li> </ul>

Condition	Cause	Symptoms/ Signs and Diagnosis	Treatment
<p><b>3.4.4. Paraphimosis</b></p>  <p><b>Figure 3.4 Paraphimosis - A tight band of foreskin constricts the shaft of the penis; the foreskin is swollen with oedema beyond the band.</b></p>	<ul style="list-style-type: none"> <li>usually occurs when the penis is erect and during sexual intercourse</li> <li>the retracted foreskin cannot be put back in place because of swelling</li> </ul>	<ul style="list-style-type: none"> <li>the tightening of the retracted foreskin causes more swelling</li> <li>untreated the condition can cause serious complications, such as skin loss and infection</li> <li>in extreme cases, it could result in loss of the penis</li> </ul>	<p>Referral to the district hospital for emergency treatment In the case of acute paraphimosis:</p> <ul style="list-style-type: none"> <li>Wrap the swollen area in gauze and apply increasing pressure on the gauze to squeeze the tissue fluid (oedema) out of the penis.</li> <li>This may take 10 to 15 minutes.</li> <li>Once the fluid has been squeezed out, it is usually possible to replace the foreskin over the glans.</li> <li>The patient can then be medically circumcised in a planned procedure a few days later.</li> </ul> <p>If this procedure fails, or in cases of chronic paraphimosis, the man should be sent to the nearest surgical referral centre.</p>

Condition	Cause	Symptoms/ Signs and Diagnosis	Treatment
<b>3.4.5. Urinary tract infections</b>	<ul style="list-style-type: none"> <li>• bacterial infections</li> <li>• kidney or bladder stones</li> </ul>	<ul style="list-style-type: none"> <li>• frequent urge to urinate</li> <li>• pain and a burning feeling in the area of the bladder or urethra during urination (dysuria)</li> <li>• feeling tired, shaky, and weak (malaise)</li> <li>• feeling pain in the bladder or urethra even when not urinating</li> <li>• passing only a small amount of urine, despite an intense urge to urinate</li> <li>• milky or cloudy urine; sometimes urine may be reddish, indicating that blood is present</li> <li>• fever (suggesting that the infection has reached the kidneys)</li> <li>• pain in the back or side, below the ribs</li> <li>• nausea</li> <li>• vomiting</li> </ul> <p>Should be distinguished from urethral discharge caused by an STI.</p>	<p>Recurrent urinary tract infection or infections not responding to treatment at the first level of care, should be referred for further investigations</p>

Condition	Cause	Symptoms/ Signs and Diagnosis	Treatment
<p><b>3.4.6. Infertility</b></p>	<p>Infertility is defined as failure to conceive after at least 12 months of unprotected vaginal intercourse.</p> <p>Infertility can be caused by:</p> <ul style="list-style-type: none"> <li>• STIs</li> <li>• Reproductive tract infections</li> </ul>	<p>STIs (especially in developing countries) can damage the fallopian tubes in women and obstruct the sperm ducts in men, particularly when left untreated.</p> <p><i>Reproductive tract infections</i> in men can affect the prostate (prostatitis), the epididymis (epididymitis), and the testes (orchitis).</p>	<ul style="list-style-type: none"> <li>• Health care providers managing an infertile couple should ensure that all essential information is collected to ensure a more efficient, systematic and cost-effective care, and to improve the accuracy of diagnoses.</li> <li>• The <i>WHO Manual for the Standardised Investigation and Diagnosis of the Infertile Couple</i> provides clear guidelines and a logical sequence of steps for clinicians to follow in evaluating both partners in an infertile couple.<sup>64</sup></li> </ul>

# 4

## **EDUCATION, COUNSELLING AND INFORMED CONSENT**



## SUMMARY

- *Group education supports counselling services. It allows clients to get basic information on sexual and reproductive health, including HIV, before an individual counselling session.*
- *Providers of medical male circumcision services have a duty to:*
  - o *ensure that the client gives voluntary and informed consent before the procedure is performed*
  - o *maintain confidentiality*
  - o *provide services without discrimination*
- *Where tradition demands group circumcision for boys, health care providers should work with the community to design a way of combining the surgical procedure with education, integrating traditional customs and practices with modern clinical techniques.*
- *All counsellors need basic counselling skills and full knowledge of all aspects related to the procedure to competently talk to clients in a helpful way*

## 4.1. EDUCATION ABOUT SEXUAL AND REPRODUCTIVE HEALTH AND MALE CIRCUMCISION

Group education supports individual counselling services. It allows clients to get basic information about male circumcision before an individual counselling session. Counsellors can then work with clients, and their parents (if applicable), on specific issues about male circumcision or sexual and reproductive health in general. Group education allows the first counselling session to be shorter, which is an advantage in busy clinics.

The information given to clients during an education session may differ slightly from site to site. Counsellors should be familiar with the standard education on male circumcision offered at the place where they work, so that the clients get consistent messages and information.

When conducting group education on medical male circumcision, the counsellor should include these main messages:

- Tell the group that, like women and girls, men and boys have sexual health and reproductive health needs.
- Explain what medical male circumcision is, outline the benefits and risks, and describe how the surgical procedure is performed and what happens afterwards.
- Emphasise that male circumcision does not provide complete protection against HIV infection. Explain that circumcised men can become infected with HIV and can pass on HIV infection to their sexual partners.
- Explicitly reinforce that circumcision does not directly protect the female partner against HIV infection.
- Assert that circumcision has not been determined to be effective in providing protection during anal intercourse.
- Describe the measures that the service takes to ensure that patient records are

kept confidential and provide assurance that confidentiality will be maintained.

- Discuss the importance of knowing one's HIV status. Explain how HIV is transmitted, how a person can protect himself or herself from HIV infection, and where people with HIV infection can find support.
- Explain that men with an STI have a greater risk of becoming infected with, and transmitting HIV.
- Explain that patients with an STI have a greater risk of becoming infertile in the future.
- Emphasise the importance of avoiding HIV infection and outline different ways of reducing the risk of acquiring the infection.
- Emphasise that only condoms, if consistently and properly used, can protect against STIs, HIV, and unwanted pregnancy. Other methods of contraception, even those that are highly effective in preventing pregnancy, do not protect against STIs, HIV or possible future infertility. Demonstrate proper use of condoms.
- Emphasise that vasectomy is the most effective and permanent method of contraception available for men, but that it does not protect against STIs or HIV.
- Emphasise that men should treat women as equal partners in decision-making about sexual and reproductive health.
- Emphasise that men should support the sexual and reproductive health of women and the well-being of their children, with equal regard for female and male children.
- Explain the importance of not perpetrating gender-based violence, especially against women and girls.
- Emphasise that responsible men do not force or coerce their partners to have sex against their will (rape).

## Group Education Script

Below is a sample script that shows how a group education session might be conducted.<sup>65</sup> The script should be adapted to the specific situation in the clinic or region.

### *Opening*

Hello, my name is \_\_\_\_\_, and I am a \_\_\_\_\_ here at this clinic.

For some time we have known that the health needs of men and boys have not been receiving enough attention.

#### **At this clinic we provide the following services for men:**

- information and education on male circumcision (including the management of postoperative complications)
- medical male circumcision for men who choose to have the procedure
- information and counselling on sexual intercourse and safer sex, and health problems related to the reproductive system
- diagnosis and management of sexually transmitted infections
- counselling and testing for HIV and AIDS and referral for care and support
- contraception, through vasectomy or the use of condoms; (condoms will prevent both pregnancy and protect against STIs and HIV infection)

#### **Physical and sexual maturity comes with many social responsibilities. These include:**

- Recognising that safer sex can prevent STIs and HIV infection. Safer sex includes using condoms the right way every time you have sex, reducing the number of sexual partners, delaying the start of sexual relations, and avoiding penetrative sex.
- Never putting yourself in a situation in which you lose control of your judgement, for example because you are under the influence of alcohol or drugs. This may lead to behaviour that increases your risk of becoming infected with STIs and HIV, such as having unprotected sex with strangers or with multiple sexual partners.
- Treating women as equal partners in sexual relations and deciding together whether and when to have children.
- Respecting the sexual and reproductive health rights of girls and women, including the right to refuse sex, both within and outside marriage.
- Supporting women's sexual and reproductive health. Such support is particularly important during pregnancy.
- Supporting children's well-being, with equal regard for female and male children.
- Stopping all kinds of violence against women and girls, and not forcing or coercing girls or women to have sex against their will.

## Male circumcision education

For those of you who are here to find out more about male circumcision, let's talk a bit about that.

### **What is male circumcision?**

Male circumcision is the surgical removal of the foreskin of the penis (also called the prepuce). It is one of the oldest surgical procedures in history.

### **Male circumcision has been shown to have several health benefits including:**

- a reduced risk of urinary tract infections in childhood;
- a reduced risk of some sexually transmitted infections, such as herpes and syphilis;
- some protection against cancer of the penis;
- a reduced risk of cervical cancer in female sex partners;
- prevention of several medical problems of the penis and foreskin, such as inflammation, scarring and swelling of the foreskin.

### **Some of you may have heard that male circumcision reduces the risk of HIV infection.**

This is correct. But, I must remind you that male circumcision does not protect you completely against HIV infection – it only reduces the risk of becoming infected. It is very important to continue using other ways of reducing the risk of infection – using condoms the right way every time you have sex, reducing the number of sexual partners, delaying the start of sexual relations, avoiding penetrative sexual intercourse, and avoiding unsafe injections.

### **As with any surgical procedure, complications may occur after the operation.**

However, in our clinic we do everything we can to reduce this risk. Possible problems include pain, bleeding, swelling of the penis caused by bleeding under the skin, infection of the surgical wound, and increased sensitivity of the exposed head of the penis (glans). On average, if we operate on 50 men or boys, one will need to come back to the clinic for the treatment of a complication. However, the problems usually settle down quickly with additional treatment.

### **Many men ask how soon after circumcision can they start having sex.**

It takes about six weeks for the wound to become strong enough to withstand sex and about three to four months for the wound to heal completely. We always advise clients to avoid sex or masturbation for the first six weeks after circumcision, and to use a condom during sex until the wound has completely healed (at least six months). It is always best to use a condom whenever there is any risk of STI or HIV infection.

**At this clinic, we perform circumcision using local anaesthesia to take away the pain during the procedure.**

Patients can go home the same day but it is important that they come back for follow-up.

Do any of you have any questions or concerns about male circumcision?

I know that there are many myths about male circumcision that circulate. For example, some people think that circumcision can cause impotence (failure of erection) or reduce sexual pleasure. Others think that male circumcision will cure impotence. Let me assure you that none of these is true.

### **Closure**

We have talked about the different services that we offer in this clinic. It is up to you to let us know what services interest you. If you are worried that you may be infected with an STI or HIV, or if you want to be tested, counselling and testing services are available here. If you want to register yourself or your son for circumcision, please let us know. We will be very pleased to assist you in any way you wish.

Please take some of the information leaflets we have here. They may answer other questions that you may have.

Thank you for your attention



## 4.2. COUNSELLING

### 4.2.1. Basic facts about counselling<sup>66</sup>

Counselling is a process in which individual communication is used to help people examine personal issues, make decisions, and make plans for taking action.

- In some types of counselling, the counsellor and client talk about whatever the client wishes.
- In counselling for medical male circumcision, the counsellor ensures that the client (and if the client is a minor, his parents) has all the information he needs to make a decision about undergoing the procedure.
- HIV counselling concentrates on helping clients reduce their risk of becoming infected with HIV – or for those already infected, transmitting the virus to others.
- In family planning counselling, the counsellor helps the clients make an informed decision based on their reproductive intentions and personal situation.

Counselling is **not**:

- telling clients what to do
- criticising clients
- forcing ideas or values on clients
- taking responsibility for clients' actions or decisions

Counselling may involve some or all of the following:

**Active listening** to clients (and parents, for circumcision in minors)

**Respecting** clients' needs, values, culture, religion, and lifestyle

Talking with clients about the **risks and benefits** of the service requested, in this case male circumcision

Asking clients questions that help them **identify behaviour that puts them at risk of STIs or HIV infection**, or might do so after circumcision

**Answering questions** about the male circumcision procedure and **correcting any false information**

Allowing clients (and their parents if applicable) to make their own **informed decision** on whether or not to choose male circumcision

Helping clients **understand their HIV or STI test results**

Helping HIV-negative clients understand that male **circumcision does not provide full protection against HIV infection**, and suggesting how they can stay negative

Helping clients **understand the benefits of knowing their HIV status**

Helping HIV-positive clients find **support and treatment services**, and discussing ways to **avoid transmitting HIV** to others

Helping clients obtain **other services**, such as family planning, screening and treatment for STIs, and counselling and treatment for alcohol and drug abuse

### 4.2.2. Confidentiality

Confidentiality is an important part of all sexual and reproductive health services. Counsellors should keep all client information private and allow clients to decide when and with whom to discuss their sexual and reproductive health problems. Clients will feel more comfortable about sharing personal information with counsellors and being tested for STIs or HIV if they know that this information will remain secret. This principle of keeping client information private also applies when the client's main interest is male circumcision. This atmosphere of trust will encourage clients to discuss other sexual and reproductive health needs.

Another reason why confidentiality is so important is that many people have negative feelings about STIs, HIV/AIDS and sexual health concerns. There is strong social pressure to conform, and considerable social stigma is associated with behaviours or conditions perceived as unusual.

The counsellor should inform the client during counselling that an HIV test is recommended for all clients requesting male circumcision, but is not required for the operation to go ahead. Male circumcision can be safely performed in men whose HIV status is unknown and in those with HIV infection, provided that they are clinically healthy.

The decision to circumcise an HIV positive client is also informed by the clinical judgment of the consulting health practitioner. However, except in some rare cases where circumcision is necessary to correct a health problem of the glans or foreskin in a man with HIV infection, HIV testing of clients before circumcision is not necessary to protect the clinicians during the operation. It is important that the clinic applies high infection-control standards, including proper implementation of universal precautions to minimise the risk of transmission of HIV and other infections to health care workers or other patients. Universal precautions are discussed in full in Chapter 9.

### 4.2.3. Counselling skills

All counsellors need certain basic counselling skills to talk to clients in a helpful way. Some basic counselling skills needed include:

- Empathising
- Active Listening
- Open Questioning
- Probing
- Focusing
- Affirming
- Clarifying
- Correcting False Information
- Summarising

These skills with relevant examples are explained below.

Skill	Example
<p><b>Empathising</b> Empathy is the ability to see the world through another person's eyes and understand how that person feels. Counsellors should listen to clients carefully and show them that they understand without judging. Empathy is not sympathy; it is not feeling sorry for the client. Empathy is about understanding the client's feelings.</p>	<p>An adolescent says to the counsellor: "My girlfriend keeps asking me to go for circumcision. I feel embarrassed and angry."  Counsellor's empathic response: "So you often feel irritated, uncomfortable, and pressured by your girlfriend. That must be difficult for you."</p>
<p><b>Active listening</b> Active listening means paying attention to what a client says and does, which shows respect, interest and empathy. Active listening is more than just hearing what the client says. It is paying attention to the content of the message, as well as the client's feelings and worries that show through his movements, tone of voice, facial expressions, and posture.</p>	<p>The client looks very nervous and is biting his nails, but tells the counsellor he is fine.  Counsellor: "Sometimes when we think we are relaxed, we can still feel quite anxious inside. I see you are biting your nails. Perhaps something is bothering you that you do not know how to express. Do you have any idea what that might be?"</p>
<p><b>Open questioning</b> Open questions are questions that require more than a one-word answer. They usually begin with words such as "how", "what" or "why". Open questions encourage clients to express their feelings and share information about their situation.</p>	<p>Examples: "Why have you decided to come for male circumcision?" "How do you think circumcision can reduce your risk of STI or HIV infection?" "What do you do that may make it possible for you to get infected with an STI or HIV?" "What are you doing currently to protect yourself against STIs and HIV? How is this working?"</p>
<p><b>Probing</b> Probing means using questions to help clients express themselves more clearly. Probing is necessary when the counsellor needs more information about the client's feelings or situation. Asking a probing question is a good way to follow up on a question that has been answered by "yes" or "no."</p>	<p>"Can you tell me more about that?" "How do you feel about that?"</p>

**Focusing**

Clients are often overwhelmed by emotional or personal problems about their particular sexual and reproductive health problems. They may want to address all the issues at once. If a client starts to talk about problems or situations that will be discussed later in the session, the counsellor may want to bring the topic of discussion back to the current issue.

At the beginning of the first counselling session, the client begins talking about the most recent situation when he may have been exposed to HIV. He asks about where and how he can get condoms.

The counsellor does not want to interrupt the flow of the discussion, so says: "Using condoms is an excellent way to reduce your risk of getting an STI or HIV infection. We can talk about that in a few minutes. Right now, let's continue talking about your HIV situation."

If the client wants to talk about other emotional or personal issues, such as problems at home or a partner's drug use problem, the counsellor should help the client find appropriate support.

**Affirming**

Affirming is congratulating or complimenting clients on the positive actions that they have taken. It is important to encourage success. Complimenting clients helps them feel respected and valued and encourages them to try to make other changes to reduce their risk of HIV infection. It may also make them more willing to share information about other actions they have taken.

Client: "I've recently started using condoms each time I have sex".

Counsellor: "That's a really positive step in protecting yourself against HIV and sexually transmitted infections. Well done!"

**Clarifying**

Counsellors clarify to check that they understand a client's statements or questions. Clarifying also helps the client understand his own situation or feelings better and identify uncertainty or conflict between his thoughts and behaviour.

Client: "My partner gave me gonorrhoea. I'm afraid of getting HIV. But I'm also afraid that, if I use condoms when I have sex with her, she'll think I am not faithful."

Counsellor: "Help me understand this. You are afraid you might get HIV from your partner, but you do not want to use condoms with her."

Pointing out a conflict may help the client identify which of two issues is more important to him. It is better than the counsellor telling the client to do something that he is not ready to accept. Clarifying also helps clients make their own choices and draw their own conclusions. Saying "help me understand this" is a good way to begin this type of discussion.

**Correcting false information**

It is important to provide correct information to clients and to correct any myths and false information. There are many incorrect rumours about HIV, AIDS, sexually transmitted infections, male circumcision and vasectomies. These should be corrected. However, this needs to be done in a sensitive way, without making the client feel ignorant or defensive. Counsellors should acknowledge false information and then correct it quickly.

Counsellor: "You mentioned that it is possible to cure HIV by having sex with a child or virgin. Many people believe this, but it is untrue. Firstly sex with a child is wrong and is a crime. Second, it has no benefit to you – at present, there is no cure for HIV or AIDS. Third, and most important, you are likely to transmit the virus to the child"

Counsellor: "You mentioned that you want to be circumcised to prevent you from getting HIV from your multiple sexual partners. I think you need to know that male circumcision does not fully protect a man against HIV infection. Circumcised men who do not use protection or who engage in risky sexual behaviour are more likely to contract HIV infection than circumcised men who practise safer sex. Having sex with multiple sexual partners certainly is risky behaviour. You can reduce your risk of HIV infection by cutting down on the number of your sexual partners, avoiding full sexual intercourse (penetrative sex) and using condoms correctly every time you have sex."

**Summarising**

Counsellors summarise to present the main points of the conversation to the client. Summarising is useful when moving to another topic or ending the session, and to check that counsellor and client have understood each other correctly. Summarising also helps clients see the whole picture and understand the situation better.

Counsellor: "We have discussed several ways in which you can reduce your risk of getting infected with an STI or HIV. For example, you seem comfortable with starting to use condoms during sex and drinking less alcohol when you go out with friends. You have many choices and we will develop a specific plan later. First, let's talk about HIV testing because your plan could change depending on your test result."



## 4.3. INFORMED CONSENT FOR SURGERY

### 4.3.1 General

Clients (and parents, in the case of a minor) must give informed consent before medical male circumcision is performed. Health care providers should give clients all the information they need to make a fully informed decision. The following points should be included.

Information	<ul style="list-style-type: none"><li>• Clients (and parents if applicable) should be given an explanation, in plain language, of male circumcision and the nature of the surgery.</li><li>• They should be informed about the risks and benefits of the procedure and of other ways to reduce the risk of HIV infection.</li><li>• They should know that they can choose not to be circumcised.</li><li>• They should be allowed to ask questions after receiving the information.</li></ul>
Assessment	<ul style="list-style-type: none"><li>• Assess whether the client understands the information provided.</li><li>• Assess the capacity of the client to make the necessary decisions</li></ul>
Assurance	<ul style="list-style-type: none"><li>• Inform the client that he is free to choose whether or not to be circumcised. If there is any suggestion that the client is not ready to provide consent, advise him to think about it for a few days</li><li>• If the client is a minor and he appears unsure of undergoing the procedure, advise him to think about for a few days, even if his parents insists that he has the procedure now</li></ul>
<b>Ask clients who decide to undergo circumcision to sign a consent document</b>	

The goal of this consent process is to ensure that the clients (and parents if applicable) understand the surgical procedure. At the same time, they should be given the opportunity to use other sexual and reproductive health services.

### 4.3.2. Legal age of consent

On 1 April 2010 the Children's Act 38 of 2005 (as amended by the Children's Amendment Act 41 of 2007) came into full force and Regulations to the Act also came into effect on the same day.

According to this Act, children under 18 are legal minors who are not fully capable of acting independently without assistance from parents/legal guardians.<sup>67</sup> However, the law has granted minors the capacity to act

independently in recognition of the evolving capacity of children under exceptional circumstances. Male circumcision is regarded as an operation, and is therefore governed by regulations within the Act that govern surgical procedures.

**Young boys 18 years and older** can give written informed consent independently to circumcision (Section 12 of the Children's Act 2005) and can be circumcised for any reason.

**Boys aged above 16 years (but younger than 18)** may also undergo circumcision for any reason, provided that the boy consents to the circumcision after being given information, assisted by the parent or legal guardian. The parent or legal guardian should make the decision in the best interests of the child and the boy must receive proper counselling.

**Boys younger than 16 years** require a written informed consent of parents or legal guardian to undergo circumcision. The parent must also be present on the day of the circumcision.

On the other hand, consent for an HIV test may be given by a child of 12 or older or by a younger child with sufficient maturity to understand the implications of the test.<sup>68</sup> The child must have proper pre- and post-test counselling and the clinical and social implications must be explained.

Male circumcision may only be carried out on a boy under 16 if it conforms to religious practices or is medically necessary. Consent must be in writing. Circumcision for social or cultural reasons must only be carried out if the boy is aged 16 or older and with his written consent and the signed assent of a parent or guardian.

***All boys, regardless of age, have the right to refuse circumcision.***

The Act indicates that every male child, regardless of his age, has a right to refuse circumcision. Even where the law does not allow a child to give his own consent, providers of circumcision should explain the risks and benefits to the child in a way appropriate to his capacity. If the child has sufficient capacity, he should be given the opportunity to give or withhold assent to the procedure.

### 4.3.3. Adolescent boys: consent and confidentiality

Male circumcision is often performed during adolescence or early adulthood. It is important that health care workers know how to respond to an adolescent boy's request for circumcision in a way that respects confidentiality, but does not put the health care worker in conflict with the law. It is therefore important that health care workers know what the law says about consent for minors, at what age and under which circumstances minors can legally make an independent decision to seek clinical or medical services without the agreement of their parents or guardian. The age at which an adolescent can give his own consent may differ for different procedures.

Health care workers should act in the best interest of the adolescent with an understanding of his evolving capacities and ability to make independent decisions. In some situations, even if the adolescent is over the age of 18, health care workers may need to judge whether an adolescent has the maturity to request, and consent to, circumcision, independent of his parent or guardian

All health services for adolescents should be confidential and human rights principles must be respected. Health care workers must ensure that all health care services provided to adolescents comply to human rights principles: all adolescents have a right to use health services.

Medical male circumcision is an opportunity to make contact with adolescent boys, and provide them with information and counselling about their own sexual and reproductive health and that of their current or future partners. There should be enough time for counselling before and after the operation.

Adolescents should be advised that it is important to return after the procedure for a check-up and further counselling and information on condom use and other aspects of sexual and reproductive health.

#### 4.3.4. Documenting informed consent for surgery

The circumcision team should check that the client has been informed about the risks and benefits of male circumcision, that the information has been given in an understandable way, using simple terms and the local language, and that the consent was conducted in a language fully understood by the client. The oral information should be backed up by written information sheets in the local language. The client should be allowed to ask questions after getting the information. He should have time to think before being asked to sign the consent document. The client must be informed of his right to refuse the procedure.

#### 4.3.5. Infant circumcision: counselling and consent

Male circumcision can be performed with the least physical risk on infants. When counselling parents who have been offered, or have requested, circumcision for their infant, health care providers have a responsibility to explain all the associated benefits and risks. Most benefits will be realised many years in the future when the child becomes sexually active.

Parents or guardians should use the information they are given to evaluate what is in the best interests of the child. They may also wish to consider cultural and religious factors in reaching a fully informed decision. More information on counselling parents who wish to have their baby circumcised is given in Chapter 7.



## 4.4. ADDITIONAL SCRIPT FOR COUNSELLING ON REPRODUCTIVE HEALTH

### Basic information about HIV

- You have all probably heard of HIV, the virus that causes AIDS. We do not talk about it much in the community, but we are going to talk about it here because it is important to your health.
- HIV is increasing all over the world. How many of us know family members or friends who have HIV or who have died from illnesses related to HIV and AIDS?
- During this session, I will give you some basic information about HIV and AIDS and how being tested for HIV can be beneficial to you, your partner, family and community. You will also learn about the relationship between male circumcision and HIV infection.
- I will also tell you about services that are available locally, especially about the counselling and testing services that are offered here or at \_\_\_\_\_ facility. We will also talk about family planning.
- HIV testing is recommended for individuals who are at risk of HIV infection, for example by having unprotected sexual intercourse with an HIV-infected person or with someone whose HIV status is unknown. Using non-sterile needles to inject drugs is another risk for HIV.
- For those who are tested and find out they have HIV, there are medicines that help them stay healthy longer and that may reduce the risk of infecting others with HIV.
- People living with HIV have the same rights as everyone else. Discrimination against people living with HIV is against the law. There are organisations such as \_\_\_\_\_ that can provide legal and other support for people with HIV infection.
- While medicines do not provide answers to all of our problems in dealing with HIV, they do allow people with HIV to live longer, healthier and productive lives. Before going into detail about the services we offer, here are a few facts about HIV and AIDS.

### The difference between HIV and AIDS

- HIV stands for human immunodeficiency virus. It is the virus that causes AIDS. HIV is a slow-acting virus and it is possible for a person to be infected with HIV for many years without knowing it or feeling ill. AIDS is a condition caused by HIV. AIDS stands for acquired immunodeficiency syndrome. Immune deficiency means that the immune system, which protects your body from infection, does not function properly. AIDS develops because HIV weakens the body's defence system.
- There is no cure for HIV infection, but there are medicines that can help prevent other infections in people living with HIV. Other medicines can slow down the virus and help HIV-infected people stay healthy longer.
- The increasing availability of medicines and other resources to support people with HIV means that more and more people with HIV infection can live full and productive lives, including healthy sexual lives.

### Country statistics on HIV

- Here is some information on HIV infections in our country and region. *(Share with the group recent national statistics on the prevalence of HIV and the numbers of clients with HIV in antenatal and STI clinics.)*

## How HIV is transmitted

- through unprotected sexual intercourse, vaginal or anal, with a person who has HIV infection;
- through infected transfused blood or blood products, or by using needles that an HIV-infected person has already used for injecting drugs, body piercing or tattooing; and
- from an infected mother to her baby during pregnancy and childbirth and through breast milk.

HIV is NOT transmitted through mosquito bites, everyday contacts, sharing workplace or home utensils, hugging or kissing.

## Sexually transmitted infections

- Sexually transmitted infections are quite common in our community. The most common STIs are syphilis, gonorrhoea, chlamydia and herpes.
- It is important that these infections are diagnosed and treated promptly to avoid complications such as infertility.
- Men should respond to requests from STI clinics to come for testing if their spouse or partner is diagnosed with an STI. Treatment of both partners is an important part of STI control in the family and the community at large.
- Having a sexually transmitted infection (especially one that causes sores or ulcers on the genital area) increases the risk of getting HIV by up to five times. People living with HIV are more likely to infect others when they also have such an STI.
- Individuals with a sexually transmitted infection should consider the benefits of HIV testing carefully.

## Preventing HIV infection and reducing risk behaviour

- A person may be exposed to HIV once or many times before he or she becomes infected. The more often exposure occurs, the more likely a person is to become infected. Most people do not know their HIV status or whether they have been infected, and may continue to behave in a way that puts them at risk of infection or risks giving HIV to others.
- HIV infection can be avoided by avoiding penetrative sexual intercourse, by having only one partner, who is HIV-negative and faithful, by using condoms the right way every time you have sex, and by using only clean needles for injections.
- Correct and consistent condom use prevents not only HIV, but also other sexually transmitted infections (so protecting future fertility) and unwanted pregnancy. When used correctly every time, condoms are an excellent method of family planning and help prevent the spread of HIV and other STIs.



## Reducing the risk of getting infected with HIV

- Do you know any ways in which people can reduce their risk of getting infected with HIV? *(Add to participants' suggestions: not having sex with high-risk partners, talking to a partner about testing, talking about HIV concerns with a partner or friend, decreasing alcohol or drug use, increasing condom use, avoiding places where you often have high risk behaviour, abstaining from sex, avoiding penetrative sex, correctly using condoms every time until you and your partner have been tested, etc.)*
- Try to think of some ways in which you personally could decrease your risk of getting infected with HIV.
- When you think of some ways that you can reduce your risk of getting infected with HIV, share them with someone you trust, such as a close friend.
- Now I will show you the proper use of a condom. *(Include a condom demonstration here if appropriate. Use models and ask participants to do some demonstrations themselves.)*

## HIV testing services (HTS)

- Our health facility offers HIV testing and each person has the right to choose whether or not to be tested for HIV.
- Before you make a decision about HIV testing, you will have the chance to talk to a counsellor about your concerns about STI and HIV infection, and ways to reduce your risk of getting infected.
- The test result shows your HIV status as of four weeks ago. If you got infected in the past four weeks before your test, it may not be detected as this is part of the window period or the sero-conversion period. This period has an increased risk of transmission. For this reason, some people will need to be retested after four weeks. For example, if you had unprotected sex in May and were tested in June, it is important that you are tested again in August.
- A positive HIV test means you have been infected with HIV. It does not mean you have AIDS, and it does not tell us when you were infected or when you will get sick.
- A negative HIV test means you have not been infected with HIV or were infected too recently for the test to show your infection. *(Share information on how to remain HIV-negative).*
- If you are ill with signs and symptoms of HIV infection, medical staff will recommend an HIV test to determine the best way of treating and helping you.
- It is the policy of our country to offer an HIV test routinely for all people who come to health care services, even for reasons not linked to HIV infection. This policy is to encourage more and more people to know their HIV status. Those who are infected with HIV will then be able to take better care of themselves, their partners and their family members. For those who are not infected, a negative test will be a strong motivation to remain free from HIV infection and can reinforce good practices that reduce the risk of infection.
- Here is how the testing works at our facility. *(Describe the testing process at your clinic. Emphasise the confidentiality of test results).*

## Medicines

In this facility, medicines are available to slow down the progression of HIV infection to AIDS and prolong life. The medicines are safe to take.

*(Discuss the medicines that are available for people who test positive and how to get them.)*

## Contraception for men

Two methods of male contraception are available in this clinic:

### a) Temporary method (male condoms)

The male condom is suitable for those wanting to space pregnancies, to protect themselves against STIs and HIV, and to preserve their future fertility. In fact, the condom is the only method that both prevents pregnancy and provides protection against HIV and other sexually transmitted infections.

### b) Permanent method (male sterilisation or vasectomy)

Vasectomy is a surgical procedure, in which the tubes (vas deferens) that transport sperm cells from the testes to the penis are cut and tied off (*show drawing of male reproductive system to illustrate vasectomy*). Vasectomy is a permanent method of contraception, and should be used only by men who are very sure that they do not want to have more children. You will still need to use a condom to protect yourself against STIs, including HIV.

Vasectomy is done in this clinic as an outpatient procedure under local anaesthesia. That means that patients go home the same day.

Vasectomy does not change a man's ability to have erections and does not interfere with sexual intercourse.

**Does anyone have any questions or concerns?**

## 4.5. MALE CIRCUMCISION EVENTS

Health institutions that want to organise group male circumcision events should do so in partnership with traditional circumcisers and the community. A joint educational programme can be drawn up, with shared responsibility. The decision to circumcise boys in camps will depend on resources, customs and traditions in the community. A mobile outreach service during the holidays is a convenient way to reach many boys and their parents. Whichever approach is adopted, the quality of the medical male circumcision should be ensured, to build and maintain confidence in the community regarding the safety and advisability of medical circumcision.

Educational topics during a male circumcision event may include:

- the physical and psychological changes that occur in boys and girls during adolescence
- sexuality and gender issues
- male and female sexual and reproductive health and rights
- sexually transmitted infections
- HIV infection
- safer sex practices (correct and consistent use of condoms, reducing the number of sexual partners, delaying the start of sexual relations, and avoiding penetrative sex)
- family planning
- substance use (drugs, alcohol, tobacco)
- violence, including gender-based violence
- community expectations of men
- goal-setting and decision-making



# 5

## **FACILITIES AND SUPPLIES, SCREENING OF PATIENTS AND PREPARATION FOR SURGERY**



## SUMMARY

- *Male circumcision should be performed in appropriate facilities, with proper equipment and supplies.*
- *Surgical instruments wear out with use and with repeated disinfection and sterilisation. So, each clinic should review the quality of all surgical instruments regularly. Where possible, it is recommended that disposable MMC surgical kits be used.*
- *The circumcision provider must use good aseptic technique to prevent infection.*
- *Before male circumcision, clients should be assessed for contraindications to surgery and conditions that need treatment or referral.*
- *The assessment includes history-taking and physical examination.*





## 5.1. EQUIPMENT AND SUPPLIES

This chapter describes the facilities and equipment needed to perform male circumcision safely in a clinic setting. The clinic should be equipped with a narrow **operating table**, which is high enough to allow the circumcision provider to operate without stooping or bending. Ideally, this should be a purpose-built operating or minor procedures table, which can be pumped up and down according to the circumcision provider's height. Also, ideally, the table should tip so that, if the client feels faint, he can be put in the head-down position. However, such tables are expensive and circumcision under local anaesthetic can be safely performed with a fixed-height table. Steps can be provided to help the client climb onto the table, and bricks can be put under the table legs to create the head-down position.

An **instrument trolley** or table is required on which to unpack the instrument tray. The procedure room floor should be made of material that can be easily cleaned and disinfected. Between cases the instrument trolley and the operating table top should be disinfected. Any spillage on the floor should be mopped with clean water and detergent and then disinfected. At the end of the operating day, the procedure room should be thoroughly cleaned and disinfected starting at the top and continuing to the floor, including all flat surfaces. A liquid disinfectant should be used, diluted as recommended by the manufacturer. Other parts of the clinic, such as the waiting and recovery areas, should be cleaned with water and detergent regularly.

The **lighting** in the procedure room should be arranged so that the penis is well lit, and the circumcision provider can see what he/she is doing. Ideally, the clinic should be equipped with an operating theatre minor procedures lamp, but these are expensive. Fluorescent lighting over the operating table can give enough light.

**Emergency medications and equipment** for managing anaphylactic reactions should be available in or near the procedure room.<sup>ii</sup> These should be kept in a clearly labelled box or, preferably, an emergency trolley, and the contents should be checked periodically (at least every six months) to ensure that they are complete and that none of the medications are approaching or beyond their expiry date. The box should be kept in a cool place, away from direct sunlight. It is also important to have, in or near the procedure room, alternative **antiseptic surgical cleaning solution**, such as chlorhexidine, for patients allergic to povidone iodine, and spare sutures and needles available.

<sup>ii</sup>Emergency medications and equipment: Essential: pocket mask with one-way valve, atropine (0.6 mg/ml ampoules), epinephrine (1 in 1000 solution (1 mg in 1 ml) ampoules).

**The following equipment and instruments are required for standard adult male circumcision:**

- instrument tray wrapped with sterile drape
- dissecting forceps (finely toothed)
- artery forceps (2 straight, 2 curved)-when diathermy is available 1 straight artery forceps is needed
- curved Metzenbaum's scissors
- stitch scissors
- Mayo's needle holder
- sponge-holding forceps (in some settings surgical preparation is done by hand using a sterile glove and gauze. This is an acceptable alternative to using sponge holding forceps and eliminates the need for them)
- scalpel knife handle and blades
- "O" drape (80x80 cm, with 5 cm hole)
- gallipot for antiseptic solution (e.g. povidone iodine)
- sterile plain gauze swabs (10 × 10 cm; 10 for the procedure, 5 for dressing)
- 1% or 2% lignocaine without adrenalin
- povidone iodine (10% solution)
- petroleum-jelly-impregnated gauze (5 × 5 cm or 5 × 10 cm)
- normal saline
- chlorine (Jik)
- safety shoes of different sizes
- soap and antiseptic hand-rub
- sharps containers
- waste receptacles for contaminated and non-contaminated waste
- Properly colour-coded bin liners
- buckets for decontamination
- petroleum-jelly-impregnated gauze (5 × 5 cm or 5 × 10 cm) (tulle gras)
- sticking plaster
- syringe, 10 ml (if single-use syringes and needles are unavailable, use equipment suitable for steam sterilisation)
- injection needles (23- or 21-gauge)
- suture material (chromic gut or vicryl rapide 3-0 and 4-0) with 3/8 circle reverse-cutting needle
- gentian violet (no more than 5 ml) or sterile marker pen
- sterile surgical gloves of different sizes, surgical masks, caps and aprons
- male and female condoms and information materials for the client

Equipment should be disinfected and cleaned as described in Chapter 9.

A detailed discussion of kits and bundles of supplies (consumables, reusable and disposable instrument sets) for efficient delivery of circumcision programmes is included in the WHO document *Considerations for implementing models for optimising the volume and efficiency of male circumcision services*.<sup>69</sup> This covers various combinations of consumables and supplies required according to circumcision method and approaches to implementing a high throughput circumcision service.

Two broad categories of medical male circumcision kits are used throughout circumcision programmes in Southern Africa currently. Both were developed and piloted by the Orange Farm circumcision research programme in South Africa.

**The fully disposable medical male circumcision kit:** This kit includes bundling both consumables and disposable instruments in a convenient accessible manner. Advantages include fast preparation time for surgery, easy supplies control and logistics, and high quality safe sterile supplies guaranteed.

**The consumables only medical male circumcision kit:** This kit includes all the consumables needed to perform an adult male circumcision (includes a disposable scalpel, surgical drape and optionally the medications and anaesthesia used). This kit is to supplement a reusable sterilisable instrument set. The advantages are the same as the fully disposable kits, however this one has the logistic considerations of setting up and running reliable sterilisation/autoclave facilities.

Medical male circumcision kits are recommended specifically for high volume medical male circumcision programmes and outreach.

## 5.2. MAINTENANCE AND REVIEW OF EQUIPMENT

Surgical instruments wear out with use, repeated disinfection and sterilisation. Each clinic should carry out a periodic review of all surgical instruments. Failure to maintain instruments in good working condition can cause operative difficulties and complications. A haemostatic artery forceps with bent blades, for instance, will not properly occlude a bleeding vessel, while blunt dissection scissors can result in a ragged wound.

Checklist for Surgical Instruments		Tick
<b>Haemostatic artery forceps</b>	Do the points meet accurately?	
	Is the grip on the points worn?	
	Does the ratchet lock securely or is it worn?	
<b>Surgical dissection scissors</b>	Is the cutting edge of the blade sharp?	
	Do the blades meet securely?	
	Is the screw loose?	
<b>Needle holders</b>	Do the points meet accurately?	
	Is the grip on the points worn?	
<b>Dissection forceps (tweezers)</b>	Do the points meet accurately? (crossed points are a common problem with old instruments)	
	If toothed, are the teeth worn?	

## 5.3. SCREENING ADULT CLIENTS

The medical male circumcision team needs to check that clients are fit for surgery, are well informed about the surgery and are suitable for circumcision under local anaesthesia in their clinic. If there is any doubt about a client's suitability, he should be referred to the district hospital or higher level of care.

The circumcision team should take a focused medical history and perform a clinical examination of the penis. Both the history and the examination should be documented

### 5.3.1. History

When taking the medical history, ask about:

- current general health
- whether the client is taking any medicines
- whether the client has any known allergies to medicines
- history of haemophilia, bleeding disorders or anaemia
- any current genital infection, ulcer or penile discharge (see Chapter 3)
- whether the client has problems with penile erection or any other concerns about sexual function
- whether client is infected with HIV and if he is, enquire about clinic visits to establish adherence and retention in care

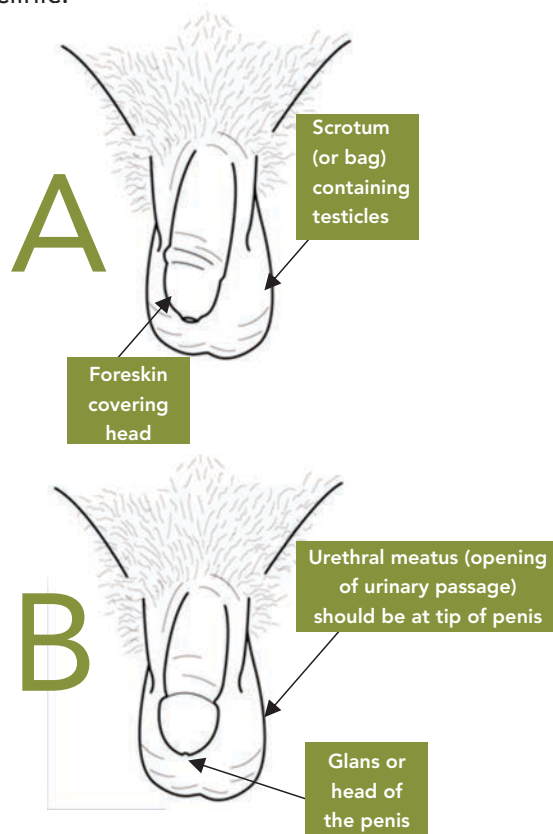
There are few medical contraindications to male circumcision under local anaesthesia. However, as for all elective surgery, male circumcision should not be performed on

anyone suffering from an acute disorder, infection or febrile illness. In this case, the operation should be postponed until the problem has been resolved.

### 5.3.2. Physical Examination

The physical examination must include screening for non-communicable diseases such as hypertension and diabetes.

The anatomy and structure of the normal penis are described and illustrated in Section 5.7. When examining the penis, retract the foreskin and inspect the glans. The urinary opening (urethral meatus) should be near the tip of the glans, and should not be scarred or diseased. The foreskin should be easily retractable and not inflamed or narrowed. If the penis, glans, meatus and foreskin are healthy, the client is suitable for circumcision in the clinic.



**Figure 5.1 Appearance of the normal penis.**  
**A: Uncircumcised. B: Circumcised**

Absolute contraindications to clinic-based circumcision include:

- **Anatomical abnormality** of the penis. Men whose urethral meatus is on the underside of the penis (hypospadias) or on the upper side of the penis (epispadias) must not be circumcised, because the foreskin may be needed in a repair operation (see illustrations in Figures 5.6 and 5.7).
- **Chronic paraphimosis** In this situation the foreskin is permanently retracted. It is thickened and swollen, and the client will indicate that this is a longstanding problem (see illustration in Figure 5.9).
- **Genital ulcer disease.** This should be investigated and treated (see Chapter 3). Once treatment has been completed, the client may be suitable for clinic-based circumcision
- **Urethral discharge.** This should be investigated and treated (see Chapter 3). Once treatment has been completed the client may be suitable for clinic-based circumcision.
- **Other obvious visible pathology, such as penile cancer.** The client should be referred to a specialist.
- **Chronic disorders of the penis and foreskin,** such as filariasis (a parasitic infestation that blocks the lymph ducts and prevents drainage). The client should be referred to a specialist.
- **Bleeding disorders,** such as haemophilia. The client should be referred to a higher level. The client needs careful preoperative assessment and medical preparation, and there may be a need to give a preoperative infusion of factor VIII, or vitamin K or other medication.

There are some relative contraindications to clinic-based medical male circumcision. Whether circumcision can go ahead in these circumstances will depend on the experience of the circumcision provider. In some cases, the procedure might have to be delayed to a later stage. They include:

- **A tight foreskin as a result of scar tissue (phimosis).** This may make it impossible to retract the foreskin (see illustration in Figure 5.8). If there is 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.
- **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 healing more difficult.
- **Penile warts.** Penile warts can cause a lot of bleeding. Whether the circumcision can proceed will depend on the extent of the warts. It is usually possible to proceed with circumcision if there are one or two small warts on the foreskin, as these will be removed with the foreskin. However, if there are extensive warts, circumcision is best undertaken in a specialist hospital where diathermy is available.
- **Balanitis xerotica obliterans.** This is a plaque of scar tissue that extends onto the surface of the glans and involves the urethral meatus and the foreskin. It is also called lichen planus et atrophicus. In mild cases, circumcision can proceed as normal. If the process involves the urethral meatus, the client should be referred to a district hospital or specialist centre where, in addition to the foreskin being removed, the meatus may be widened.
- **Other abnormalities of the genitalia,** such as hydrocele causing scrotal swelling. The patient should be referred to a specialist centre for assessment.

### 5.3.3. HIV Testing

All men requesting circumcision for HIV prevention should be offered an HIV test and appropriate post-test counselling to ensure that more people in the community know their HIV status and are better able to take care of themselves, either to remain free of HIV infection, or to take medicine that will slow the progression to AIDS.

While an HIV test is recommended for all men requesting medical circumcision, the test is not a prerequisite for the MC. When known HIV positive men present for MMC, they should not be turned away. Instead, they should be informed that MMC is an HIV prevention intervention and that it has very limited benefits on those that are already HIV infected. If they still wish to be circumcised, they should be offered MMC only at the recommendation of an HIV clinician after having considered their total health status.

Those who test positive for the first time while presenting for MMC services, should also be informed that MMC is an HIV prevention intervention. It is critical that they should be linked to HIV care and treatment. Where possible, an appointment must be made for them at the nearest or preferred clinic so that they will be followed up and be contacted should they miss their appointment. Active linkage to care is a responsibility of all health care workers providing HTS. MMC can be performed on these clients at the recommendation of a clinician after having considered the total health of the client.

Those already on ART when presenting for MMC should also have their overall status reviewed by a clinician before circumcision can be performed. Their adherence to treatment and viral load history must be

checked so that they can be referred for any necessary support required. MMC services are an opportunity for identification of patients on ART who are lost to follow up. MMC services will be provided as an integral part of male sexual and reproductive health services and will embrace HIV prevention, care and treatment.

No person should be forced to have an HIV test against his or her will, and men have the right to refuse without affecting their clinical care. Staff should at all times take standard precautions to avoid infection with HIV and other organisms, and to avoid passing such infections from one patient to another.

## 5.4. PREOPERATIVE WASHING BY THE PATIENT

On the day of surgery, the client should wash his genital area and penis with water and soap, retracting the foreskin and washing under it. This cleans the genital area before he comes to the clinic. Immediately before the operation, the skin should be further cleaned with povidone iodine (see Chapter 6).

If the pubic hair is long and likely to get in the way of surgery or interfere with the dressing, it should be clipped before the patient enters the operating room. The patient can do this at home on the day of surgery, or it can be done at the clinic. Shaving is not necessary. The patient should be given the opportunity to empty his bladder before going into the operating room.



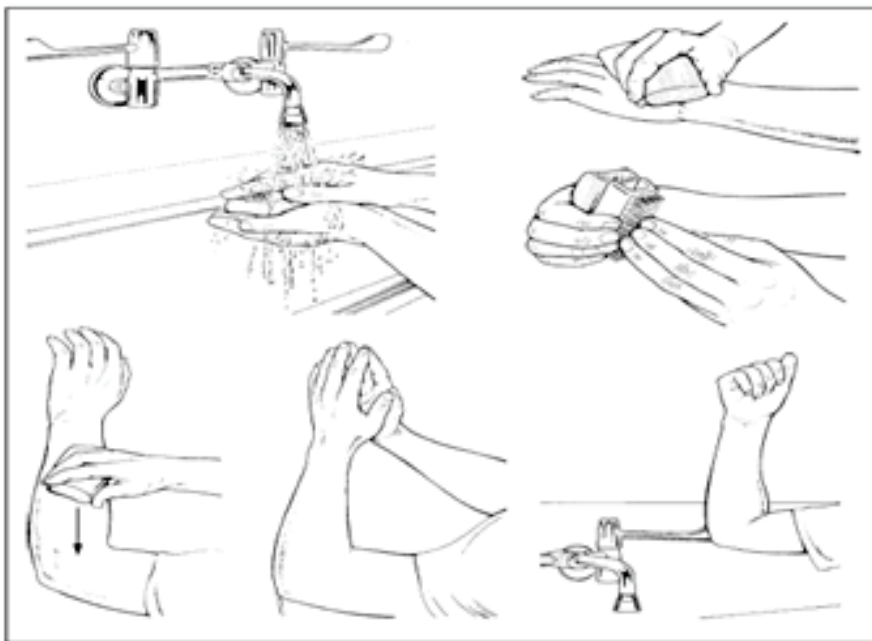
## 5.5. SCRUBBING AND PUTTING ON PROTECTIVE CLOTHING

Before entering the operating room area, all members of the surgical team should:

- Remove all jewellery and check nails are trimmed or filed.
- Remove any artificial nails or nail polish.
- Wash hands and arms up to the elbow with a non-medicated soap.
- Make sure hands and nails are not visibly soiled.

Before the circumcision operation, anyone who will touch the sterile surgical field, the surgical instruments or the wound should scrub their hands and arms to the elbows. Scrubbing cannot completely sterilise the skin, but will decrease the bacterial load and risk of wound contamination from the hands. Each scrub should take five minutes, and the process should be done at the start of the operating session and, if there is more than one circumcision, between each operation.

The scrub can be done with a medicated soap and water, or with an alcohol-based preparation.



*Figure 5.2 Scrubbing hands with medicated soap and water*<sup>70</sup>

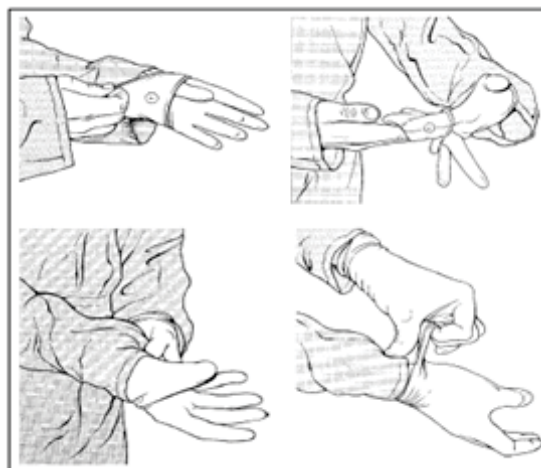
### Surgical scrub with a medicated soap (Fig. 5.2)

- Start timing.
- Using a medicated soap, scrub each side of each finger, between fingers, and the back and front of each hand
- Wash each side of the arms from wrists to elbows.
- Keep your hands higher than your arms at all times during the procedure.
- Rinse hands and arms by passing them through the water in one direction only, from fingertips to elbow. Do not move your arms back and forth
- After scrubbing, hold up your arms to allow the water to drip off your elbows.
- Turn off the tap with your elbow.
- Dry the hands and arms with a sterile towel. Make sure the towel does not become contaminated by coming into contact with non-sterile surfaces.
- Hold your hands and forearms away from your body and higher than your elbows until you have put on the gloves (or gown and gloves, if gown is used) (Fig. 5.3).

### Surgical scrub with an alcohol-based preparation

- Start timing.
- Use sufficient alcohol hand rub to keep the hands and forearms wet throughout the scrub.
- Rub each side of each finger, between fingers, the back and front of each hand, and each side of the arms from wrist to elbow.
- Allow hands and forearms to dry thoroughly.

After scrubbing, put on sterile operating gloves, taking care not to contaminate the sterile outer surface of the gloves (Fig. 5.3).



**Figure 5.3** Putting on surgical gloves

Surgical gloves prevent transmission of HIV, hepatitis and other infections through contact with blood. However, there is always a possibility that a glove will be punctured accidentally. If this happens during an operation, promptly remove the glove, rinse the hand with antiseptic, and put on a new sterile glove. If the glove has leaked because of the puncture, re-scrub before putting on new gloves. Patient safety is of primary concern; do not compromise it. Change gloves only when it is safe for the patient. For example, if the patient is bleeding a lot, stop the bleeding with an artery forceps before changing the punctured glove.

### 5.5.1. Whether to use a gown

A surgical gown is recommended, though a circumcision operation may be performed with the circumcision provider wearing sterile operating gloves but without a sterile gown, or using full operating theatre gowning techniques. It is less expensive to use gloves only, and this is the practice in many clinic settings. The circumcision provider should, in any case, wear clean clothes and a cap and theatre shoes or shoe covers. If a surgical gown is not used, it is important that the circumcision provider wears a clean apron to protect clothes from splashes during the operation.

### 5.5.2. Face masks and protective eyewear

Face masks are recommended, as they reduce droplet contamination if the circumcision provider coughs or sneezes, and protect the circumcision provider's mouth from any spray of blood droplets. Eyewear is also recommended, and should be worn (together with a mask) whenever an accidental splash of blood onto the face is likely.

## 5.6. SAMPLE DISPOSABLE CONSUMABLES FOR ONE ADULT MALE CIRCUMCISION

- Disposable scalpel (1)
- "O" drape (80 × 80 cm drape with ~5 cm diameter hole)
- Gallipot for antiseptic solution (e.g. povidone iodine), alternatively a disposable compartmentalised tray can be used
- Povidone iodine (50 ml 10% solution)
- Plain gauze swabs (10 10 × 10 cm for procedure, 5 10 × 10 cm for dressing)
- Petroleum-jelly impregnated gauze (5 × 5 cm or 5 × 10 cm) ("tulle gras") and sticking plaster
- 15 ml 1% plain lidocaine (without adrenaline) anaesthetic solution in a single-use syringe with 21-gauge needle
- 18" chromic gut 4-0 sutures with 13 mm to 19 mm 3/8 circle reverse-cutting needle
- Sterile marker pen. This is optional as less costly methods can be used to mark the foreskin. For example using the artery forceps or needle holder to make pinch marks.
- Gloves, mask, cap and disposable apron (two sets)
- Male and female condoms

## 5.7. DETAILED ANATOMY OF THE PENIS

It is important that the circumcision provider has a good understanding of penile anatomy before undertaking male circumcision.

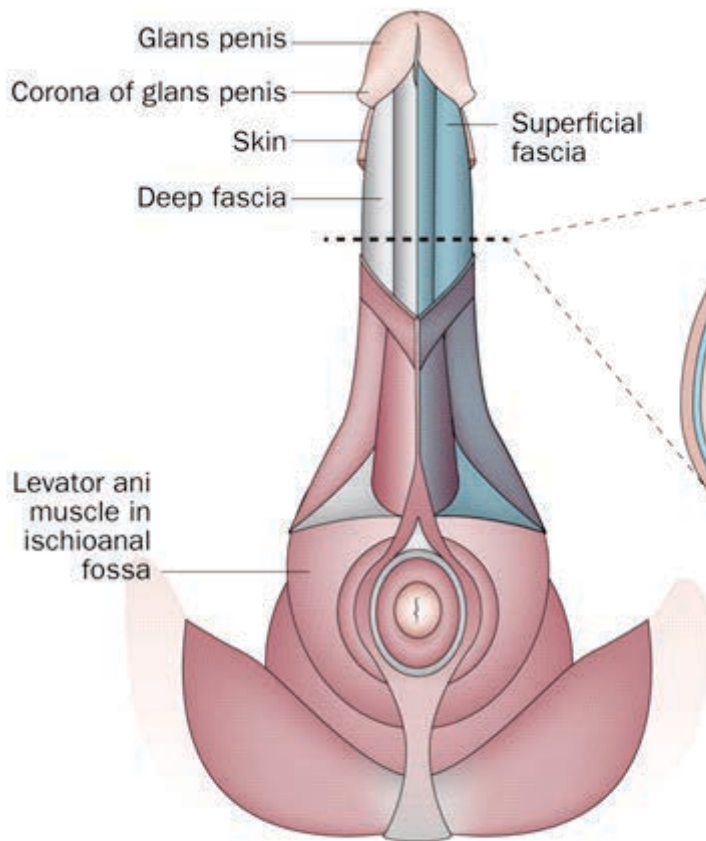
The penis is composed of two interconnected erectile bodies, the *corpora cavernosa*, which are attached and thus anchored to the underside of the front of the pubic bones. During erection, these bodies fill with blood, making the penis rigid. The wall of the erectile bodies is made of tough elastic tissue – the tunica albuginea. The urethra is on the underside of the *corpora cavernosa*. Surrounding the urethra is a quilt of erectile tissue, the *corpus spongiosum*, which continues and expands at the distal end of the penis to form the glans; this is like a helmet across the ends of the *corpora cavernosa*. The *corpus spongiosum* contributes to engorgement of the glans and to some expansion of the girth of the penis, but does not contribute significantly to its rigidity.

The urethra runs along the underside of the penis to the tip of the glans. The urethral meatus should be at the tip of the glans. In the malformation called hypospadias, it may be on the underside of the glans in the corona. Minor variations in the position of the urethral meatus are very common and do not require any treatment, provided that the man is able to pass urine freely and has a straight penile erection. The foreskin is the fold of skin that covers the glans when the penis is soft; during sexual intercourse, the foreskin is pulled back away from the glans. In the midline of the underside of the penis, there is a band of skin – the frenulum – which helps the foreskin to return to its usual position. Immediately

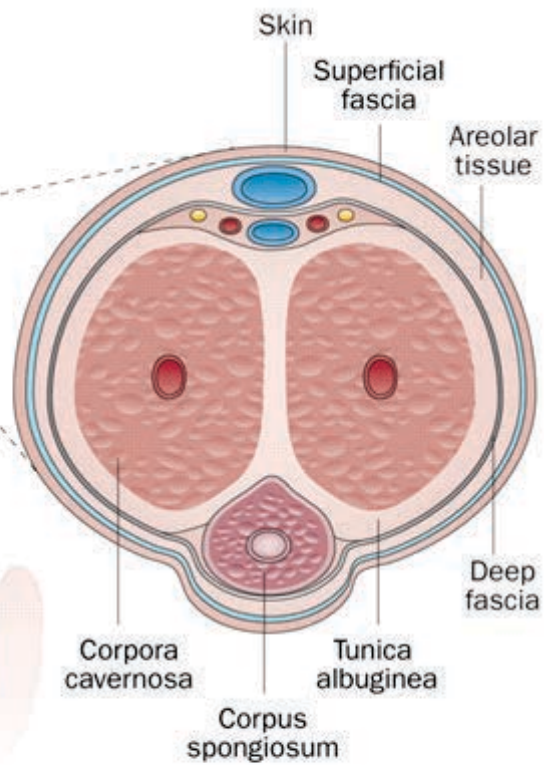
underneath the frenulum is the frenular artery, which can cause troublesome bleeding during circumcision procedures. Immediately underneath the frenular artery is the urethra. It is important to understand the relative positions of the urethra, the frenular artery and the frenulum, because the urethra can easily be injured during attempts to stop bleeding from the frenular artery. The urethra is also vulnerable to injury in babies, because the tissue between the frenulum and the urethra is very thin and delicate.

The erectile bodies (*corpora cavernosa*), the urethra and its erectile tissue (*corpus spongiosum*) are in turn held together by a tough penile fascia (Buck's fascia). The penis has a plentiful blood supply from the internal iliac arteries in the pelvis via the pudendal arteries. These 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.

The dorsal penile nerves are located on the upper aspect of the penis, slightly to the side of the midline and deep to the penile fascia. These nerves at the base of the penis are relatively compact but as they run towards the glans the nerve fibres fan out. This is why, in a penile block, most of the local anaesthetic is injected at the 1 o'clock and 11 o'clock positions at the base of the penis (Chapter 6).



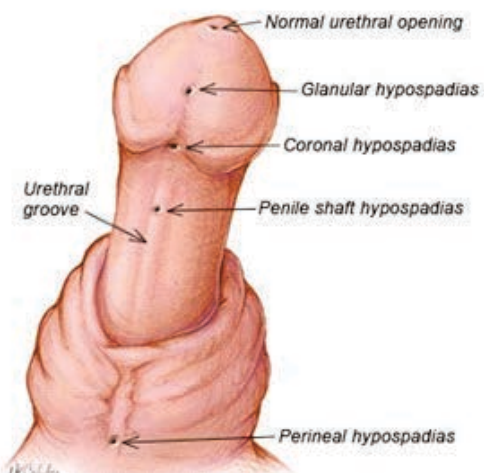
**Figure 5.4 Anatomy of the penis**



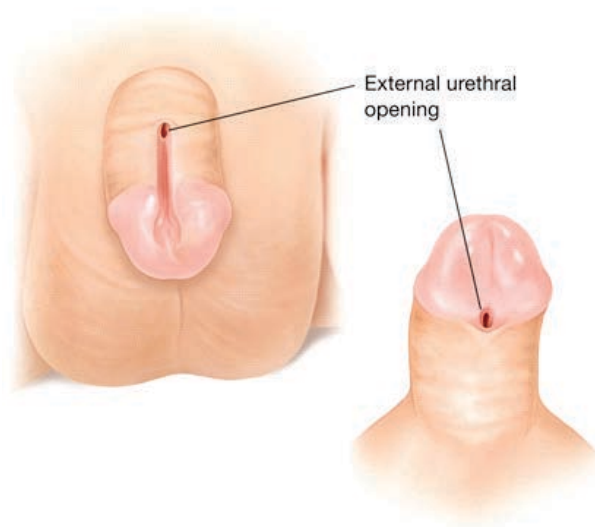
**Figure 5.5 Cross-section of the penis**



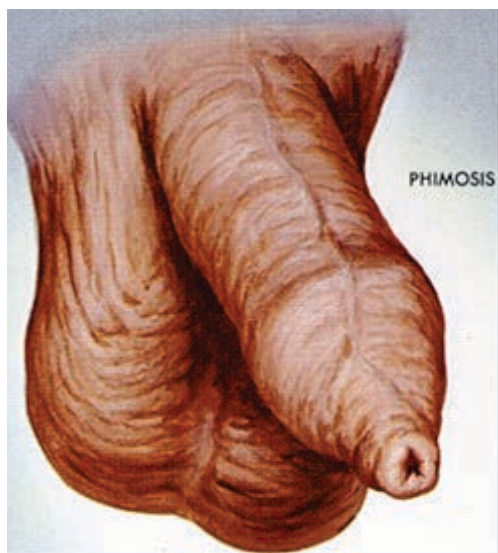
## 5.8. SELECTED ANATOMICAL ABNORMALITIES OF THE PENIS



**Figure 5.6 Hypospadias**



**Figure 5.7 Epispadias**



**Figure 5.8 Phimosis**



**Figure 5.9 Paraphimosis**



# 6

## **SURGICAL PROCEDURES FOR ADULTS AND ADOLESCENTS**

## SUMMARY

*This chapter gives step-by-step instructions on how to perform a medical circumcision on an adult or an adolescent. It covers tissue handling, skin preparation, local anaesthesia, the circumcision itself, suturing, and dressing the wound.*

- *The forceps-guided surgical technique is described.*
- *Dorsal slits and the Sleeve methods are currently the only additional WHO recognised methods for adult and adolescent male circumcision.*
- *There are currently two devices accepted for the WHO list of pre-qualified male circumcision devices- the PrePex and the ShangRing.*



## 6.1. SURGICAL SKILLS REQUIRED FOR SAFE CIRCUMCISION

### 6.1.1. Anatomy of the penis and choice of surgical technique

It is important to understand the penile anatomy well before undertaking male circumcision. This is described and illustrated in detail in Chapter 5 Section 5.7. Variations in technique for minor abnormalities of the foreskin are described in Section 6.7

Three widely-used surgical techniques for adult and adolescent circumcision are described in detail in this chapter. They have been selected on the basis of extensive experience worldwide, as well as the results from three randomised controlled trials of circumcision in South Africa, Kenya and Uganda. It is not essential that a nursing, clinical or medical officer learn all three surgical techniques – it is best to master one adult technique and, if appropriate, one paediatric technique. This will produce the best results with the least complications. Providers should become expert in the technique most suited to the circumstances of their practice or the preferred technique adopted nationally. All three recommended techniques are fully illustrated and can be referred to in the context of a training course. After the training the illustrations and step-by-step guide can be used to reinforce what has been learnt and for revising. Experienced circumcision providers should be able to perform all three techniques with little difficulty, and to train less experienced providers in any of the three techniques described.

### 6.1.2. Tissue handling

The circumcision provider should handle tissue gently. Unnecessary crushing of tissue causes more scarring, delays healing and increases the risk of infection. Use dissecting forceps (tweezers) to hold the skin edge when suturing the circumcision wound; do not use artery forceps. Place haemostatic sutures

accurately, taking care to avoid inserting the needle too deeply into the surrounding tissue.

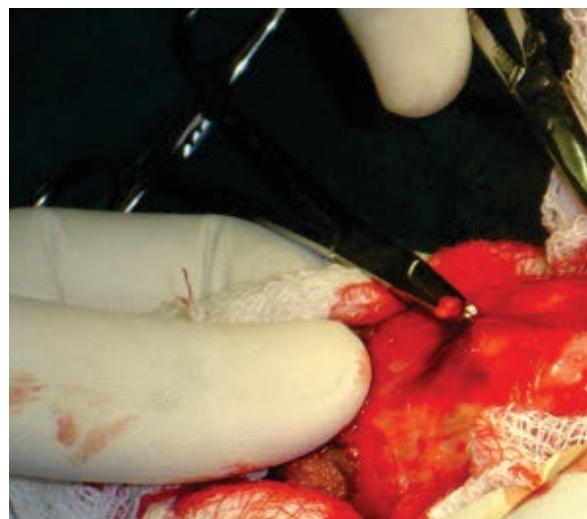
### 6.1.3. Haemostasis

Minimising blood loss is part of good surgical technique and safe medical practice. It is very important, particularly for men who are anaemic. (Ideally, these men should not be circumcised in the clinic, but be referred to a hospital.) Another important reason to minimise blood loss is to reduce contamination of instruments, operating theatre drapes and gowns, to lower the risk of transmitting blood-borne diseases, such as HIV and hepatitis B, to theatre staff.

The following techniques can be used to reduce blood loss.

**Compression.** After the incision has been made, and at any time during the procedure, control oozing of blood from cut surfaces by applying pressure over a gauze swab for a few minutes. Usually, this will stop the bleeding.

**Temporary occlusion of blood vessels.** Control individual bleeding vessels by applying an artery forceps to the blood vessel (Fig 6.1), grasping a minimal amount of adjacent tissue.

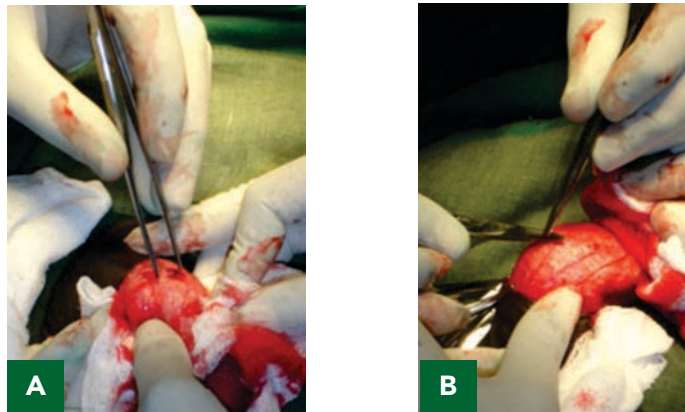


**Figure 6.1** Artery forceps applied to occlude a blood vessel

<sup>iii</sup>Adapted from World Health Organization Surgical care at the district hospital. Geneva, World Health Organization, 2003

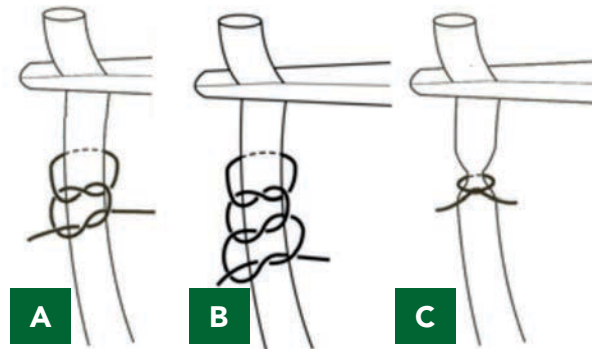


An alternative technique is to pick up the vessel using forceps (tweezers) and then apply an artery forceps (Fig 6.2).



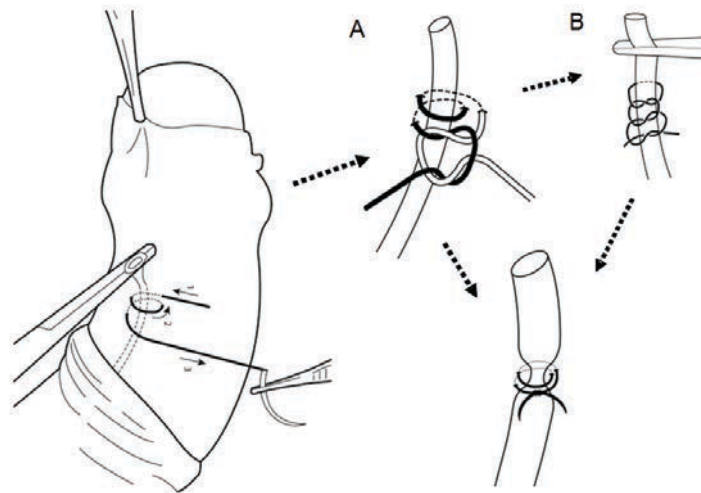
**Figure 6.2** Picking up a blood vessel with forceps (tweezers) (A) to facilitate accurate placing of the artery forceps (B)

**Tying and under-running.** Either tie the vessel or under-run and tie it. The simplest procedure is to tie the vessel below the artery forceps (Fig. 6.3). The basic tie consists of two throws (Fig. 6.3A), but many circumcision providers make a third throw (Fig. 6.3B) to give the knot extra security.



**Figure 6.3** Simple tie A: the knot with two throws. B: the knot with three throws. C: the finished knot pulled tight

It is important to check that the tie is securely placed and not liable to slip off, particularly in the first few days following the operation during a penile erection. If there is any doubt about the security of the tie, it is better to use the under-running technique (Fig. 6.4). Secure the bleeding vessel with an artery forceps. Pass the suture needle just beneath the artery (not too deep!) and pull through, leaving enough suture material for the tie. Then pass the suture beneath the vessel a second time, pull gently to occlude it, and tie a knot, as above.



**Figure 6.4 Under-running a bleeding vessel**  
 A: the knot with two throws. B: the knot with three throws.

### 6.1.4. Diathermy

In surgical diathermy coagulation is achieved by creating heat with an electrical current passing through the tissue. The techniques described in this manual can all be undertaken safely without diathermy equipment and any circumcision provider undertaking male circumcision should be skilled at stopping bleeding without diathermy. Diathermy has the advantage of decreasing haemostasis time so reducing the total procedure time.

There are two diathermy electrical circuits in common use:

**a) Monopolar**

With monopolar diathermy the current runs from the machine through the diathermy forceps, through the tissue held by the forceps, through the patient's body to a grounding plate, and then back to the machine.

**b) Bipolar**

In bipolar diathermy the current runs from the machine to one of the two prongs of the diathermy forceps, through the tissue grasped between the prongs and then back through the other prong to the machine.

With both types take care to check that the patient is not in contact with any metal or conducting material as there is a risk of earth leakage and burns at the point of contact. This risk is greatest with monopolar diathermy. Whenever diathermy is used, care must be taken in positioning on the operating table, the choice of operating table and clinic construction to prevent current leakage to earth. Some monopolar diathermy machines include automatic safety switch off in case of earth leakage, disconnected grounding plate, or poor contact between the grounding plate and skin. The grounding plate should be placed so that the whole surface is in contact with the patient's skin, usually on the thigh or buttocks. It may be necessary to shave hairs for good contact.

If the machine fails to respond when the circumcision provider activates the current or there is no obvious and immediate visual evidence of coagulation, the circumcision provider should stop applying current immediately and check all connections. If current continues to flow, burns may occur where resistance is greatest, most commonly where the grounding plate is in contact with the body, or where the body is in contact with metal. In rare circumstances the burn may occur elsewhere in the body. Monopolar diathermy should not be used for infant circumcision because the point of greatest electrical resistance may be at the base of the penis with risk of coagulation and loss of the whole penis.

Further technical description of the current types is beyond the scope of this manual but the circumcision provider should be aware that many diathermy machines have different settings for coagulation or cutting currents. Only the coagulation setting should be used for haemostasis.

#### **Diathermy technique:**

When using diathermy, the circumcision provider should apply the forceps as precisely as possible. The best results will be obtained if the blood vessel is grasped between the diathermy prongs with minimal other tissue, and the current activated for the shortest time required to ensure haemostasis. If too much tissue is grasped, diathermy will not stop the bleeding because the heat is too diffuse. Prolonged diathermy causing large black burns should be avoided as these may increase the risk of infection, post-operative pain or scar tissue formation. Particular care must be taken near the frenulum because there is a risk of burning through to the urethra which is near to the surface and creating a fistula. Diathermy should also be used with caution close to the skin and mucosal edges as transmitted heat may cause burns. Diathermy can be used to stop bleeding from small blood vessels, but it is safer to apply an artery forceps and tie or under-run larger vessels as described above.

### **6.1.5. Suturing**

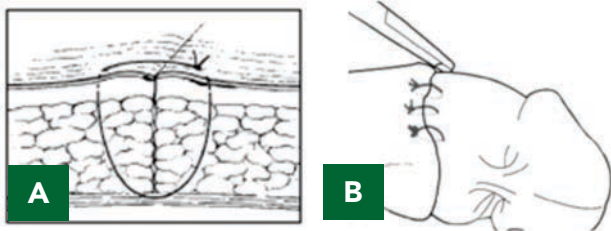
#### **Suture Material**

Suture size is a compromise between ensuring adequate tensile strength and keeping the amount of foreign material to a minimum. Larger suture sizes produce a more unsightly scar, and small lumps can remain when large-size sutures have been used to tie the blood vessels. The preferred suture size for adult male circumcision is 3-0 or 4-0 chromic gut or vicryl rapide. Vicryl rapide is more expensive than chromic gut. The suture may be mounted on a taper-cut, round-bodied or reverse-cutting needle, according to the circumcision provider's preference. The taper-cut needle passes more easily through the skin, but easily tears the skin on the inner aspect at the corona.

The following are the basic suturing techniques:

**a) Simple interrupted suture.** This is the simplest type of stitch and results in good apposition. The point of the needle should pass through the skin at 90 degrees to the skin surface and exit at the same angle (Fig. 6.5). The nearer to the skin edge the needle goes in, the better the skin edge apposition but the higher the risk of the stitch cutting out. If the stitches are placed at a greater distance from the wound edge, there is a risk of inversion (burying) of the skin edges and poor healing. For this reason, in male circumcision, a combination of simple and mattress sutures is recommended.





**Figure 6.5 Simple interrupted suture**  
 A: suture in place holding the skin edges together.  
 B: simple sutures closing the circumcision incision

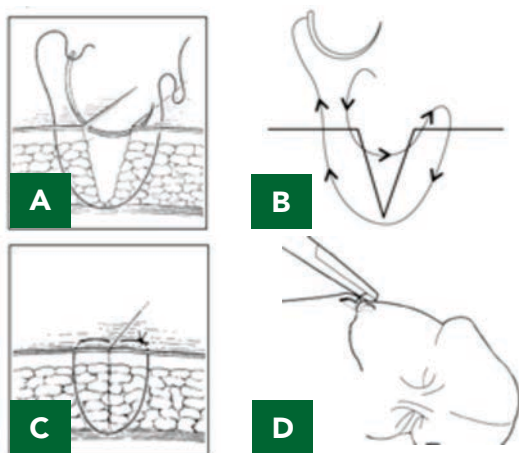
**b) Mattress sutures.** Mattress sutures give a more precise apposition of the wound edges and reduce the risk of burying the skin edges. They are more complex than simple interrupted sutures, and therefore more time-consuming to put in.

**Vertical mattress suture**

The technique is illustrated in Fig. 6.6.

1. Start the first bite wide of the incision and pass to the same position on the other side of the wound.
2. Start the second bite on the side of the incision where the needle has just exited the skin. Pass the needle through the skin between the exit point and the wound edge, in line with the original entry point. From this point, take a small bite; the final exit point is in a similar position on the other side of the wound.
3. Tie the knot so that it does not lie over the incision line. This suture approximates the subcutaneous tissue and the skin edge.

When suturing the circumcision wound, vertical mattress sutures are usually placed in the 12 o'clock, 3 o'clock and 9 o'clock positions (taking the frenulum as the 6 o'clock position).



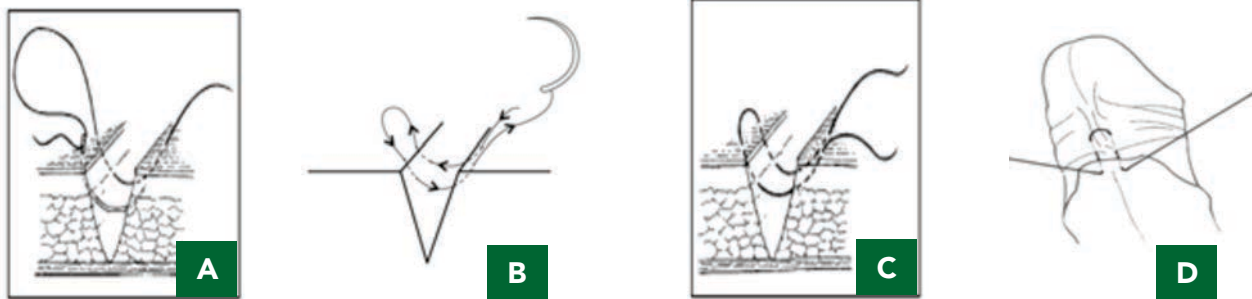
**Figure 6.6 Vertical mattress suture**  
 A, B: the technique. C: vertical mattress suture holding the skin edges and subcutaneous tissues together. D: A vertical mattress suture in the 9 o'clock position.

### Horizontal mattress suture

The technique is illustrated in Fig. 6.7.

1. Make two sutures, aligned beside one another. Align the first stitch across the wound; begin the second on the side that the first ends.
2. Tie the knot on the side of the original entry point.

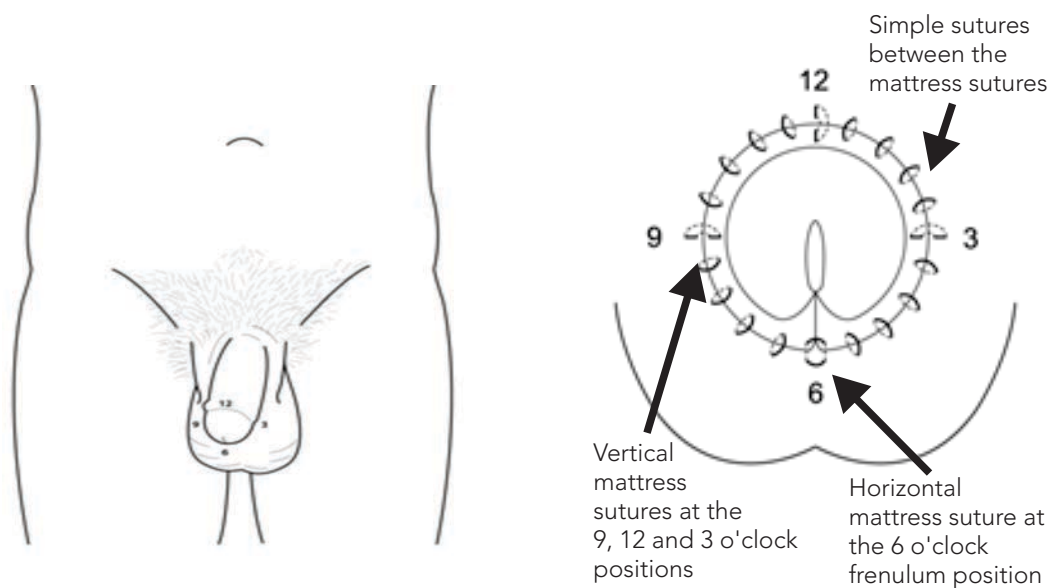
A horizontal mattress suture is placed in the 6 o'clock position (frenulum).



**Figure 6.7 Horizontal mattress suture**

*A, B, C: the technique. D: Horizontal mattress suture at the frenulum (6 o'clock position).*

Fig. 6.8 below shows the orientation and positions of the horizontal and vertical mattress sutures, and the simple interrupted sutures, to close the male circumcision wound.



**Figure 6.8 Sutures used to close the circumcision wound**

## 6.1.6. Tying knots

Knots can be tied by hand or using instruments. It is more economical to tie knots using instruments, as this uses less suture material (Fig. 6.9).

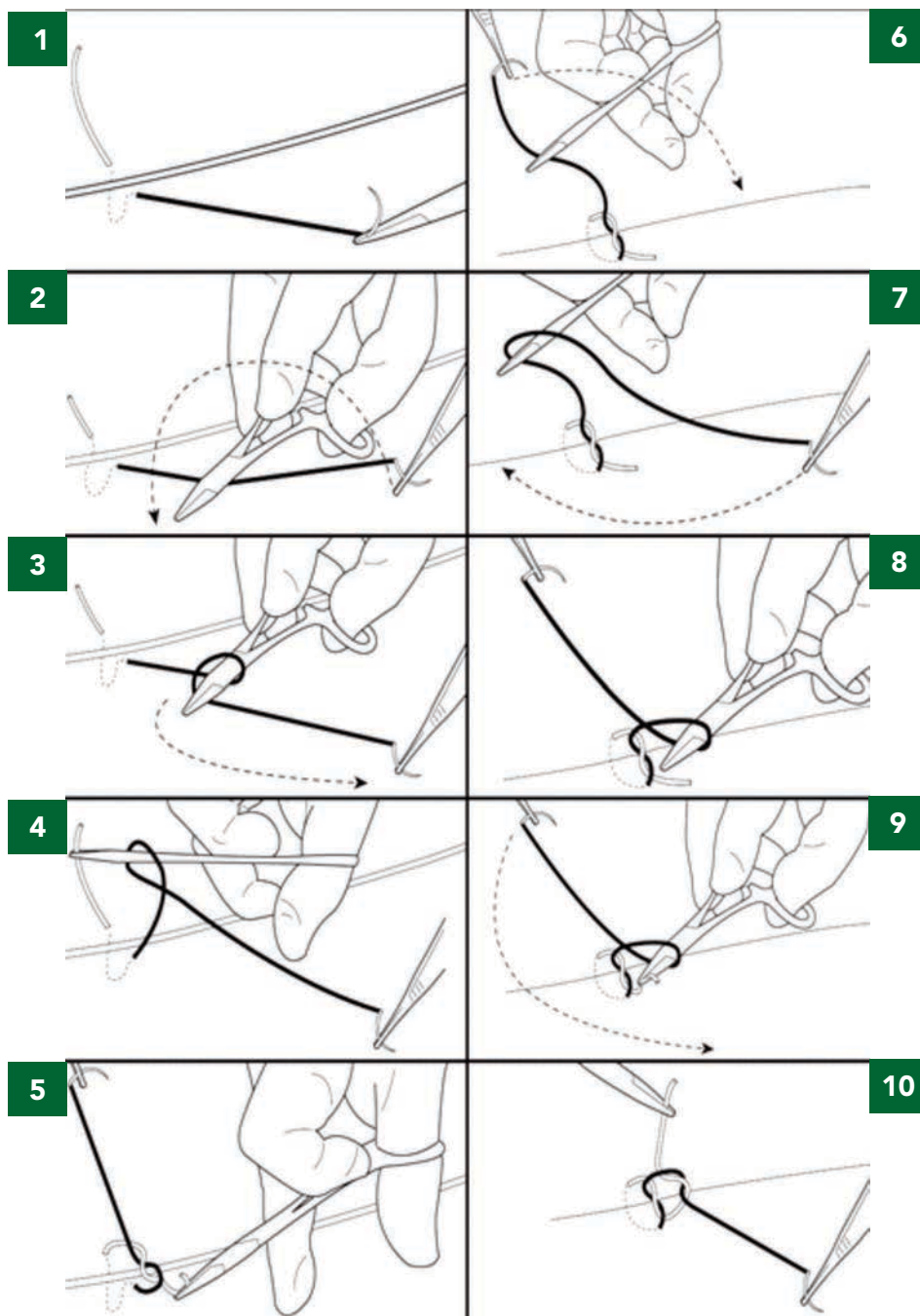


Figure 6.9 Tying a knot, using instruments

## 6.2. SKIN PREPARATION AND DRAPING

### 6.2.1. Skin preparation with povidone iodine

Prepare the skin with povidone iodine antiseptic solution, starting with the glans and the shaft of the penis, and moving out to the periphery. Hold the penis with a swab and retract the foreskin to clean the glans. The prepared area should include the penis, the scrotum, the adjacent areas of the thighs and the lower part of the abdomen (suprapubic area), so that there is no risk of the circumcision provider touching unprepared skin during the procedure. If the patient has a history of allergy to iodine, use an alternative solution, such as chlorhexidine gluconate. The solution should remain wet on the skin for at least two minutes.



*Figure 6.10 Preoperative skin preparation with povidone iodine*

### 6.2.2. Draping

Draping provides a sterile operative field and helps prevent contamination of the wound. The edges of the drapes that hang below the operating table are considered to be non-sterile.

Scrub and put on gown (if worn) and gloves before covering the patient with sterile drapes. Leave uncovered only the operative area and the areas where the anaesthetic will be administered. A single drape with a hole in it for the penis is better than four drapes secured with towel clips (Fig. 6.11).

In settings where medical male circumcision kits are used they often contain a disposable drape. The disposable drape has a hole for the penis and two different texture surfaces. The one surface is rough and designed to absorb blood. This surface should be placed facing upwards towards the circumcision provider operating. The other surface is smooth and impermeable and designed to keep the patient dry. This surface is placed face downwards against the skin.



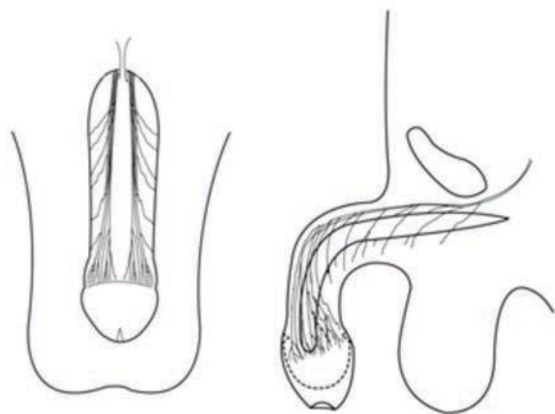
*Figure 6.11 Draping for male circumcision. The minimum sterile operative field is shown by the dotted lines*

## 6.3. ANAESTHESIA

Circumcision can be done under general or local anaesthesia. Local anaesthesia is preferred, because it is less risky and less expensive. There are two possible techniques for local penile anaesthesia: the penile nerve block and the ring block. The ring block technique is used for circumcision of adults and adolescents and described below. The penile nerve block is used for circumcision of infants and described in Chapter 7.

### 6.3.1. Penile nerve supply

The nerve supply of the penis is the twin dorsal penile nerves. These nerves are at the top and sides of the penis, at the 11 o'clock and 1 o'clock position near the base of the penis. They fan out towards the glans.



**Figure 6.12 Nerve supply to the penis**  
The twin dorsal penile nerves emerge from under the pubic bone at the 11 o'clock and 1 o'clock positions and fan out towards the glans.

### 6.3.2. Maximum dose of local anaesthetic

The local anaesthetic most often used is 1% or 2% plain lidocaine. The maximum dose that can safely be given is 3 mg per kg of body weight. The table below gives example volumes so that this maximum dose is not exceeded

**Table 6.1 Maximum doses of local anaesthetic**

Examples of maximum safe volume of plain lidocaine (3 mg per kg body weight)			
Patient	0.5% lidocaine (5 mg per ml)	1% lidocaine (10 mg per ml)	2% lidocaine (20 mg per ml)
3 kg infant (e.g. 8 days old)	1.8 ml	0.9ml	Not applicable
15 kg boy (e.g. 4 years old)	9 ml	4.5 ml	2.25 ml
40 kg boy	24 ml	12 ml	6 ml
70 kg man	Not applicable	21 ml	10.5 ml



Lidocaine with epinephrine must not be used because there is a risk of constriction of the blood vessels to the whole penis, which can cause gangrene and loss of the penis.

The advantage of lidocaine is that it works rapidly. An alternative is a mixture of 5 ml of lidocaine, 1%, and 5 ml of plain bupivacaine, 0.25%. This is more expensive but has the advantage of providing longer-lasting anaesthesia (up to 4–5 hours after the operation).

### **6.3.3. Safe injection of local anaesthetic**

It is the circumcision provider's responsibility to check the vial of anaesthetic, to check that the correct agent at the correct concentration has been selected, and to check the expiry date. It is important to verify that the anaesthetic is clear and that there are no visible particles, which may suggest that the vial is contaminated.

Once the needle is in place, but before injecting any anaesthetic, the circumcision provider should gently aspirate to make sure that no blood enters the syringe. This is to ensure that anaesthetic is not injected into a blood vessel. This safety precaution should be repeated each time the needle is moved, before any additional anaesthetic is injected.

### **6.3.4. Additional analgesia**

Analgesics, such as paracetamol, may be given after the operation. However, best practice is to give one paracetamol tablet (adult dose 500 mg) 1–2 hours before surgery, and one tablet for the patient to take 6 hours later. This produces better postoperative analgesia than postoperative tablets alone.

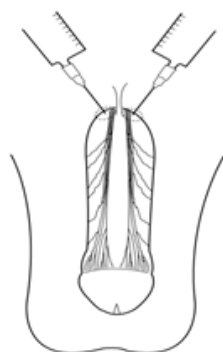
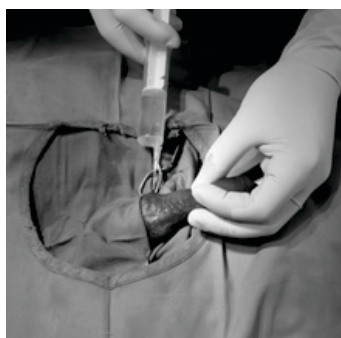
### **6.3.5. Ring block technique**

Using a fine (23-gauge) needle, inject approximately 0.1ml of anaesthetic subcutaneously at the 11 o'clock position. Then, without withdrawing the needle, advance it into the subdermal space, making sure that the needle is freely mobile. At this point, inject 2–3ml of anaesthetic to block the dorsal penile nerves (Fig. 6.13). Then advance the needle subcutaneously around the side of the penis and inject an additional 1ml of anaesthetic. Withdraw the needle and repeat the procedure, starting at the 1 o'clock position so as to complete a ring of anaesthetic. In some cases it may be necessary to make an additional injection on the underside of the penis to fully complete the ring of anaesthetic. After injection, massage the base of the penis for 10–20 seconds to increase the diffusion of the lidocaine into the surrounding tissues. Once the anaesthetic has been injected, the circumcision provider should wait for 3 to 5 minutes (timed by the clock). A common mistake is to start the procedure before the anaesthetic has had time to work. Sensation should be tested before starting the surgery. This can be done by gently pinching the foreskin with an artery forceps. If there is any residual sensation, the circumcision provider should wait for a further 2 to 3 minutes and test again. If there is still sensation, more local anaesthetic should be given. Sometimes, it helps to give additional local anaesthetic separately to the frenulum area, but usually the ring block at the base of the penis is sufficient.

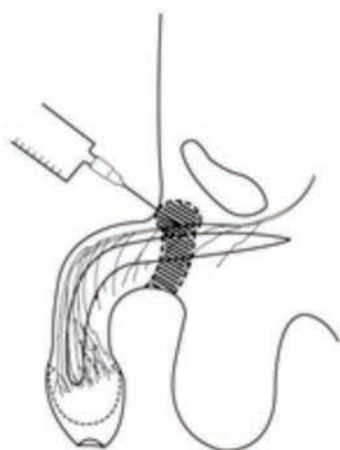
### 6.3.6. Modified approach used in high volume settings in South Africa

- Administer the local anaesthetic prior to skin preparation and draping the operative area.
- The base of the penis (the injection site for the local anaesthesia) is disinfected with an alcohol swab or solution.
- The anaesthetic is then administered as described above.

The advantage of this modified approach is that during the time taken to conduct the skin preparation and drape the client the local anaesthesia is beginning to work. The procedure can start almost immediately once the client is cleaned and draped.



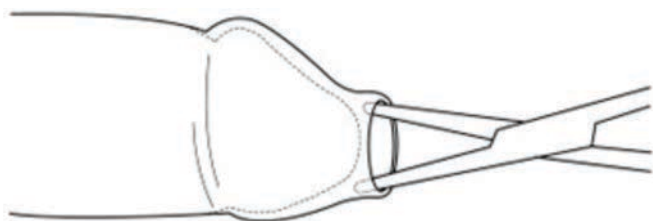
**Figure 6.13 Injection of local anaesthetic for the ring block technique**  
(Photo courtesy of R Bailey, Kisumu Circumcision Project)



**Figure 6.14 The ring of local anaesthetic after injections have been made during the ring block technique**

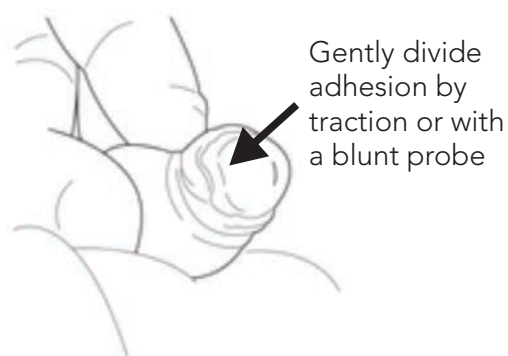
## 6.4. RETRACTION OF THE FORESKIN AND DEALING WITH ADHESIONS

This step is common to all the methods of medical male circumcision described below. After effective local anaesthesia has been achieved, the foreskin should be fully retracted. If the opening of the foreskin is tight, it may be necessary to dilate it with a pair of artery forceps (Fig. 6.15), but this is not usually necessary in adults and adolescents. Care must be taken to stretch just the aperture of the foreskin and not to push the forceps in too far, because there is a risk of dilating the urethra and causing injury to the urethra and glans.



*Figure 6.15 Dilation of the aperture of the foreskin. Do not push the forceps in too far, to avoid injury to the urethra*

After the foreskin has been retracted, separate any adhesions by gentle traction or using a blunt probe, such as a pair of closed artery forceps (Fig. 6.16). If adhesions are particularly dense, the circumcision provider may decide to stop the procedure and refer the patient to a more experienced circumcision provider.

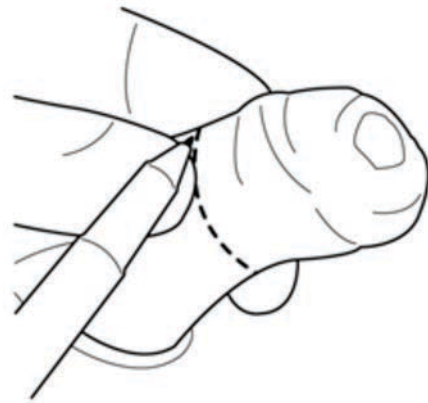


*Figure 6.16 Retracting the foreskin to fully expose the glans and separate any adhesions*

## 6.5. MARKING THE LINE OF THE CIRCUMCISION

This step is common to all the methods of circumcision described below. With the foreskin returned to a natural “resting” position, indicate the intended line of the incision with a marker pen. The line should correspond with the corona, just under the head of the penis (Fig. 6.17). Some uncircumcised men have a very lax foreskin, which is partially retracted in the resting position. In such cases it is better to apply artery forceps at the 3 and 9 o'clock positions, to apply a little tension to the foreskin before marking the circumcision line (Fig. 6.29). However, it is important not to pull the foreskin too hard before marking the line, as this will result in too much skin being removed.

If a marker pen is not available, dabs of gentian violet may be applied with a blunt probe, the tip of an artery forceps or other sterile instrument. Pinch marks made with a toothed forceps are also an alternative.



*Figure 6.17 Marking the line of the circumcision*

## 6.6. SURGICAL METHODS

There are three widely used methods of circumcision. All three methods produce a good long-term result, but require different levels of skill.

- 1) The **sleeve method** produces an excellent result, but requires the highest level of surgical skill.
- 2) The **forceps-guided method** produces a less tidy result initially, but has the advantage that it is a simple technique suitable for a clinic setting. In clinical trials this method has produced consistently good results with low complication rates. It cannot be used for men with phimosis, since the foreskin cannot be fully retracted.
- 3) The **dorsal slit method** is probably the most widely used method worldwide.

### 6.6.1. Forceps-guided method of circumcision

This is a simple step-by-step procedure, which can be learnt by circumcision providers who are relatively new to surgery. It can be used in clinics with limited resources, and it can be done without an assistant. A disadvantage of the procedure is that it leaves between 0.5 and 1.0 cm of mucosal skin proximal to the corona. The forceps-guided technique was used in the South African and Kenyan trials of circumcision and HIV infection. The version described here was standardised by the Kenyan study team.

**Step 1:** Prepare skin, drape and administer anaesthesia, as described in section 6.2

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**Step 2:** Retract the foreskin and separate any adhesions, as described in section 6.4

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**Step 3:** Mark the intended line of the incision, as described in section 6.5

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**Step 4:**

Grasp the foreskin at the 3 o'clock and 9 o'clock positions with two artery forceps. Place these forceps on the natural apex of the foreskin, in such a way as to put equal tension on the inside and outside surfaces of the foreskin. If this is not done correctly, there is a risk of leaving too much mucosal skin or of removing too much shaft skin.

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**Step 5:**

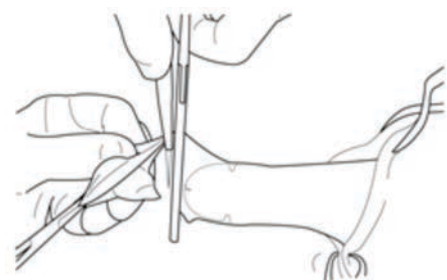
Put sufficient tension on the foreskin to pull the previously made mark to just beyond the glans. Taking care not to catch the glans, apply a long straight forceps across the foreskin, just proximal to the mark, with the long axis of the forceps going from the 6 o'clock to the 12 o'clock position (taking the frenulum as the 6 o'clock position). Once the forceps is in position, feel the glans to check that it has not been accidentally caught in the forceps.



**Figure 6.18** Forceps-guided method.  
Forceps is applied taking care not to catch the glans

**Step 6:**

Using a scalpel, cut away the foreskin flush with the outer aspect of the forceps. The forceps protects the glans from injury, but nevertheless, take particular care at this stage.

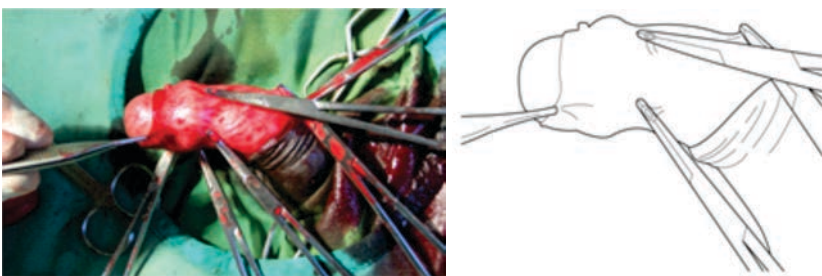


**Figure 6.19** Forceps-guided method  
Cutting off the foreskin.

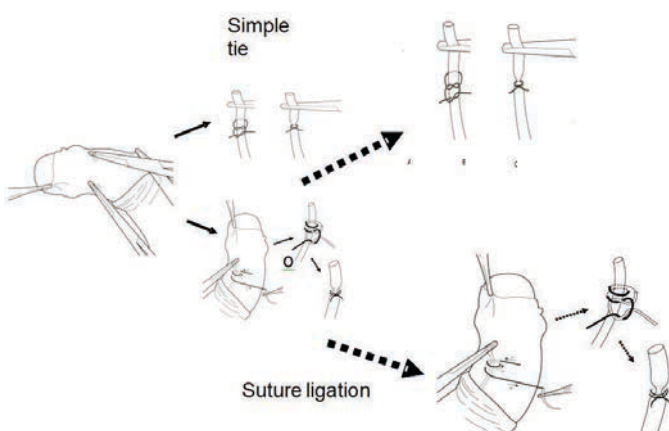


**Step 7:**

Stopping the bleeding: Pull back the skin to expose the raw area. Clip any bleeding vessels with artery forceps. Take care to catch the blood vessels as accurately as possible and with minimal adjacent tissue. Tie each vessel (see Fig. 6.20; 6.21; 6.22) or under-run with a suture and tie off. Take care not to place haemostatic stitches too deeply. When dealing with bleeding in the frenular area or on the underside of the penis, take care not to injure the urethra.



**Figure 6.20** Applying artery forceps to blood vessels to stop bleeding



**Figure 6.21** Haemostasis with artery forceps and tying off (suture ligation) of blood vessels



A. Locate blood vessel using forceps



B. Hold blood vessel with forceps so that the artery forceps can be applied

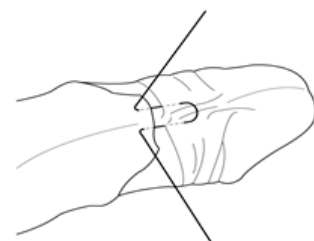


C. Apply artery forceps taking minimum amount of tissue

**Figure 6.22** Haemostasis with artery forceps and tying off (suture ligation) of blood vessels

**Step 8:**

Suturing the frenulum: Place a horizontal mattress suture at the frenulum. When placing the frenulum suture, take care to align the midline skin raphe with the line of the frenulum (Fig. 6.23). A common error is to misalign the frenulum and the midline skin raphe, which causes misalignment of the whole circumcision closure.



**Figure 6.23** Horizontal mattress suture at the frenulum (6 o'clock position)

**Step 9:**

Place a vertical mattress suture opposite the frenulum, in the 12 o'clock position (Fig. 6.24). The suture should be placed so that there is an equal amount of skin on each side of the penis between the 12 and 6 o'clock positions. The technique of vertical mattress suture is shown in Fig. 6.6. Place two further vertical mattress stitches in the 3 o'clock and 9 o'clock positions (see Fig. 6.8).



**Figure 6.24** Placing a vertical mattress suture in the 12 o'clock position

It is helpful to leave a long end on the horizontal mattress suture at the frenulum (at the 6 o'clock position) and on the vertical mattress suture opposite (at the 12 o'clock position). An assistant can hold the long ends of the sutures with artery forceps to stabilise the penis during suturing (Fig. 6.25).



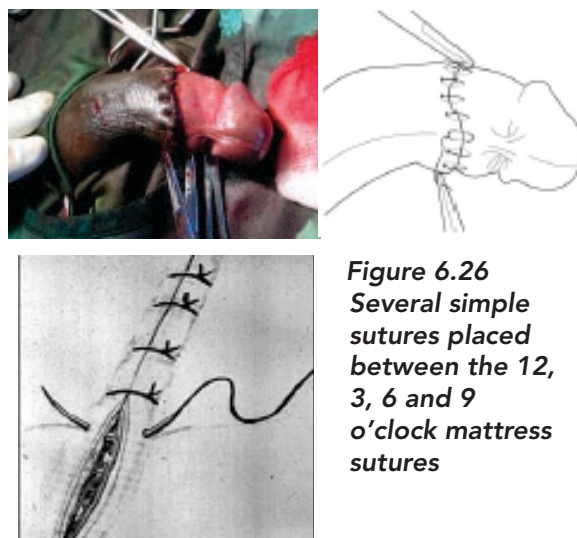
**Figure 6.25** Penis stabilised by an assistant holding two artery forceps (arrows) attached to the long ends of the 6 and 12 o'clock sutures

**Step 10:**

After placement of the sutures at the 6, 12, 3 and 9 o'clock positions, place two or more simple sutures in the gaps between them. (Fig. 6.26)

Depending on the skin pigmentation, there may be a strong contrast between the colour of the penile shaft skin and the remaining mucosa. With time the exposed mucosal skin will become darker and the contrast less marked.

After the procedure is finished, **check for bleeding before applying a dressing.**



**Figure 6.26**  
Several simple sutures placed between the 12, 3, 6 and 9 o'clock mattress sutures

**Step 11:**

**Dressing:** A standard penile dressing technique is used regardless of circumcision technique. Check for bleeding, minor bleeding from a skin edge will often stop after five minutes of pressure with gauze. Once all bleeding has stopped, place a piece of petroleum-jelly-impregnated gauze (tulle gras) around the wound. Place sterile dry gauze over this, and secure in position with adhesive tape (Fig 6.27). Take care not to apply the dressing too tightly as this may cause restriction of the blood supply and necrosis of the glans.

The dressing should be left in position no longer than 48 hours. Patient should be seen at a clinic for postoperative follow-up and removal of the dressing. If the dressing has dried out, it should be gently dabbed with antiseptic solution (aqueous cetrimide) until it softens and is removed gently (Fig 6.28). It is important not to disrupt the wound by pulling at a dressing that has dried on the wound.



**Figure 6.27** Standard dressing





A: after removal of the gauze swab.



B: using cetrimide to soak off a paraffin gauze that has dried to the wound.



C: appearance of a wound healing normally 48 hours after the operation

**Figure 6.28 Removal of dressing at follow-up visit**

### 6.6.2. Dorsal slit method of circumcision

The dorsal slit method requires more surgical skill than the forceps-guided method. It is helpful to have an assistant present during the procedure, although it can be done without one. **There is a risk that more skin is cut away from one side than the other, giving an asymmetric result.** Nevertheless, the technique is widely used by general and urological surgeons throughout the world.

**Step 1:** Prepare skin, drape and administer anaesthesia, as described in section 6.2

**Step 2:** Retract the foreskin and remove any adhesions, as described in section 6.4

**Step 3:** Mark the intended line of the incision, as described in section 6.5

**Step 4:**

(optional) Mark the line of incision by making a very shallow incision using a scalpel. This is useful on a deeply pigmented man on whom it is difficult to see the line of the marking pen or dabs of gentian violet. (Fig 6.29)

Before making the shallow incision, check carefully that the incision line is level with the corona and that even amounts of skin are marked for removal from each side of the penis. The incision should be made just through the skin; be careful not to cut too deeply and divide blood vessels.



**Figure 6.29 Superficial incision used to mark line of incision**

**Step 5:**

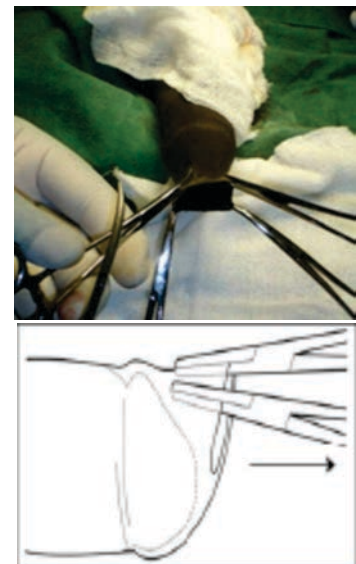
Grasp the foreskin with artery forceps at the 3 o'clock and 9 o'clock positions. Take care to apply the artery forceps so that there is equal tension on the inner and outer aspects of the foreskin (Fig. 6.30).



*Figure 6.30 Tensioning the foreskin*

**Step 6:**

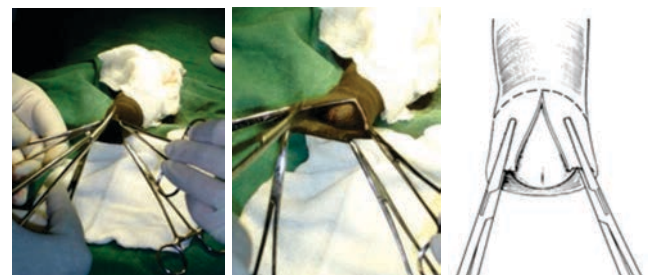
Place two artery forceps on the foreskin in the 11 o'clock and 1 o'clock positions (Fig. 6.31). Check that the inside blades of the two artery forceps are lying between the glans and foreskin, and have not been inadvertently passed up the urethral meatus. Apply forceps at 3 and 9 o'clock positions before making the dorsal slit to help reduce blood loss



*Figure 6.31 Placing artery forceps at the 11 o'clock and 1 o'clock positions (In the drawing the forceps in 3 and 9 o'clock positions are not shown)*

**Step 7:**

Between the two artery forceps, in the 12 o'clock position, use dissection scissors to make a cut (the dorsal slit) up to but not beyond the previously marked incision line (Fig. 6.32).

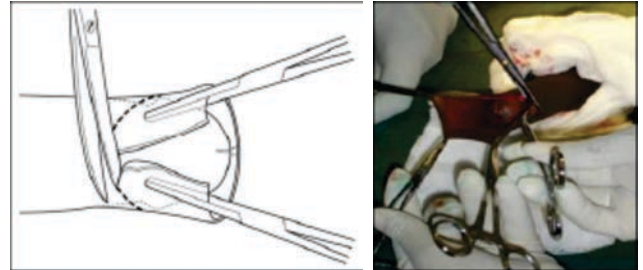


*Figure 6.32 Cutting the dorsal slit*



**Step 8:**

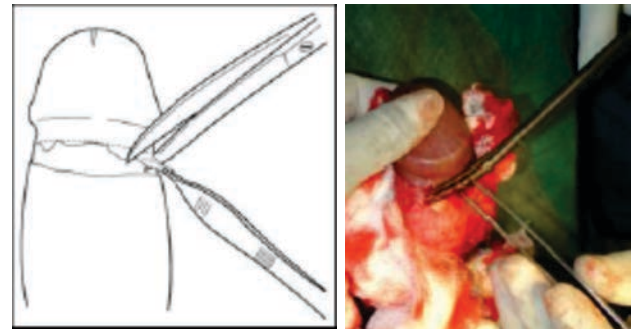
Using dissection scissors, cut the foreskin free, following the previously marked circumcision line (Fig. 6.33).



*Figure 6.33 Cutting away the foreskin with dissection scissors*

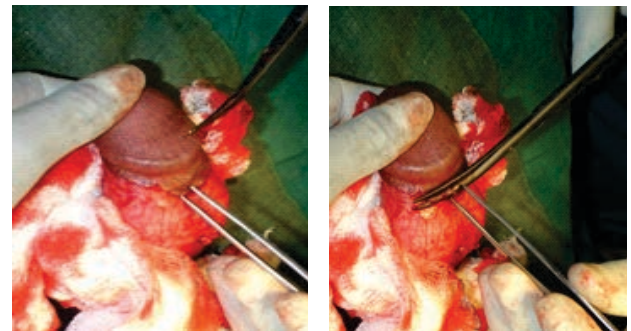
**Step 9:**

Any skin tags on the inner edge of the foreskin can be trimmed to leave approximately 5 mm of skin proximal to the corona (Fig. 6.34). Care must be taken to trim only the skin and not to cut deeper tissue.



*Figure 6.34 Trimming the inner edge of the foreskin*

Any ragged skin can be trimmed with the dissection scissors (Fig. 6.35).



*Figure 6.35 Trimming ragged skin*

**Step 10:**

Stop any bleeding, suture the wound and apply dressing as described in step 7-11 of the forceps guided method.

## 6.7. VARIATIONS IN TECHNIQUE FOR MINOR ABNORMALITIES OF THE FORESKIN

The techniques described in this manual assume that the foreskin and frenulum are normal. However, clinic-based circumcision can be undertaken in the presence of minor abnormalities, if the circumcision team has sufficient experience. Any abnormalities should be detected in the preoperative examination of the penis, which should include full retraction of the foreskin. Two abnormalities – both of which are common indications for circumcision – require a slight variation in technique.

### **Phimosis**

Phimosis is scarring of the aperture of the foreskin to the extent that the foreskin cannot be retracted. Often the tip of the foreskin will appear white because of scar tissue. If the scar tissue is extensive, then the man is not suitable for clinic-based circumcision and should be referred to a higher level of care.

The first step in all circumcision operations is to mark the foreskin with the line of the incision. If the sleeve resection method is used, the phimosis will prevent retraction of the foreskin and the line of incision near the corona cannot be marked. In this case, a small dorsal slit should be made, which is just long enough to allow the foreskin to be retracted. Once retracted, any adhesions can be divided and any debris under the foreskin cleaned with a swab soaked in povidone iodine or cetrimide. Once all adhesions have been divided, the second line of incision on the foreskin near the corona can be marked and the circumcision operation can proceed as usual.

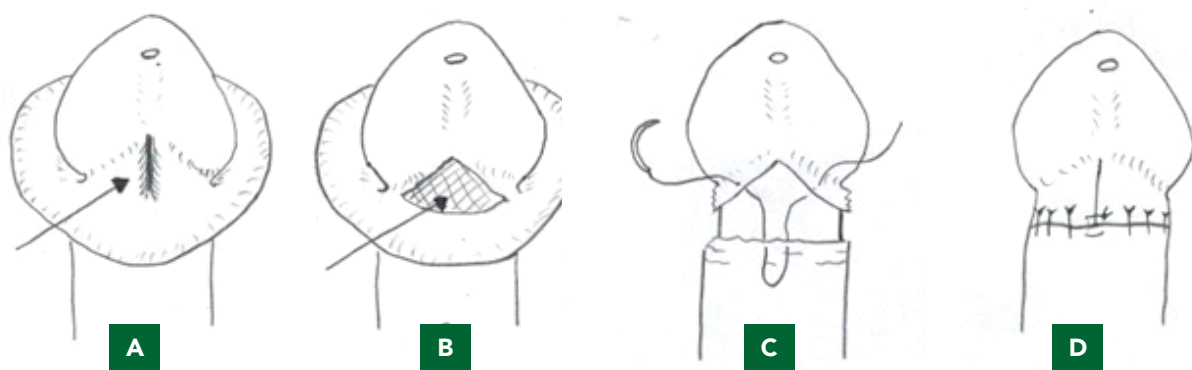
In the forceps-guided or dorsal slit methods, the line of incision is marked on the outer aspect of the foreskin in the normal manner. However, with minor degrees of phimosis, it may be necessary to make a small dorsal slit to allow full retraction and cleaning under the foreskin before proceeding with the operation. The forceps-guided method should not be used if there is extensive scarring.

### **Tight or scarred frenulum**

All males have a band of tissue (the frenulum) on the ventral side of the penis, just below the glans. Usually the frenulum does not interfere with retraction of the foreskin. During early sexual experiences, the frenulum may be stretched as the foreskin is retracted, and minor tears are a frequent problem. Such tears can heal, leaving inelastic scar tissue, which tightens and makes further tearing and scarring more likely. The problem can be seen when the foreskin is retracted during physical examination. Instead of the normal pink frenulum, a tight band of white tissue is seen (Fig. 6.36A). This restrictive frenular band can be easily corrected during circumcision.

Spread open the foreskin and retract it ventrally to put the frenular band under tension. Using dissection scissors, snip the band at its centre, taking care not to injure the urethra, which is just under the frenulum. Any bleeding from the frenular artery should be controlled by careful tying or under-running. After the frenulum has been cut, there will be an inverted V-shaped defect (Fig. 6.36B).

The circumcision can then be performed as usual. In this case, however, do not suture the penile skin up to the edge of the foreskin defect, since this will cause increased tension on the ventral side. This tension may cause curvature of the penis or possibly make erection or coitus uncomfortable. Instead, close the V-shaped defect by placing the frenular suture 1–2 cm (depending on age and penis size) back from the apex of the V, taking both sides of the defect (Fig. 6.36C). The V incision is thus converted into an inverted T. Suture the rest of the skin as in a normal circumcision (Fig. 6.36D).



**Figure 6.36** Variation in technique if the frenulum is tight or scarred

## 6.8. USE OF DEVICES IN ADULTS AND ADOLESCENTS

There are currently many devices that can be used for medical male circumcision. However, only two have been accepted for the WHO list of pre-qualified male circumcision devices. These are the PrePex, which was listed on 31 May 2013, and the ShangRing, which was listed on 5 June 2014. These guidelines will only discuss these as the NDoH recommends the use of only pre-qualified devices, which have met all the prerequisites necessary prior to scale up.

### 6.8.1. The PrePex™ device

PrePex is a single use, disposable elastic collar compression device. It has been demonstrated to be efficacious in male circumcision and safe for use among healthy males 13 years and older, when used by trained mid-level health care providers. It is, however, necessary that skills and surgical backup facilities be available to the client within 6-12 hours at the time of placement or soon after, to safely convert failures of device placement, such as displacement and self-removal, to conventional procedures.

The use of devices does not obviate the need for surgical services. Skills for such services are still required for men who are under 13 years or otherwise not eligible for a device method, or for clients who prefer a surgical method.



**Figure 6.37 PrePex Components**

1) Placement Ring; 2) Elastic Ring; 3) Inner Ring with Verification thread



**Figure 6.38 PrePex Sizing Plate (PSP)**

All components are disposable and should not be re-used. Each test kit should have an expiry date listed on the label and must be stored at -10 to 55°C away from sunlight, with humidity of up to 80%.

#### The use of PrePex™

- does not routinely require injectable anaesthesia or suturing
- requires less time to perform than conventional surgery
- requires two visits to a service provider - one for placement and a second for removal
- must be worn for one week
- healing is by secondary intention and takes about 1-2 weeks longer than conventional surgery

When the device has been placed, a second visit is required for its removal, and services must be organised to accommodate both visits at an interval of one week.

**NB: Only trained providers should place and remove MC devices and all training must include emergency management as appropriate for the device method used.**

**The mechanism of action** consists of slow compression between an elastic ring and a hard surface that is sufficient to occlude circulation and produce tissue ischaemia. Part or all of the device and the foreskin are left in place for more than 24 hours, thereby causing ischaemic necrosis of the foreskin. The device and the foreskin are removed at a later date. Such devices can be applied without the need for injected local anaesthetic.

**Staff requirements and skills:** A team of two trained providers are required for placement: one serving as the 'operator', the other as the 'assistant'. One or two providers can safely remove the device.

#### a) Screening

The following males are eligible to be considered for the PrePex device:

- Males 13 years and older
- No contraindications to conventional male circumcision surgery
- No contraindications specific to PrePex which include phimosis, tight frenulum, narrow foreskin and adhesions. Extra precautions must be taken to look for these abnormalities amongst adolescents.

Before performing the procedure, screen the patient for any contraindication, and physically test if the opening of the foreskin is wide enough for the PrePex procedure. Perform the test with examination gloves. Stretch the foreskin and visually assess the flexibility of the foreskin and the opening.

#### Contraindications

- Men who have penis smaller than size A
- Non-intact skin or dermatitis of foreskin or penis
- Allergy to rubber
- Active genital infection
- Adhesions
- History of bleeding disorders
- Genital abnormalities including

(narrow prepuse, phimosis, paraphimosis, hypospadias, epispadias, torn or tight frenulum)

- Any condition preventing complete retraction of the foreskin to expose the entire sulcus
- Any general infectious disease

**NB: Men who do not prefer, or are not eligible for a device method, should be informed that they may be eligible for conventional surgical MC.**

#### b) Counselling

It should be emphasised that medical circumcision does not provide complete protection against HIV, but that it complements rather than replaces other HIV prevention strategies. Clients who choose the PrePex device should know where the nearest surgical referral facility is that is within 6-12 hours of reach to manage potentially serious complications. It is important to:

- stress the importance of the device remaining in place for a week, the need to avoid activities that might displace the device including sexual intercourse and masturbation, and the necessity for prompt follow-up by a trained provider should a displacement occur
- explain clearly the potential symptoms such as pain or odour that might be experienced while wearing the device and how to manage them
- discourage self-removal of the device and explain symptoms that may develop with device displacement or early removal
- explain clearly the need to return for a second visit in one week for device removal by a trained provider -- or earlier if there are concerns
- underscore the need to abstain from sexual activity or always use a condom for an additional 6-7 weeks after device removal, until the wound is healed



### c) Patient Preparation

During the PrePex MC procedure, providers should wear examination gloves at all times.

#### Step 1:

Prepare the skin with antiseptic solution, starting with the glans and the shaft of the penis, and moving out to the periphery.

#### Step 2:

Use a new, single use PrePex Sizing Plate (PSP). Select the appropriate size A, B, C, D, or E by sliding each opening of the PSP over the glans and placing it directly under the coronal sulcus. The appropriate size is the opening which fits best (Fig. 6.39). Choose PrePex based on the sizing outcome (A, B, C, D or E).

Type	Diameter	Catalog#
A	26mm	DW0201
B	28mm	DW0202
C	30mm	DW0203
D	32mm	DW0204
E	34mm	DW0205



Figure 6.39 Select PrePex size using PSP

**Note:** If the diameter under the coronal sulcus is too large and it cannot fit in to the E opening or if it is too small and it cannot fit precisely to size A, do not perform the PrePex procedure and refer the patient for surgical circumcision.

### d) Procedure preparation

#### Step 1:

Mark the outer circumcision line according to Chapter 6-5 (Fig 6.17), using a standard medical skin marker only (Fig. 6.40).

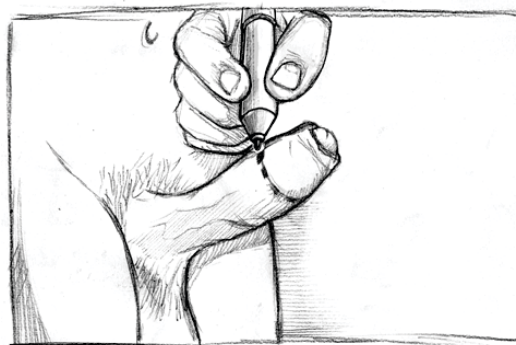


Figure 6.40 Marking the outer circumcision line

### Step 2:

This step is common to all of the methods of circumcision. Stretch the foreskin past the glans and release. When the foreskin has returned to a natural “resting” position, indicate the intended line of the circumcision with a skin marker. The line should correspond with the corona, just under the head of the penis. Some uncircumcised men have a very lax foreskin, which is partially retracted in the resting position. In such cases it is better to apply a little tension to the foreskin before marking the circumcision line. However, it is important not to pull the foreskin too hard before marking the line, as this will result in too much skin being removed.

### Step 3:

Mark the intended circumcision line, as described above, with a V shape, pointed towards the frenulum, on the underside (ventral aspect) of the penis (Fig. 6.41). The apex of the V should correspond with the midline raphe. Make sure the V shape is not too sharp. Make sure that the marked circumcision line will not be erased during the PrePex procedure. If the marking is not clearly visible do not perform the procedure. Before continuing it is very important to mark the line again, if necessary.

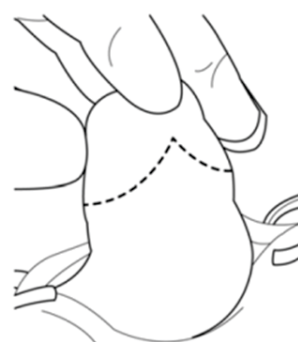


Figure 6.41 V-shaped point of circumcision line

### Step 4:

After verifying that the line marking is clear, pull the foreskin down towards the body and apply 1gr of 5% anesthetic cream on the exposed shaft area up to the coronal sulcus. Once the anesthetic cream has been applied, there is no need to wait for the anesthetic cream to take effect and the procedure can commence immediately.

## e) PrePex Placement Procedure

### Step 1:

Place the Elastic Ring on the Placement Ring (Fig. 6.42). Do not remove the Verification Thread; it is intended to correct Elastic Ring misplacement

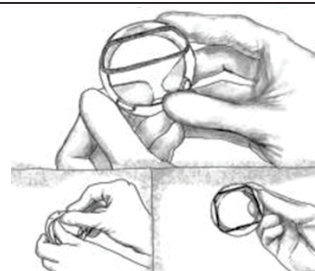


Figure 6.42 Placing the Elastic Ring on the Placement Ring

### Step 2:

Place the Placement Ring (with Elastic Ring in place) on the penis shaft with the Elastic Ring side facing away from the body.



Figure 6.43 Placing Placement Ring on penis shaft

**Step 3: (must be performed by 2 people)**

The first person should stretch the foreskin up and to the sides for insertion of Inner Ring, holding the foreskin dorsal and ventral sides (Fig. 6.44). Use fingers or a dry gauze for a good grip. Ensure that the foreskin is fully stretched by viewing the sulcus area, thus assuring there will be no double entrapped foreskin.



**Figure 6.44** Stretching the foreskin for insertion

**Step 4:**

The second person should insert the Inner Ring with its flat parts toward the dorsal and ventral penis sides into the opening of the foreskin assuring that one of the flat sides is in the area of the frenulum and the other flat side is on the opposite side of the frenulum. Introduce the Inner Ring over the glans and place it just below the glans (on the sulcus).



**Figure 6.45** Inserting the Inner Ring

**Warning:** When introducing the Inner Ring through the foreskin opening, be very careful not to harm the foreskin. If it is impossible to introduce the Inner Ring do not perform the procedure.

**Step 5:**

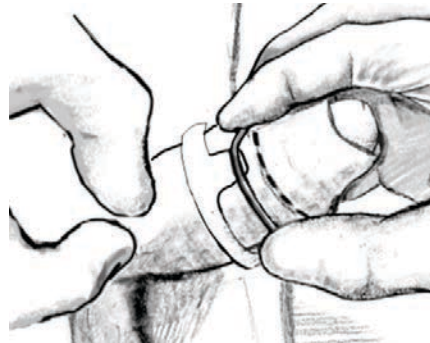
Hold the foreskin closed at the tip of the penis to secure the Inner Ring in place. Advance the Placement Ring and Elastic Ring towards the glans until you can visually see that the Elastic Ring is circumferentially just over and inside the Inner Ring groove and that the Elastic Ring and Inner Ring are aligned.



**Figure 6.46** Securing the Inner Ring in place

**Step 6:**

Once the Elastic Ring and Inner Ring are aligned, with one hand support the Placement Ring, with the other hand adjust the foreskin so the marked circumcision line is exactly underneath the Elastic Ring. Adjust the foreskin from beneath each of the 4 Legs by pulling the skin downwards.



**Figure 6.47** Aligning the Elastic Ring and Inner Ring

**Step 7:**

To place the Elastic Ring - Using 4 fingers of your dominant hand hold the Elastic Ring and Inner Ring together in the space between each of the 4 Placement Ring Legs. Work with the thumb and finger of your non dominant hand to release the Elastic Ring from one Placement Ring Leg at a time.

Make sure the Elastic Ring is mounted directly over the Inner Ring groove and above the marked circumcision line previously marked. If the Elastic Ring is not positioned as desired or if you identify that there is double entrapped foreskin, use the verification thread to pull it off the penis and start the procedure again.



**Figure 6.48** Positioning the Elastic Ring

**Step 8:**

Upon proper placement of the Elastic Ring, discard the Placement Ring, and cut the verification thread with the nurse utility scissors.

Supply the patient with 2 tablets of 400Mg ibuprofen or other painkillers tablets and Post Placement information.

### Patient Instruction and Information

- Not to move the device, not even through clothes – emphasise that touching the device while urinating or bathing must not cause any movement of the device. Any movement of the device may lead to surgical MC.
- To return for device removal after 7 days. Early removal may result in surgical MC.
- To return to the MC center if he wants to remove the device before the 7 days period is over.
- Not to remove the device and not to let anyone other than the designated provider remove it.
- To report any unexpected situation, such as uncontrollable pain or device displacement.
- Not to pull on the foreskin as this can cause partial detachment.
- To abstain from sexual intercourse and to avoid masturbation when the device is on the penis, so it will not move out of place.
- He may experience pain in the following weeks, and he should take the supplied painkiller
- The foreskin distal to the Elastic Ring will become darker and dry.
- Unpleasant odour may occur while wearing the device.
- Infection may occur while wearing the device.
- There may be some partial skin detachments along the Elastic Ring.
- He should bath normally and keep the inner foreskin clean. The area should be rinsed thoroughly (holding the source of water close to the penis and directing the water stream to the foreskin opening) without touching and/or displacing the device in any way.

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### f) PrePex Removal

#### Foreskin Removal

The device is removed 7 days after it has been placed. It is recommended to use sterile Harvey wire cutting scissors (Fig. 6.49), due to their blunt edges and serrated blades, specifically designed to cut tough tissue like the dried necrotic foreskin.



**Figure 6.49** Harvey wire cutting scissors

#### Step 1:

Before removing the foreskin it is recommended to pull the penis and foreskin gently upwards to separate the foreskin from the glans. You may drip fluids (e.g. Antiseptic solution) through the foreskin opening to enhance this separation.

**Warning:** Take care not to injure the urethra through introduction of wire cutting scissors into the meatus or lacerate the glans by not holding the foreskin far enough away from it when cutting.

If the opening of the foreskin is very narrow, you should dilate it gently with the forceps tip to allow insertion of one of the wire cutting scissors blade. Use sterile forceps to hold the foreskin and to pull it away from the glans.



### Step 2:

The foreskin should be cut first vertically toward the Elastic Ring and then with an angle, spirally, to the line that the Inner Ring is visible (Fig. 6.50). Cut the foreskin as close to the Elastic Ring as possible, so that the tip of the Inner Ring becomes visible.



Figure 6.50 Cutting the foreskin

### Elastic Ring Removal

**Warning:** Elastic Ring should be removed only after the foreskin has been removed.

Use a sterile scalpel to cut the Elastic Ring placed over the flat part of Inner Ring on the side that is opposite the frenulum. Do not cut the Elastic Ring on the same side as the frenulum. Take care not to harm the viable skin. Discard Elastic Ring.



Figure 6.51 Cutting the Elastic Ring

### Inner Ring removal

The Inner Ring is removed after the Elastic Ring removal. Use a sterile spatula to separate the necrotic foreskin all around the Inner Ring. Pull the Inner Ring out on a curved side using the spatula; take care to avoid the frenulum. Partial separation of the necrotic foreskin may occur, in such cases extra care should be taken when extracting the Inner Ring to minimize pain at the separation area. Cut the Inner Ring with a cutter before discarding it.

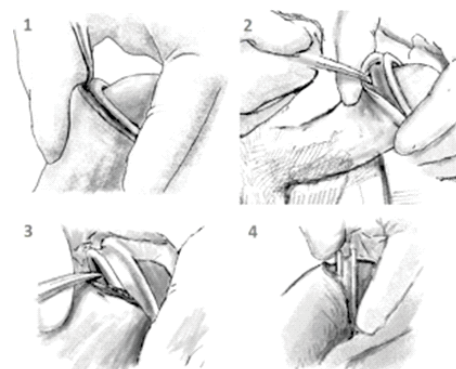


Figure 6.52 Removing the Inner Ring

### g) Post PrePex Removal Procedure

- Clean the circumcised penis with antiseptic solution.
- Dress the circumcised penis with a standard non adherent pad.
- Instruct the patient not to wet the dressing for 2 days.
- Supply the patient with a new dressing to take home and instruct him that in case the dressing on the penis gets wet he should remove it and replace it with a new dry dressing.
- Instruct the patient to remove the dressing completely in 2 days, at which time he can wash the penis and the wound area normally.
- Instruct the patient to contact the MC clinic in case of pain, infection, swelling or fever. Inform the patient that all of those risks may occur following device removal.
- Instruct the patient to abstain from sexual intercourse for 6 weeks after device removal and to avoid masturbation, and that those actions may lead to disruption of the wound which will result in delayed healing.
- Explain to the patient the importance of using condoms, and that circumcision is not a complete protective solution for the prevention of HIV infection.

## 6.8.2. The ShangRing

The ShangRing™ is a sterile, single use, disposable male circumcision device that consists of two concentric plastic rings, the inner of which is lined by a silicone pad. Hemostasis is realised by the pressure applied by the interlocking rings which minimises bleeding and eliminates the need for sutures. At least two visits are required - one to place and one to remove the device.

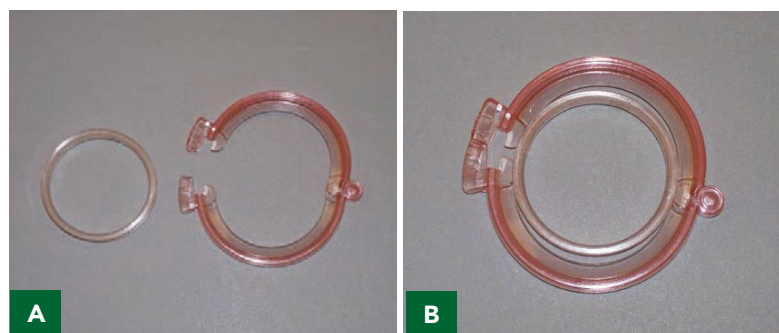


Figure 6.53 ShangRing components, (A) separated and (B) assembled

### a) Shang Ring Circumcision Procedure

#### Step 1:

Measure the penis with special measuring tape.



Figure 6.54 Measuring the penis

**Step 2:**  
Place the Inner Ring over the penis.



*Figure 6.55 Placing the Inner Ring*

**Step 3:**  
Grasp edges of the foreskin. Flip the foreskin over the inner ring.



*Figure 6.56 Putting the Inner Ring in place*

**Step 4:**  
Cut the foreskin on the underside of the device.



*Figure 6.57 Cutting the foreskin*

The device is now in place



*Figure 6.58 ShangRing device in place*

## b) Shang Ring Removal after 7-10 days

### Step 1:

Remove the outer ring



*Figure 6.59 Removing the outer ring*

### Step 2:

Carefully pull back the inner ring from the edge of the wound.



*Figure 6.60 Pulling back the Inner Ring*

### Step 3:

Cut the inner ring in two places with special scissors



*Figure 6.61 Cutting the Inner Ring*



# 7

## **CIRCUMCISION OF INFANTS AND CHILDREN**



## SUMMARY

*This chapter gives step-by-step instructions to perform a circumcision on an infant or a young male child. Four surgical techniques are described:*

- *Dorsal slit method*
- *Plastibell method*
- *Mogen clamp method*
- *Gomco clamp method*



## 7.1. INTRODUCTION

Four widely-used surgical techniques for paediatric medical male circumcision are described in this chapter. The recommended techniques are shown in detail so that they can be referred to during a training course. After the initial training, they can be used to reinforce what has been learnt. Circumcision providers should become expert in the technique most suited to the circumstances of their practice. It is not recommended that a nursing, clinical or medical officer learn all the techniques. It is best to master one. This will produce the best results with the least complications.

Circumcision of infants and pre-pubertal boys is simpler than circumcision of older boys and adults, because the penis is relatively underdeveloped and the foreskin less vascular. Healing is quick and complication rates are low. A major disadvantage is that the child cannot give consent for the procedure. In addition, the primary health benefit – reduced risk of HIV infection – is not realised until many years later when he becomes sexually active. Circumcision can be delayed to an older age, when the boy can understand the risks and benefits of circumcision and consent to the procedure himself. Programmes that promote circumcision of young children are likely to have lower morbidity rates and cost less than programmes targeting adolescents and adults. However, this must be balanced by concerns about consent.

## 7.2. SCREENING MALE BABIES AND YOUNG BOYS FOR CIRCUMCISION

The screening procedures for infants and young children are similar to those for adolescents and adults, and aim to check that the client is suitable for surgery at the clinic. If there is any doubt, surgery should be deferred or the client referred to a specialist centre. The circumcision team should enquire about the health of the baby or young boy.

Neonatal circumcision (within the first 28 days of life) should be undertaken only if the birth was a full-term delivery and the baby has had no significant medical problems. Known haematological disorders and jaundice are contraindications to circumcision so any baby with yellow sclera or purpuric skin lesions should not be accepted for clinic-based circumcision. Any congenital abnormality of the genitalia is a contraindication to circumcision. Only babies with a normal physical examination and an intact, completely normal appearing penis and foreskin should be considered for male circumcision. This is because the foreskin may be needed for plastic surgical repair of the abnormality.

## 7.3. CONSENT

In all cases, the procedure can be done only with the full written consent of the parent or legal guardian. The parent or legal guardian should be fully informed about how the procedure will be done, what type of anaesthetic will be used, the possible complications, and what type of postoperative care should be provided. The consent of the child should also be obtained if he is able to give it (Chapter 4 addresses this issue in more detail).

## 7.4. PREPARATION

Before the procedure, the baby should be clean and have a clean, freshly-laundered or new disposable nappy. Because mothers may need to travel some distance to the clinic, any clinic offering infant circumcision should have facilities for washing babies and changing nappies.

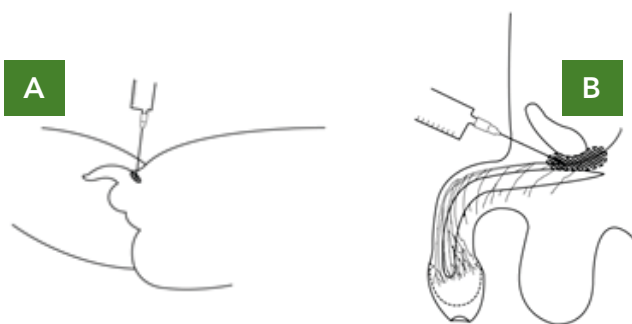
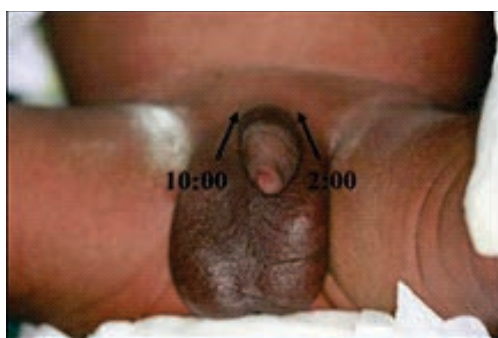
## 7.5. ANAESTHESIA

Anaesthesia is recommended for paediatric circumcision. Many studies have shown that babies react to pain, and that an effective method of providing local anaesthesia is with dorsal penile nerve block.<sup>71</sup> The maximum safe dose of lidocaine in children is 3mg/kg of body weight. For a 3 kg baby, this corresponds to 0.9ml of 1% solution or 1.8ml of 0.5% solution (see Table 6.1). Anaesthetic solutions containing epinephrine (adrenaline) should **never** be used.

### 7.5.1. Safe injection of local anaesthetic

It is the circumcision provider's responsibility to check the vial of anaesthetic, to check that the correct agent at the correct concentration has been selected, and to check the expiry date. It is important to verify that the anaesthetic is clear and that there are no visible particles, which may suggest that the vial is contaminated.

Using a fine needle (e.g. 27-gauge), injections are made at the 10 and 2 o'clock positions. Before injecting any local anaesthetic, the circumcision provider should gently aspirate to make sure that no blood enters the syringe. This is to ensure that anaesthetic is not injected into a blood vessel. This safety precaution should be repeated each time the needle is moved and before any additional local anaesthetic is injected.



*Figure 7.1 Injection of local anaesthetic for a dorsal penile nerve block at the 2 and 10 o'clock positions<sup>72</sup>*

*A: The injection at the base of the penis.*

*B: Diagram of an infant penis, to show the anatomy of the dorsal nerve as it passes under the pubic arch, and the position of the anaesthetic in relation to the dorsal penile nerve and pubic symphysis.*

Local anaesthesia alone can be used for most infants (under one year of age) who can be held during the procedure so that they do not wriggle. It can also be used for boys who are old enough to cooperate during the procedure. For children between the ages of about 1 and 12 years, use of local anaesthetic only is more problematic, since the boy may not remain still during the operation. Sedation may be required in addition to local anaesthesia, but there are risks, particularly of airway obstruction and anoxia. If sedation is necessary to perform the procedure safely the patient should be referred to an appropriate facility.

### 7.5.2. EMLA cream

EMLA 5% cream (eutectic mixture of local anaesthetics, containing 2.5% lidocaine and 2.5% prilocaine) has been used extensively for Plastibell circumcision in children of all ages. It is safe and provides effective anaesthesia when correctly used. It must be applied with care in neonates, because of the potential risk of methaemoglobinaemia from prilocaine metabolites, which can oxidize haemoglobin and dangerously reduce the oxygen-carrying capacity of the blood. Take care not to rub the cream accidentally onto a large area of the baby's body, caused by the hands and feet wriggling during the procedure. This can be done by covering the penis with a small piece of polythene held in place with a sticking plaster. It has been shown that, provided the cream is applied only to the penis, EMLA is safe for both term and preterm infants.<sup>73</sup> Possible minor adverse events include transient local skin reactions, such as blanching and redness.

EMLA cream should be applied to the whole penis 1 to 2 hours before the procedure. In older boys whose foreskin can be retracted, the cream should be applied to the glans so that the glans and the underside of the foreskin are covered. Depending on local circumstances, it is often possible for the parent to apply the cream at home before coming to the clinic. If this is done, the clinic staff should ensure that the cream has been applied properly.

The maximum recommended doses and durations of exposure to EMLA cream are summarised in Table 7.1.

**Table 7.1 Recommended maximum exposures to EMLA cream for infants and children<sup>68</sup>**

Age group	Maximum dose	Maximum skin area*	Period of application**
0-3 months	1 g	10 cm <sup>2</sup>	1 h
3-11 months	2 g	20 cm <sup>2</sup>	4 h
1-5 years	10 g	100 cm <sup>2</sup>	4 h
5-11 years	20 g	200 cm <sup>2</sup>	4 h

Notes:

\* EMLA cream should be applied to the penis only. The maximum areas shown are those above which toxicity is likely to occur if larger areas are coated accidentally.

\*\* EMLA cream will be removed when the penis is cleaned and prepared for surgery.

### 7.5.3. Glucose by mouth

In addition to the other agents described, oral sucrose administration (sugar water) in the amount of 1-2mls has been reported to ameliorate the pain of circumcision.<sup>74</sup>

### 7.5.4. Vitamin K

In many developed countries vitamin K is routinely given to babies to prevent bleeding in the newborn related to vitamin K deficiency. Studies in USA show that Vitamin K at a dose of 1mg intramuscularly given shortly after birth reduces bleeding after neonatal circumcision. There is a need for evaluation of oral or injectable Vitamin K for neonatal circumcision programmes in developing countries.

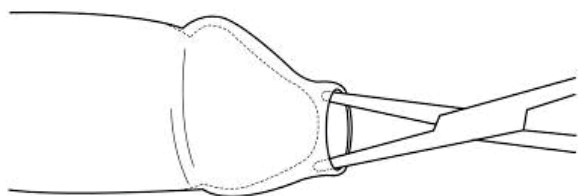
## 7.6. SKIN PREPARATION AND DRAPING

The penis and lower abdomen should be cleaned with povidone iodine solution. If local anaesthetic injections are being used, the skin preparation should be done before the anaesthetic is injected. If EMLA cream is being used, skin preparation should be done 1 to 2 hours after the EMLA cream is applied, just before the procedure. Cover the lower abdominal and thigh area with a sterile operative drape with a hole to allow the penis through. The drape should not cover the baby's face.

## 7.7. RETRACTION OF THE FORESKIN AND DIVISION OF ADHESIONS

In infants and children, the foreskin is commonly fused to the glans by fine adhesions. These adhesions are normal. Before circumcision is performed, it is necessary to separate them.

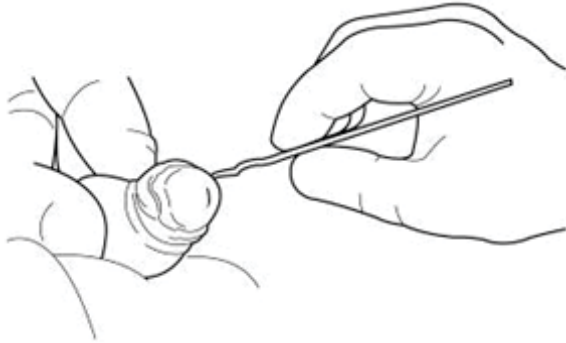
Before the foreskin can be retracted it may be necessary to stretch the opening with an artery forceps. Take care not to put the tips of the forceps into the urethral meatus, to avoid injury.



*Figure 7.2 Stretching the foreskin opening with an artery forceps*

When the opening has been dilated, slowly retract the foreskin and separate adhesions by gently running a blunt probe around the glans or using gauze to separate the glans from the foreskin, until the corona is exposed. An alternative to a blunt probe is the tip of a closed pair of mosquito artery forceps. Sometimes it helps to moisten the glans with chlorhexidine or povidone iodine, or to apply some sterile gel when separating adhesions.





*Figure 7.3 Retraction of the foreskin and gentle division of adhesions with a blunt probe*

## 7.8. PAEDIATRIC SURGICAL METHODS

Four techniques for circumcision of children are described in this section:

1. Dorsal slit method
2. Plastibell method
3. Mogen clamp method
4. Gomco clamp method

The dorsal slit method with closure of the wound with suture is not typically used for infant male circumcision and is more appropriate for older children, particularly in situations where the circumcision provider undertakes relatively few procedures so that it is not practical to stock devices. A small dorsal slit is a preliminary step when using the Gomco and Plastibell devices. Typically, in early infancy, the wound does not need to be closed with sutures, regardless of the device used.

In babies, the foreskin is long in relation to the penis, and there is little chance of penile erection. This has two important consequences. First, the glans will be further exposed towards puberty, as the penis grows relative to the foreskin. Second, clamping devices that remain on the penis for a few days (such as the Plastibell device) are more feasible than with adults, because there is less chance of an erection pushing off the device.

In early infancy (less than 60 days of age), regardless of which technique is used, closure of the wound is typically not necessary. Beyond early infancy (more than 60 days) closure of the wound with simple interrupted sutures may achieve better cosmetic results. The Plastibell provides a unique benefit over the other techniques because it can be used outside of the early infant period without regularly requiring surgical closure.

Extremely rare complications such as loss of the glans, urinary retention and bladder rupture have been reported with the Plastibell device as a result of migration of the ring onto the shaft of the penis, which may happen if the wrong size is used. The Plastibell should only be considered in areas where follow up is both reliable and easily available.

The Plastibell is a disposable device, whereas the Mogen and Gomco clamps are reusable. The choice between the different techniques may depend on the cost of the Plastibell, the need to sterilise the Mogen and Gomco clamps, the ages at which circumcision is performed, and the possible need for suturing skills.

The advantages and disadvantages of the different methods of paediatric circumcision are summarised in Table 7.2.

**Table 7.2 Advantages and disadvantages of four methods of paediatric circumcision**

Method	Advantages	Disadvantages	Comments
#1 Dorsal slit	Can be performed at any age in any hospital or clinic equipped with standard surgical instruments.	Requires more surgical skill than other methods. Rare risk of urethral injury.	Can be undertaken by skilled circumcision providers on an occasional basis
#2 Plastibell	Can be performed outside of early infancy without typically requiring closure of the wound. Disposable. Reduced risk of penile amputation and laceration.	Requires stock of different sizes of Plastibell. Routinely requires dorsal slit with risk of urethral injury. Rare possibility of injuries associated with proximal migration of ring. May require second clinic attendance to have bell removed.	Close follow-up and easy access to care essential. Suitable for clinics with large numbers of babies.
#3 Mogen clamp	Simple, one piece instrument, only one size, fastest of all the techniques, easy to teach Does not routinely require a dorsal slit, reducing risk of urethral injury No parts retained following the procedure	Rare risk of partial glans amputation. Risk of buried glans if device applied for too long	In older infants (>60 days) sutures may be necessary. Suitable for clinics with large numbers of babies.
#4 Gomco clamp	Reduced risk of penile amputation. No parts retained following the procedure.	Routinely requires dorsal slit with risk of urethral injury Requires multiple sets and different sizes of clamps. Multipart device with risk that parts will be lost, damaged or interchanged and penile laceration if device parts interchanged.	In older infants (>60 days) sutures may be necessary

## Suture material

Sutures are almost always used in the dorsal slit method but are typically not required for the Gomco and Mogen technique in early infancy (<60 days of age). The selection of suture size is a compromise between ensuring adequate tensile strength and keeping the amount of foreign material to a minimum. The preferred suture size for paediatric surgery is 5/0 or 4/0 chromic catgut or vicryl rapide. The suture should be mounted on a round-bodied needle.

### 7.8.1. Dorsal slit method for children

The dorsal slit technique can be undertaken by any skilled circumcision provider, using standard operating instruments. The technique is useful in clinics with limited numbers of paediatric circumcisions. The penis of an infant is small, and any circumcision provider who is going to undertake paediatric circumcision should already be competent in general surgical skills and adult procedures. There is a need for fine movements and small tissue bites. In particular, the circumcision provider must take care in the region of the frenulum, because the urethra is close to the skin, and can easily be injured.

#### Step 1:

After cleaning, draping, and anaesthesia, a sterile marking pen or gentian violet is used to mark the line of the circumcision over the corona, with no tension on the foreskin, using the technique described in Chapter 6.<sup>75</sup>

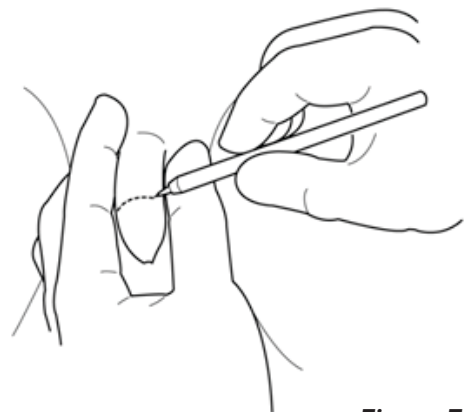


Figure 7.4  
Marking the line of the circumcision

#### Step 2:

Clamp the foreskin at the 12 o'clock position, taking care not to place the tip of the clamp beyond the tip of the clamp beyond the previously marked circumcision line (Fig. 7.5). Close the clamp to crush the skin and leave in place for one minute. This reduces bleeding.



Figure 7.5 Clamping the foreskin

Open and remove the clamp then hold the foreskin with artery forceps on each side of the crushed area, at the 11 o'clock and 1 o'clock positions. Use scissors to make a cut at the 12 o'clock position, through the crushed skin. Take special care not to insert the artery forceps or scissors into the urethra (Fig.7.6).

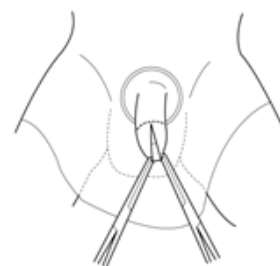


Figure 7.6 The dorsal slit

**Step 3:**

Use scissors to cut the foreskin free, following the previously marked circumcision line (Fig. 7.7). Some circumcision providers use the bell of the Plastibell as a guide. This has the advantage of protecting the glans but the disadvantage that a new Plastibell device is required each time.

It may be necessary in older boys to trim the mucosal layer of the foreskin to 2–3 mm from the corona. If this layer is left too long, the suture line can slip back over the glans, constricting it and making it appear as if the foreskin has not been removed (“concealed glans”). Control any significant bleeding by clipping the blood vessel with an artery forceps and then tying. Bipolar diathermy may be used, if available. Minor bleeding can be controlled with simple pressure for five minutes.

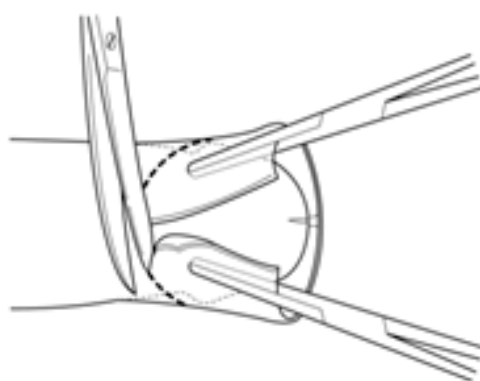


Figure 7.7 Removing the foreskin by cutting along the marked line of circumcision

**Step 4:**

Suture the edges of the incision with 5/0 or 4/0 vicryl or catgut sutures (depending on the age of the child) and a round-bodied needle. Cutting needles should not be used.

Approximate the skin edges and the frenulum using simple sutures; mattress sutures are not necessary. Take great care at the frenulum, because the urethra is near the surface and can easily be injured by too deep a bite. Place all sutures approximately 1 mm from the skin edge. Place the first two sutures at the 12 o'clock and 6 o'clock positions, leaving them long and temporarily held with forceps (Fig. 7.8). This keeps the penis stable while the remaining sutures are completed. In babies, only two further stitches may be needed on each side. In older children, it is helpful to place sutures at the 3 and 9 o'clock positions, and then to place the final sutures in between.

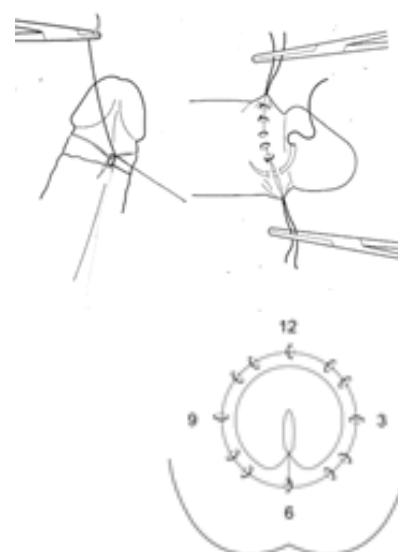


Figure 7.8 Suturing the circumcision wound

Finally, inspect the wound and apply a piece of gauze impregnated with petroleum jelly or with petroleum jelly plus antibiotic.

### Information for parents

The parents of infants and children who have had a dorsal slit circumcision should be told that it is not necessary to use a dressing, and they can look after the baby in the regular way, including normal washing and use of nappies. Healing is usually complete after about one week.

The parents should be told to come back to the clinic if:

- the child appears to be distressed or in pain;
- the child has fever;
- the child does not wake for feeding as per his usual pattern;
- the glans or wound becomes discoloured;
- there is any separation of the skin edges;
- there is any unusual swelling or bleeding;
- the child has any difficulties with urination; or
- the parents have any other worry about healing.

### 7.8.2. The Plastibell method

The Plastibell technique is widely used and has been shown to be acceptable and practical in developing country settings. This technique requires less surgical skill than the dorsal slit method to produce a neat result. It can be used in children up to age 10 to 12 years, and can be used with EMLA anaesthetic cream. However, as with other surgical methods, incorrect technique can result in complications. Any clinic offering Plastibell circumcision needs to stock the full range of bell sizes. If the bell used is too small, it may cause pressure necrosis and injury to the glans. If the bell is too large, it may slip over the glans onto the shaft of the penis and cause constriction. In extreme cases this may result in gangrene and loss of the glans and/or urinary retention and bladder rupture.<sup>76,77,78</sup> For these reasons, the Plastibell technique is only recommended for use in clinics that regularly perform paediatric circumcisions and follow-up can be assured; it is not recommended for occasional use.

The Plastibell is manufactured by the Hollister Company and comes in six different sizes each in a sterile package.



*Figure 7.9 The Plastibell device (manufactured by Hollister Inc., 2000 Hollister Drive, Libertyville, Illinois 60048, USA)*



**Step 1:**

Select the correct size of Plastibell according to the girth of the glans. The most commonly used sizes are 11 or 13 mm.

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**Step 2:**

After cleaning, draping, anaesthesia, and marking the line of the circumcision over the corona, retract the foreskin and separate the adhesions to expose the corona, as described above.

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**Step 3:**

It is usually necessary to make a dorsal slit (as described above) before the Plastibell can be placed on the glans. The slit needs only to be long enough to allow the Plastibell to be placed over the glans. Each Plastibell is supplied in a sterile packet with a ligature – the Plastibell tie. The procedure is easier if, after opening the Plastibell package, the Plastibell tie is placed loosely around the shaft of the penis before the dorsal slit is made (Fig. 7.10).



*Figure 7.10 The dorsal slit, allowing access to the glans*

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**Step 4:**

Place the Plastibell on the glans, as shown in Fig. 7.11.

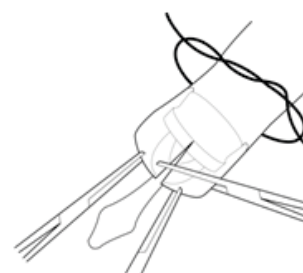


*Figure 7.11 Placing the Plastibell on the glans*

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**Step 5:**

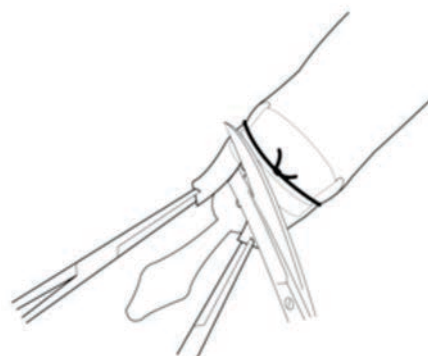
Pull the foreskin back over the Plastibell. Sometimes it is helpful to hold the foreskin in position by clipping it to the Plastibell handle with an artery forceps (Fig. 7.12).



*Figure 7.12 An artery forceps is used to secure the foreskin to the handle of the Plastibell*

**Step 6:**

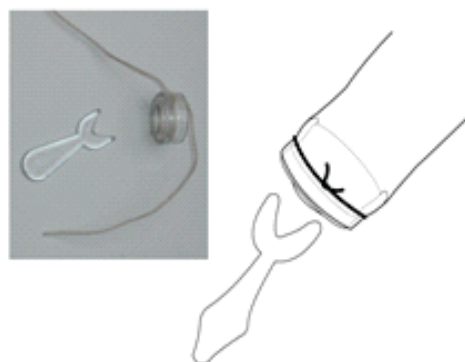
Carefully place the ligature in the groove of the Plastibell. Check that it is in the correct position, then pull it tight and tie. Cut off the foreskin using scissors, leaving 1–2mm of cuff to prevent the ligature from slipping off (Fig 7.13).



*Figure 7.13 Cutting away the foreskin*

**Step 7:**

Snap off the handle of the Plastibell (Fig 7.14).



*Figure 7.14 Snapping off the Plastibell handle*

**Step 8:**

Check that there is no bleeding. If all is well, the child can be sent home and looked after in the normal way, including normal washing and use of nappies. The rim of tissue distal to the ligature will become necrotic and the Plastibell will drop off after 5 to 8 days. Alternatively the infant can be checked after 36 to 48 hours and the ligature cut.

**Information for parents**

The parents of infants and children who have had a Plastibell circumcision should be told that it is not necessary to use a dressing, and they can look after the baby in the normal way, including normal washing and use of nappies. Healing is usually complete after about one week. Bleeding is rare because the clamp crushes the edge of the foreskin. The parents should be told to come back to the clinic if:

- the child appears to be distressed or in pain;
- the child has fever;
- the child does not wake for feeding as per his usual pattern;
- there is any separation of the skin edges;
- there is any unusual swelling or bleeding;
- the child has any difficulties with urination;
- the plastic ring slips onto the shaft of the penis;
- the tip of the penis becomes swollen or changes colour;
- one part of the foreskin remains pink or has not shrivelled after 48 hours;
- the plastic ring has not fallen off within 8 days; or
- the parents have any other worry about healing.

### 7.8.3. The Mogen clamp method

The Mogen clamp is widely used. There have been several studies comparing it with the Gomco clamp, another widely used device. The Mogen ("shield") clamp compares favourably, because it is easy to use and has no parts to assemble. The fewest complications with this method have been reported in the context of circumcision of 8 day-old babies. Since the Mogen clamp is reusable, take careful precautions to clean and sterilise the device properly between procedures. There is a risk that the glans can be pulled into the slit and crushed or partially severed.<sup>79</sup>



Figure 7.15 The Mogen clamp

#### Step 1:

After cleaning, draping, anaesthesia and marking the line of the circumcision over the corona, retract the foreskin and separate the adhesions to expose the corona, as described above.

It is important to separate all adhesions to prevent the glans from getting pulled into the Mogen clamp accidentally and injured.

#### Step 2:

Put traction on the foreskin, and introduce it into the slit in the device, with the concavity facing the glans (Fig. 7.16). It is important to check that the glans is not pulled into the slit. If there is any doubt, remove the clamp, inspect the glans for any sign of crushing injury and reapply the clamp.



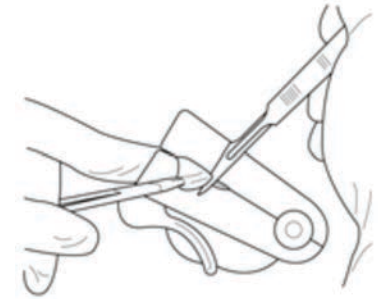
Figure 7.16 The Mogen device in situ

#### Step 3:

Close the device, crushing the foreskin. Leave in the closed position for 3 to 5 minutes, to reduce the risk of bleeding. If the device is left too long it may be difficult to separate the foreskin to reveal the glans after the device is removed.

**Step 4:**

Cut off the foreskin on the outer side of the clamp with a scalpel (Fig. 7.17). Open the device and remove.



**Figure 7.17** The foreskin is cut flush with the clamp using a scalpel. The Mogen clamp device protects the glans from injury.

**Step 5:**

Manipulate the penis, using gentle pressure from the side, to allow the glans to emerge from under the crushed foreskin (Fig. 7.18). This is an important step to ensure the foreskin heals below the level of the corona. In older infants (>60 days) it may be necessary to place some 5-0 simple sutures to approximate the edges.



**Figure 7.18** Liberating the glans after removing the Mogen clamp

**Step 6:**

Wrap a piece of petroleum-jelly-impregnated gauze loosely around the penis.

**Information for parents**

The parents of an infant or child who has had a circumcision using the Mogen clamp technique should be told that it is not necessary to use a dressing and they can look after the child in the normal way, including normal washing and the use of nappies. Healing is usually complete after about one week. Bleeding is rare because the clamp crushes the edge of the foreskin.

The parents should be told to come back to the clinic if:

- the child appears to be distressed or in pain;
- the child has fever;
- the child does not wake for feeding as per his usual pattern;
- there is any separation of the skin edges;
- there is any unusual swelling or bleeding;
- the child has any difficulties with urination; or
- the parents have any other worry about healing.

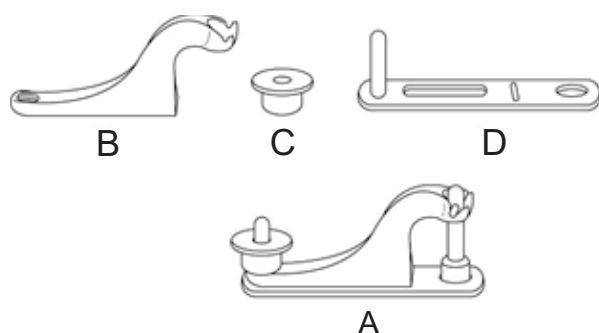
#### 7.8.4. The Gomco clamp method

The Gomco clamp has different bell sizes that can be used for infants, older children and adults. In addition, the crushing of the foreskin is circular (unlike with the Mogen clamp, which is linear). A disadvantage of the Gomco clamp is that, unlike the Mogen clamp, it has four parts – base plate, rocker arm or top plate, nut and bell. Several bells of different sizes are also needed. There is a risk that parts of the clamp may be mislaid or lost during cleaning and sterilisation. Before the start of the procedure and before any anaesthetic is given the circumcision provider must check that likely sizes of Gomco clamps are available. Once the procedure has started and the correct size has been selected the clamp should be assembled to check parts are complete and fit correctly.

Take meticulous care not to mismatch device parts. If a small bell is used with a larger base plate the device will not crush the foreskin or protect the glans, possibly resulting in haemorrhage and penile laceration. Correctly matched and sized parts must be used.

Component parts from different clamps or manufacturers are not interchangeable - take care to check that the clamp is assembled from its original parts only.

The Gomco clamp should also be thoroughly checked and not used if it has stripped threads, a warped or bent base plate, a bent arm, twisted forks on the rocker arm, or a scored or nicked bell. The clinic may mark clamp parts to ensure that they are correctly reassembled. If so, the manufacturer should be consulted on the best way to do this. Some marking methods may weaken the device or make it difficult to sterilise it.



*Figure 7.19 The Gomco clamp*  
A: assembled device. B: rocker arm.  
C: nut.  
D: base plate.



*Figure 7.20 Gomco clamp*



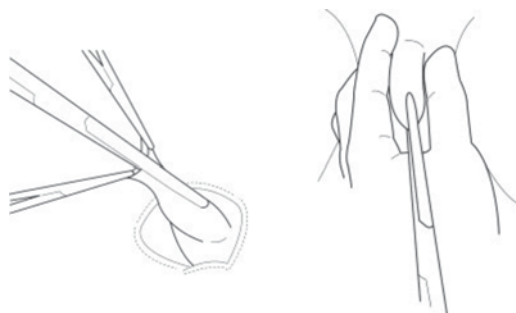
**Step 1:**

After cleaning, draping, anaesthesia, and marking the line of the circumcision over the corona, retract the foreskin and separate the adhesions to expose the corona, as described above.

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**Step 2:**

It is usually necessary to make a small dorsal slit to allow the clamp to be placed on the glans (Fig. 7.21). It is important not to make the dorsal slit too long. Otherwise, it will extend beyond the ring of crushed tissue produced by the Gomco clamp and may produce an untidy result with increased risk of bleeding. The dorsal slit should be long enough to allow all adhesions to be divided and the bell of the Gomco clamp to be placed over the glans.

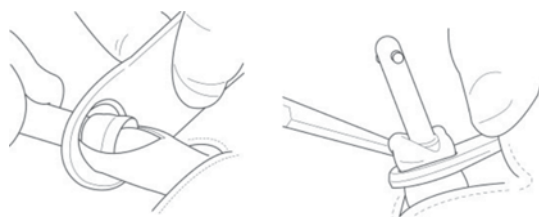


*Figure 7.21 Making a small dorsal slit in preparation for placing the Gomco clamp*

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**Step 3:**

Choose the correct size of Gomco clamp bell to fit the glans. For neonatal circumcision, a bell size of 1.1 cm is usually appropriate. Introduce the bell through the aperture in the foreskin and place over the glans. Then pull the foreskin over the bell (Fig. 7.22).



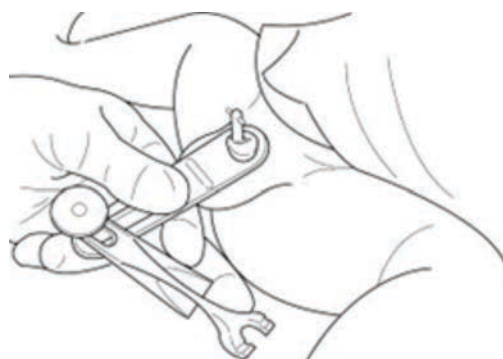
*Figure 7.22 Placing the bell and base plate of the Gomco clamp*

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**Step 4:**

Place the base plate of the Gomco clamp over the bell, keeping the foreskin pulled over the bell (Figs 7.22 and 7.23). Put the rocker arm of the clamp in position, taking care to place the crossbar at the top of the bell correctly in the yoke. The clamp is now ready for tightening.

Before tightening the clamp, make sure that the foreskin is symmetrical over the bell. The apex of the dorsal slit should be visible. Finally, the crossbar at the top of the bell should sit squarely in the yoke of the clamp, otherwise there will be uneven crushing and a risk of bleeding.



*Figure 7.23 Placing the base plate over the bell*

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**Step 5:**

Once you are sure that the clamp is in the optimal position, tighten the nut until the foreskin is crushed (Fig. 7.24).

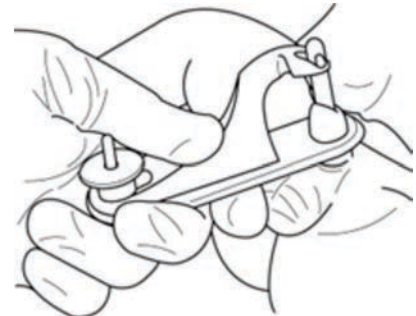


Figure 7.24 Tightening the clamp

**Step 6:**

Using a scalpel, excise the foreskin circumferentially against the bell, distal to the clamp (Fig. 7.25). The head of the penis is protected from being cut by the bell of the clamp. Leave the clamp in position for 5 minutes, then loosen and remove.<sup>80</sup>

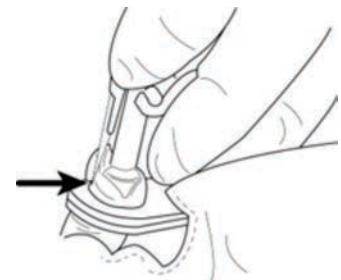


Figure 7.25 Excising the foreskin

**Step 7:**

Once the clamp has been removed (Fig. 7.26), the crushed skin edge will typically have resulted in haemostasis with good tissue alignment. Normally in early infancy, no sutures are required. In older infants (>60 days) it may be necessary to place some 5-0 simple sutures to approximate the edges.



Figure 7.26 Completed Gomco clamp procedure

For a good result with the Gomco clamp, the circumcision provider must ensure that:

- the dorsal slit is not made too long, the apex must be above the crushed skin edge;
- the crossbar of the bell is placed evenly in the yoke of the rocker arm, so that there is an even distribution of the crushing force; and
- the foreskin is symmetrically aligned over the bell.

### **Information for parents**

The parents of an infant or child who has had a Gomco clamp circumcision should be told that it is not necessary to use a dressing, and they can look after the baby in the normal way, including normal washing and the use of nappies. Healing is usually complete after about one week. Bleeding is rare because the clamp crushes the edge of the foreskin. Parents should be told to bring the child back to the clinic if:

- the child appears to be distressed or in pain;
- the child has fever;
- the child does not wake for feeding as per his usual pattern;
- there is any separation of the skin edges;
- there is any unusual swelling or bleeding;
- the child has any difficulties with urination; or
- the parents have any other concern about healing.



## 7.9. INFORMATION FOR PARENTS CONSIDERING CIRCUMCISION FOR THEIR CHILD

Parents should be given information about circumcision so that they can give informed consent to the procedure. The information should be given verbally in the local language using non-technical terms. The clinic should also have printed information sheets that the parents can take home. Information given needs to be specific to the clinic, and should include the following topics.

- **What circumcision is.** Circumcision is removal of the foreskin. This means that the head of the penis is exposed all the time. It does not affect the ability to pass urine normally and does not affect the ability to father children in adult life.
- **The benefits of circumcision.** The main benefits of circumcision are improved penile hygiene, reduced risk of sexually transmitted infections, including HIV, and reduced risk of cancer of the penis.
- **How circumcision is done.** The technique to be used should be described, i.e. dorsal slit with sutures, Plastibell, Mogen or Gomco clamp methods.
- **The risks of circumcision.** It should be explained that complications from male circumcision are extremely rare but can include poor cosmetic outcome, bleeding, infection, or injury to surrounding structures.
- **What to do before circumcision.** No special precautions are needed before the operation. If the child becomes ill before the planned operation date, the parents should contact the clinic to postpone the procedure until after the child recovers.
- **What to do after circumcision.** The instructions will depend on the procedure that has been used (see Chapter 8).
- **What to do if there are any complications or problems after circumcision,** in particular bleeding, infection or other concerns. The family should be instructed to bring the baby back to the clinic, but if distance makes a return visit difficult then an alternative health facility should be identified.

**An emergency contact number** or information about where to go in an emergency.



# 8

## **POSTOPERATIVE CARE AND MANAGEMENT OF COMPLICATIONS**



## SUMMARY

- *Possible complications of male circumcision include excessive bleeding, formation of haematoma, infection, an unsatisfactory cosmetic effect, lacerations of the penile or scrotal skin, and injury to the glans.*
- *Certain complications can be managed in the clinic. For others, the patient may need to be referred to a higher level of care.*
- *Complications of circumcision can be avoided by ensuring asepsis during the procedure, performing careful and accurate excision of the inner and outer preputial layers, ensuring adequate haemostasis, and paying attention to the cosmetic result.*
- *Reassurance before, during and after the procedure is key to managing the possible complications*

## 8.1. POSTOPERATIVE CARE

### 8.1.1. Postoperative monitoring

It is very important to monitor the client for at least 30 minutes after surgery, because it is during this period that the effects of surgical trauma and other complications become apparent. Nurses or other staff members can carry out the tasks related to postoperative recovery and discharge, but the circumcision provider is ultimately responsible for the quality of post-circumcision care.

The summary below assumes that the circumcision has been performed in a clinic under local anaesthetic. If circumcision was performed in a hospital under general anaesthetic, the normal hospital recovery room protocols should be followed.

- Receive the client from the theatre; review the client record.
- Monitor the client's vital signs: check blood pressure, breathing, and pulse twice, at 15 minute intervals.
- Check the surgical dressing for oozing or bleeding.
- Ask the patient if he has any pain.
- Observe the general condition of the client.
- Administer any prescribed drugs or treatment as indicated.
- Provide bland carbohydrates (such as a biscuit) and liquids to raise blood sugar levels unless medically contraindicated.
- Handle the client gently when moving him.
- Make the client comfortable, according to the climate.
- Complete the client record form.

All men have occasional penile erections during sleep, and young men frequently get erections during the day. After the circumcision, the man will still have erections, which will not disrupt the process of wound healing. If, during the immediate recovery period, there is a particularly prolonged or

painful erection, let the client inhale one ampoule of amyl nitrate to stop it.

### 8.1.2. Instructions for the client

It is very important to inform the client that he should avoid sexual intercourse and masturbation for six weeks after the procedure, to allow the wound to heal. A condom should then be used to protect the wound during every act of sexual intercourse for at least six months. Afterwards condoms should always be used correctly and consistently to prevent sexually transmitted infections, HIV or unwanted pregnancy.

The dressing applied during surgery should be removed between 24 to 48 hours later, if there is no bleeding or oozing. If there is any bleeding or oozing, apply a new dressing for a further 24 to 48 hours, and then check again. When bleeding has stopped, no further dressing is necessary and the patient should be instructed to wear freshly laundered, loose-fitting underwear. Underwear should be changed each day. After the dressing has been removed, the man can shower twice a day, and should gently wash the genital area with mild soap (baby soap) and water. (This advice may be adapted according to local conditions, including the availability of facilities for washing and showering.)

Before discharging the client, make sure that he understands that complications are infrequent, but that he should:

- Look for signs of potential problems, such as:
  - increasing bleeding;
  - severe pain in the penis or genital area;
  - inability to pass urine, or severe pain when passing urine;
  - discharge of pus from the surgical wound;
  - increased swelling; or
  - change in colour of the penis or scrota to redness or bluish-greenish.
- Return to the clinic immediately or seek emergency care if a problem develops.
- Make sure the client knows where to go if he has complications.

Give the client postoperative instructions, verbally and in writing, if appropriate. Ask him to repeat the instructions, to make sure that he has understood them. Give him any medications prescribed, and arrange an appointment for follow-up (see below). Check that a responsible adult is available to accompany the client home (this is of particular importance for clients who are below the age of consent). It is helpful if the instructions given to the client are also given to any accompanying adult.

The circumcision provider or designated member of the team should assess whether the client is ready for discharge. Finally, the client record should be completed.

### 8.1.3. Transfer of client records

All client records should be kept at the service site where the procedure took place. If the follow-up visit will take place at another facility, the client should be given a card to give to the follow-up provider. The card should indicate the date of the procedure, the type of procedure, and any special instructions. If it is necessary to transfer the client's records, a copy should be made and the original kept at the facility where the surgery took place.

## 8.2. FOLLOW-UP VISITS

Ideally, the circumcision provider who performed the circumcision should conduct the follow-up examination. However, if this is not possible, a trained non-physician can perform the examination and manage minor complications. If the client goes to a different health centre for follow-up, it is important that the staff at that facility are trained to do a careful follow-up examination and report any complications to the facility where the circumcision took place. Monitoring and reporting of any complications or adverse events are important for a successful follow-up process. Regular analysis of follow-up data is important for planning and improving service delivery

### 8.2.1. Routine follow-up

The follow-up visit should be within 7 days of surgery. The provider should assess the progress of healing and look for signs of infection. The operation site should be examined, and additional examinations should be done as required by the case history, symptoms or the client's complaints. If the client has a problem that cannot be resolved, schedule another visit or refer him to a higher level of care.

At the follow-up visit:

- Check the medical record or referral form for background information on the client and the surgical procedure.
- Ask the client if he has had any problems or complaints since the surgery. Specifically, ask if he has experienced any of the following:
  - discharge or bleeding from the wound;
  - difficulty urinating;
  - fever;
  - pain or other distress;
  - discoloration; or
  - swelling of the penis or scrotum.
- Examine the operation site to assess healing and ensure that there is no infection.
- Treat any complications found during the examination (see below), or refer the client to a higher level.
- Ask the client whether he is satisfied with the service provided or has any comments to make that will help improve the service.
- Document the follow-up visit in the client's medical record, including any complaints, diagnosis, treatment and comments.

### 8.2.2. Emergency follow-up

Clients who come for an emergency follow-up visit should be seen immediately. Staff should be alert to the possibility of excessive bleeding or infection.

At an emergency visit:

- Examine the client immediately. Check all areas related to his complaint.
- Read the medical record, if available.
- Ask the client about the sequence of events since the operation. Ask about: any problems during the surgery or in the recovery period; how problems developed; any increase in discomfort; and any medication taken or other treatments obtained.
- Arrange for treatment of any problems that can be handled on an outpatient basis.
- Note on the client record all problems and actions taken.
- Refer the client to a higher level of care for treatment of potentially serious complications.
- Inform the facility where the male circumcision was performed about the emergency follow-up visit (if applicable).

### 8.3. RECOGNITION, MANAGEMENT AND REPORTING OF COMPLICATIONS

This section describes the complications that can be managed in the clinic setting, and the indications for referral to a higher level of care.

If there are complications during or after the circumcision the team should inform the client, and if possible his family, about what has happened and the plans to deal with the complication. Anxiety and fear of the unknown add to the distress caused by complications. These can be greatly reduced if the client is given clear explanations before and during the procedure about what is happening.

For example, a complaint of increasing penile pain and fever 4 to 5 days after surgery is

indicative of wound infection. If there are signs of infection on examination, the client should be given antibiotics and the situation reviewed after 24 to 48 hours, depending on the severity of the complaint. In these circumstances, the client and his family should be told there is an infection, that antibiotics are needed, and when the situation will be reviewed.

#### 8.3.1. Establishing effective referral pathways

A circumcision team working in a clinic setting should have a formal arrangement with the nearest referral centre, so that there are no bureaucratic obstacles when referral is required. When strengthening or establishing national or local circumcision services, adequate funding for referrals should be included as part of the cost of the circumcision service.

Many complications can be managed in the clinic setting, but occasionally emergency transfer may be needed.

When there is a need for emergency transfer, these rules apply:

- Transfer the client by ambulance, lying flat.
- Explain fully to the client and his family what is happening and why.
- Send a clear note to the referral centre with the client.
- Tell the client not to eat and, depending on the length of the journey, not to drink, as a general anaesthetic may be needed at the referral centre. Give any accompanying family member this information.
- Complete a case note and report describing the events that occurred in detail

### 8.3.2. Complications occurring during surgery

#### Excessive adhesions

If the client has phimosis, so that the foreskin cannot be retracted before surgery, there is uncertainty about what will be found once the dorsal slit has been made and the foreskin retracted. If there are excessive adhesions, it may be difficult to separate the foreskin from the glans. Depending on the experience of the circumcision team, it may be better to stop the procedure and refer the client to a hospital. In this situation, the dorsal slit will have to be repaired, using stitches to stop bleeding. It will not be possible to put on a dressing because the client will need to urinate. Nevertheless, the area should be kept as clean as possible. The wound should be covered with a gauze swab, which the man can keep in place by wearing tight underpants. Arrangements should be made for the man to attend the local referral hospital as soon as convenient, and in any case within 24 to 48 hours.

#### Excessive bleeding during surgery

If there is excessive bleeding during the surgery, the first rule for the circumcision provider is not to panic. More damage is caused by panic attempts to stop bleeding than by the original injury. Place a swab under the penis and a second swab over the bleeding point, apply firm pressure, and wait five minutes (timed by the clock). After five minutes, slowly lift off the swab. Often, the bleeding will have stopped. Do not be tempted to look under the swab before five minutes have elapsed. If the bleeding has not stopped after five minutes, the site of the bleeding will be obvious. Apply a haemostatic artery forceps to the bleeding point. If this does not control the bleeding, apply pressure over a swab for a further 5 minutes (timed). At the end of this time, gently lift the swab again, and under-run the bleeding area with a suture. Remember that the larger blood vessels generally run along the length of the penis, and place the suture proximal to the bleeding (that

is, on the side towards the base rather than the tip of the penis). It is very likely that these measures will control bleeding. If, exceptionally, the bleeding continues, the client should be transferred to a referral centre as an emergency, or a more experienced circumcision provider should be called to help.

#### Bleeding from the frenular artery

If there is excessive bleeding from the frenular artery, an under-running haemostatic stitch should be used to occlude the artery (Fig. 8.1). Take great care not to bite too deeply, because the urethra is near to the surface skin and can easily be damaged.

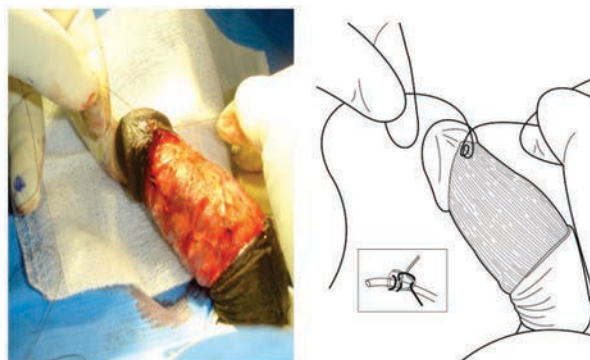


Figure 8.1 Suture under running the frenular artery

#### Accidental injury

Accidental injury can include injury to the glans (for example partial severing of the glans) or too deep an incision, resulting in bleeding that is difficult to control. Any bleeding should be controlled by applying pressure over a piece of gauze, and the client should be transferred as an emergency to a referral centre. If the transfer time is likely to be long, insert a urinary catheter, wrap the penis in sterile gauze, and tape the gauze in place. During the transfer, the client should lie flat. At all times, keep the client and his relatives informed about what has happened and what is going to be done. The risk of such accidents is reduced if the circumcision provider has proper training and certification. A training program with certification will be established in South Africa.



Severing of the glans. If part or all of the glans has been severed, it should be wrapped in a sterile paraffin gauze to prevent drying and placed in a polyethylene bag. Transfer the man and his glans to a referral centre as soon as possible, where it may be possible to reattach the glans.

### 8.3.3. Complications occurring within the first 48 hours after surgery

**Bleeding** is the most likely complication during the first 24 to 48 hours. A small amount of bleeding onto the gauze dressings is usual, but may alarm the client. If he comes back to the clinic with blood-soaked dressings, remove these and inspect the circumcision wound for an obvious bleeding point. If there is fresh blood from the skin edge, insert a further suture. This will require a full sterile procedure, as for the original circumcision, including local anaesthesia and sterile draping. Usually, placing one or two additional mattress sutures over the area will stop the bleeding.

**Haematoma** may form and may be associated with considerable bruising and skin discoloration. In general, haematomas are best left alone, unless they are very large or there is continued bleeding. The choice is between applying a further clean dressing and reviewing the situation in 24 hours, or applying a clean dressing and sending the client to a referral centre. If the circumcision team is relatively inexperienced, it is safer to send the client to the referral centre.

**Wound disruption** is unusual in the first few days, but is sometimes seen in association with subcutaneous bleeding and haematoma formation, when the stitches cut out. In this situation send the client to a referral centre. The specialist at the referral centre may decide either to suture the wound or to leave it to heal by secondary intention, depending on the

state of the skin edges. If the disruption occurs within 48 hours of the operation, it is usually better for the clinic circumcision provider to explore and re-suture the wound.

### 8.3.4. Complications occurring within the first two weeks after surgery

#### Infection

After 2 to 3 days, the most likely problem is wound infection. An infection often causes increasing pain, and there may be visible signs, such as redness or purulent discharge. Give the patient an appropriate antibiotic and advise him to take frequent showers and to put a clean dressing on the wound between showers. If the infection is severe, advise the man to lie on his back, so that his penis is the highest point of his body. This promotes drainage of lymphatic fluid and speeds up the healing process. Sitting in a chair is a bad position. Alternatively the wound can be left without a dressing, but should be protected from flies. Follow-up patients with infections regularly until infection resolves and wound healing begins

#### Wound disruption and cutting out of stitches

When stitches cut out, this usually indicates that there is an infection, so give the patient antibiotics (see above). If more than 48 hours have passed since the operation, do not try to re-suture the wound, as the new stitches are likely to become infected and also cut out, making the situation worse. Leave the wound to heal by secondary intention. See the man at the clinic as often as necessary until the wound has healed. In general, the healing process after infection leaves an untidy result, at least for the first few months. Reassure the man that the appearance will usually become normal after about a year.

#### Worsening wound infection with signs of gangrene

A rare risk of genital surgery is infection with multiple bacteria, causing progressive skin loss. In this situation, the blood supply is cut off,

and the skin becomes necrotic and turns completely black. This condition is known as Fournier's gangrene (synergistic gangrene or necrotising fasciitis) and is more common in men who have diabetes. Any man with signs of spreading infection or black gangrenous skin should be urgently transferred to a referral centre. At the referral centre, it is usually necessary to give a general anaesthetic and remove all the dead skin.

### 8.3.5. Late complications

In the long term, the client may complain of:

- decreased sensitivity of the glans;
- oversensitivity of the glans;
- unsightly circumcision wounds, ragged scars or other cosmetic concerns;
- persistent adhesions at the corona and inclusion cysts. These problems can be avoided if the foreskin is fully retracted during the operation and all adhesions carefully divided.
- discomfort during erection from the scrotal skin being pulled up the shaft of the penis and a tight scrotal sac. This can result from removal of too much skin during the circumcision. These problems can be avoided by careful preoperative marking of the incision lines; and
- torsion (misalignment) of the skin of the penile shaft. This can be avoided by taking care during the operation to align the midline raphe with the frenulum.

### 8.3.6. Postoperative instructions for men who have been circumcised

- After the operation, rest at home for one or two days. This will help the wound to heal.
- You may bathe on the day after surgery, but do not let the dressing get wet.
- Remove the dressing 24 to 48 hours after surgery.
- You are encouraged to bathe daily.
- Do not pull or scratch the wound while it is healing.

- Do not have sexual intercourse or masturbate for 4 to 6 weeks, and use condoms to protect the wound for every act of sexual intercourse for at least six months until the wound has healed completely. (Your health care provider will advise you about this during your follow-up visit.)
- You may have a little pain or swelling around the wound. This is normal. Check occasionally to make sure that it does not get worse. Take any medicines provided or recommended by the clinic. Be sure to follow the instructions given to you.
- Return to the clinic or call if:
  - you notice increased bleeding from the surgical wound;
  - the pain or swelling at the surgical wound gets progressively worse;
  - you have difficulty in passing urine;
  - you develop a fever within one week of surgery;
  - you have severe pain in the lower abdomen;
  - the wound is discharging pus.
- If you have any of these problems, go to:
 

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  - Return to the clinic for a follow-up visit about one week after the operation. A health care worker will check to see how the wound is healing.

Your next appointment is:

Day \_\_\_\_\_  
 Date \_\_\_\_\_  
 Time \_\_\_\_\_  
 Place \_\_\_\_\_

# 9

## **PREVENTION OF INFECTION**

## SUMMARY

- *Health care workers need to follow recommended practices for preventing infection, to protect themselves, other health care workers, and their patients from exposure to HIV and other infections.*
- *Hand hygiene greatly reduces the number of disease-causing microorganisms on hands and arms. It is the most important way of limiting the spread of infection. If hands are visibly soiled, wash them with soap and water; otherwise, use an alcohol-based hand rub.*
- *Wear personal protective equipment to protect both patients and staff from infectious microorganisms.*
- *Wear gloves: when there is a reasonable chance of hand contact with blood or other body fluids, mucous membranes, broken or cut skin; when performing any invasive procedure; and when handling contaminated items. Wear a new pair of gloves for each new patient contact, to avoid spreading infection from person to person.*
- *Hypodermic (hollow-bore) needles can cause injuries to clinic staff at all levels: workers can be stuck by hypodermic needles during patient care, cleaning and housekeeping. Staff may be exposed to needle-stick and sharp injuries when washing soiled instruments and disposing of waste material.*
- *All staff should be trained in the proper handling of sharp instruments.*
- *Waste generated from the use of consumable supplies necessary for male circumcision should be disposed of in a safe environmentally friendly manner.*
- *Biomedical and tissue waste must be disposed of following South Africa's national guidelines for medical waste disposal.*
- *Soiled instruments and other reusable items can transmit disease if not properly cleaned, disinfected and sterilised (or high-level disinfected). High-level disinfection destroys all microorganisms, except some bacterial endospores. Sterilisation destroys all microorganisms, including bacterial endospores.*
- *Proper waste management is important to prevent accidental injury to people who handle waste items, and to prevent the spread of infection to health care workers and the local community.*
- *Post-exposure prophylaxis for HIV with antiretroviral drugs may reduce the risk of infection after exposure to HIV. It will be effective only if it is started as soon as possible after exposure (within 72 hours) and if the full course of treatment is adhered to.*
- *Post-exposure prophylaxis for hepatitis B can reduce the risk of hepatitis B infection.*



## 9.1. BASIC CONCEPTS

Measures to prevent infection in male circumcision programmes have two primary objectives:

- to minimise the risk of infections in people having surgery; and
- to minimise the risk of transmitting HIV and other infections to clients and health care staff, including cleaning and housekeeping staff.

In the context of circumcision services, there are two important pathways for transmission of infection:

### Direct transmission

Enteric and skin infections can be transmitted by this route, as can bloodborne pathogens, such as HIV and hepatitis B virus, either by direct contact with an open wound or blood, blood products and body fluids, or by accident through a needle stick injury.

### Airborne transmission

Pneumonia, pertussis, diphtheria, influenza, mumps, and meningitis can be transmitted through droplets in the air, usually within a range of about 1 metre, while active pulmonary tuberculosis, measles, chickenpox, pulmonary plague, and haemorrhagic fever with pneumonia can be transmitted via droplet nuclei (small-particle aerosols) over larger ranges.

In male circumcision programmes, a major concern is the potential direct transmission of bloodborne pathogens, such as HIV and hepatitis B virus, to health care workers or patients. Exposure may take place during patient care, clinical or surgical procedures, processing of soiled instruments, cleaning and waste disposal. Needle-stick injuries carry a high risk of infection; the actual level of risk will depend on the type of needle, the depth of the injury, the amount of blood or blood product on the needle, and the viral load in the blood.

The risk of acquiring HIV from an HIV-infected person through a needle-stick injury is estimated at 0.3% (three HIV infections for every 1000 injuries). The risk of acquiring hepatitis B virus infection, after being stuck with a needle that has been used on a person with hepatitis B infection ranges from 6% to 37%, with an average of 18%. The risk of acquiring hepatitis C infection after being stuck with a needle that has been used on a hepatitis-C-infected person is 1.8%.<sup>81</sup>

Most instances of transmission of infection in health care facilities can be prevented by the application of basic infection control precautions. In the circumcision clinic, standard precautions, as described below, should be applied to all patients at all times, regardless of their infection status.

## 9.2. STANDARD PRECAUTIONS

Standard precautions are a set of practices to prevent and control infection. They include the use of personal protective equipment, designed to protect health care workers and patients from contact with infectious agents.

Laboratory and health care workers can protect themselves and their patients from exposure to HIV and other infections by following standard precautions.

Often, during clinical care, it is not known whether a patient is infected or colonised with potentially pathogenic microorganisms. Every patient, and every member of staff, should therefore be considered at risk, both of infecting others and of acquiring an infection. Apply standard precautions during all contact between health care workers and patients, in all health care facilities at all times.



The key components of standard precautions are:

- hand washing and antisepsis (hand hygiene);
- use of personal protective equipment when handling blood, blood products, body fluids or excretions, mucous membranes, non-intact skin, or wound dressings;
- prevention of needle-stick and sharp injuries;
- appropriate handling of patient care equipment, environmental cleaning and management of spills;
- appropriate handling of waste.

Each of these components is discussed in detail below.

### 9.3. HAND HYGIENE

Hand hygiene is the single most important and cost-effective measure to eliminate disease-causing microorganisms that contaminate hands, and to limit the spread of infection. Proper hand hygiene can be accomplished by frequent hand washing and frequent use of an alcohol-based handrub.

In most clinical situations, use an alcohol-based handrub for routine hand antisepsis. Commercial handrubs, liquid soaps and skin-care products are sold in disposable containers, and may be used if they meet recognised international standards (such as those of the American Society for Testing and Materials or the European Committee for Standardisation), and are well accepted by health care workers. Where such products are not available or are too costly, an alcohol-based handrub can be produced locally at low cost.<sup>82</sup>

Make clean water available for hand hygiene in all health care settings providing services related to male circumcision (screening, surgery, and follow-up).<sup>iv</sup> All staff should wash their hands with soap and water before starting their clinic duties, and whenever hands are visibly soiled. Staff should also use an alcohol-based handrub frequently, particularly before and after direct contact with each patient.

Hands should be washed or treated with a handrub:

- before and after direct contact with each patient
- after removing gloves
- before handling an invasive device for patient care, whether or not gloves are used
- 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)

<sup>iv</sup> If the tap water is contaminated, use either water that has been boiled for 10 minutes and filtered to remove particulate matter, or chlorinated water (water treated with a dilute solution of sodium hypochlorite (bleach) to give a final concentration of 0.001%.

### 9.3.1. Washing hands with soap and water

The steps, procedures and technique for washing hands are shown in Fig. 9.1, which is also available as a WHO poster. If single-use disposable paper towels are not available, do not use towels more than once before laundering

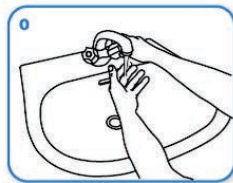
# How to handwash?

Daniele Monzagna/istock

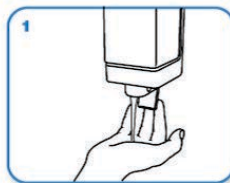
**WASH HANDS ONLY WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB!**



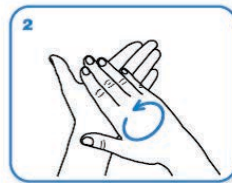
Duration of the entire procedure: **40-60 sec.**



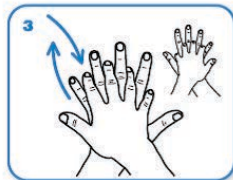
Wet hands with water



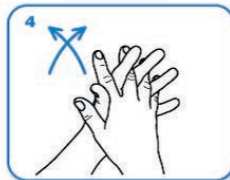
apply enough soap to cover all hand surfaces.



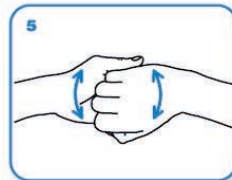
Rub hands palm to palm



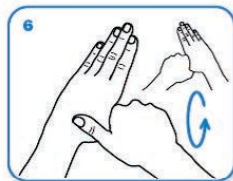
right palm over left dorsum with interlaced fingers and vice versa



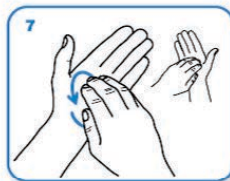
palm to palm with fingers interlaced



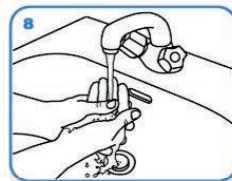
backs of fingers to opposing palms with fingers interlocked



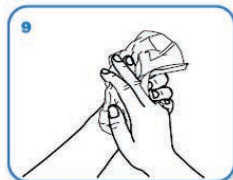
rotational rubbing of left thumb clasped in right palm and vice versa



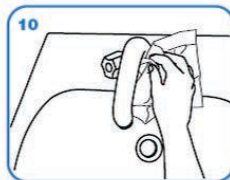
rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.



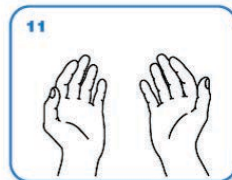
Rinse hands with water



dry thoroughly with a single use towel



use towel to turn off faucet



...and your hands are safe.



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



October 2006, version 1.

**Figure 9.1 Correct hand washing technique for health care workers**

### 9.3.2. Alcohol-based handrub

The steps, procedures and technique for using an alcohol-based handrub are shown in Fig. 9.2, which is also available as a WHO poster

# How to handrub?

Design: monochromia network

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



Duration of the entire procedure: **20-30 sec.**

**1a** Apply a palmful of the product in a cupped hand and cover all surfaces.

**1b** Rub hands palm to palm

**2** Rub hands palm to palm

**3** right palm over left dorsum with interlaced fingers and vice versa

**4** palm to palm with fingers interlaced

**5** backs of fingers to opposing palms with fingers interlocked

**6** rotational rubbing of left thumb clasped in right palm and vice versa

**7** rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

**8** ...once dry, your hands are safe.



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



October 2006, version 1.

Figure 9.2 Correct hand rubbing technique for health care workers

### Keep in mind the following:

- Alcohol-based handrubs do not remove soil or organic matter. If hands are visibly soiled, wash them with soap and water.
- Staff who frequently wash hands or use an alcohol-based handrub should use hand lotions and creams regularly to minimise drying of the skin and reduce the risk of irritant contact dermatitis.
- Staff with an allergy or adverse reaction to alcohol-based handrubs should use other handrubs or soap and water.

If potentially infectious blood or other body fluid is splashed onto non-intact skin, or if there is a potentially infective percutaneous injury, do not use alcohol-based solutions or strong disinfectants; wash the affected part with water and soap, and seek advice on the need for post-exposure prophylaxis (PEP) (see Chapter 10).

### 9.3.3. Surgical hand scrub

The hand scrub procedure for the circumcision provider is described in Chapter 5.

## 9.4. PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment provides a physical barrier against microorganisms, helping to prevent them from contaminating hands, eyes, clothing, hair and shoes, and from being transmitted to patients and staff.

Personal protective equipment includes gloves, masks, protective eyewear (face shield or goggles), cap or hair cover, apron, gown, and footwear (boot or shoe covers).

Personal protective equipment should be used by health care workers who provide direct care to patients, support staff, including medical aides, cleaners, and laundry staff, and family members who provide care to patients in situations where they may have contact with

blood, blood products and body fluids. Laboratory staff who handle patient specimens should always use personal protective equipment.

Do not reuse protective equipment that is designed for single use (e.g. disposable gloves, eyewear, masks, caps, gowns, aprons and footwear). It should be disposed of according to the health care facility protocol. Decontaminate reusable equipment according to the manufacturer's instructions or launder it according to the health care facility protocol.

### 9.4.1. Gloves

The use of gloves does not replace the need for hand hygiene by either hand rubbing or hand washing. Wear gloves whenever the person is likely to come into contact with blood or other potentially infectious materials, mucous membranes, or non-intact skin. Remove gloves immediately after caring for a patient. Do not use the same pair of gloves for the care of more than one patient.

Change or remove gloves in the following situations:

- during patient care if moving from a contaminated body site to a clean body site within the same patient
- after patient contact before touching another patient

In countries with a high prevalence of hepatitis B, hepatitis C and HIV infection, wearing two pairs of gloves (double gloving) may be appropriate for surgical procedures lasting more than 30 minutes or involving contact with large amounts of blood or body fluids. This situation is not likely to apply with properly screened patients undergoing clinic-based circumcision.



**Table 9.1 Gloving requirements for common tasks in a male circumcision service**

Activity	Type of gloves
Checking blood pressure or temperature, giving an injection	No gloves required
Drawing blood and testing for HIV	Examination
Handling and cleaning instruments, handling contaminated waste, cleaning spills of blood or other body fluid	Utility
Surgery	Sterile surgical

**Keep in mind the following**

- Wear gloves of the correct size, particularly for surgery.
- Use water-soluble (non-fat-containing) hand lotions and moisturisers, 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: they should not extend beyond the fingertip. Bacteria and other microorganisms that cause disease can collect under long nails. Long nails also tend to puncture gloves more easily.
- Store gloves in an area where they are protected from extremes of temperature.
- Glove reprocessing is strongly discouraged and should be avoided. There is currently no standardised, validated and affordable procedure for reprocessing gloves.
- Using gloves when they are not necessary represents a waste of resources.

**9.4.2. Masks, caps and protective eyewear**

Masks protect the mucous membranes of the mouth and nose from possible infections, as well as reduce the risks of transmission of infections from the health care worker. They should be worn by anyone undertaking a procedure that is likely to generate splashes of blood, blood products and body fluids. Surgical masks are designed to resist fluids, and are preferable to cotton or gauze masks.

Caps or hair covers and eyewear, such as plastic goggles, safety glasses, face shields and visors, protect against accidental splashes, spills and leaks of blood and other body fluids.

Protective eyewear should be worn by theatre staff during circumcision surgery. Caps are recommended, but are not essential.



### 9.4.3. Aprons and the circumcision provider's gown

Aprons made of rubber or plastic provide a waterproof barrier to keep contaminated fluids off the health worker's clothing and skin. Staff should wear aprons when cleaning instruments and other items used for patient care.

If an apron is used, it is worn under the surgical gown. During circumcision surgery a circumcision provider's gown is recommended, though some circumcision providers prefer to use a clean or disposable apron.

### 9.4.4. Footwear

Appropriate footwear is necessary to protect the feet from injury from sharp or heavy items. Rubber boots or leather shoes provide the best protection, but must be regularly cleaned. Avoid wearing sandals, thongs, or shoes made of soft material.

### 9.4.5. Immunisations

Certain vaccines, such as hepatitis B, can be useful for protecting health care workers and laboratory staff against diseases they may be exposed to during their work.

## 9.5. SAFE HANDLING OF HYPODERMIC NEEDLES AND SYRINGES

All clinic staff should be trained in the safe handling of sharp instruments. Single-use auto-disposable syringes with integrated needles are safer because they cannot be used again, but are expensive. Hypodermic (hollow-bore) needles are the most common cause of injuries to all types of clinic workers:

- Health care workers are most often stuck by hypodermic needles during patient care.
- Cleaning staff are most often stuck by needles when washing soiled

instruments.

- Housekeeping staff are most often stuck by needles when disposing of waste material.

### 9.5.1. Tips for safe use of hypodermic needles and syringes

- Use disposable needles and syringes once only.
- 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.
- In general, it is safer to dispose of a needle and syringe directly into a sharps container without recapping. If a needle must be recapped, use the "one-handed" recapping method:
  - Place the needle cap on a firm, flat surface.
  - Holding the syringe with one hand, use the needle to "scoop up" the cap (see Fig. 9.3).
  - With the cap over the needle tip, turn the syringe upright (vertical), so that the needle is pointing towards the ceiling.
  - With the forefinger and thumb of your other hand, grasp the cap just above its open end and push it firmly down onto the hub (the place where the needle joins the syringe).

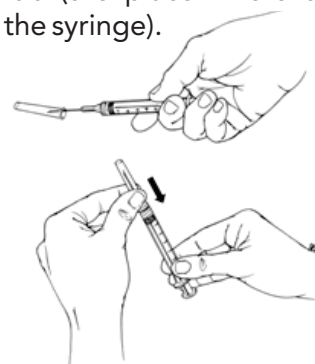


Figure 9.3 One-handed needlerecapping method

### 9.5.2. Sharps containers

Clearly labelled, puncture- and tamper-proof sharps safety boxes or containers are a key component to keep injuries from disposable sharps to a minimum.

- Place sharps containers as close to the point of use as possible and practical (ideally within arm's reach), but away from busy areas. Avoid placing containers near light switches, overhead fans, or thermostat controls, where people might accidentally put their hand into them.
- Attach containers to walls or other surfaces, if possible, at a convenient height, so that staff can use and replace them easily.
- Mark the container clearly, so that people will not mistakenly use it as a rubbish bin.
- 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.

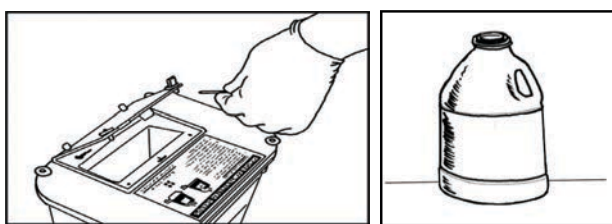


Figure 9.4 Puncture-proof containers for disposal of sharps

## 9.6. PROCESSING OF INSTRUMENTS, ENVIRONMENTAL CLEANING AND MANAGEMENT OF SPILLS

Soiled instruments and other reusable items can transmit infection if they are not properly reprocessed. Effective and safe reprocessing

includes disinfecting instruments and equipment immediately after use, cleaning to remove all organic matter and chemicals, and high-level disinfection or sterilisation for instruments that will be used in normally sterile critical sites, such as within the body, in sterile tissue, cavities or the bloodstream. Before sterilisation, all equipment must be disinfected and then cleaned to remove debris. Sterilisation is intended to kill living organisms, but is not a method of cleaning.

### 9.6.1. Disinfection

Disinfectant solutions are used to inactivate any infectious agents that may be present in blood or other body fluids. They must always be available for cleaning working surfaces, equipment that cannot be autoclaved and non-disposable items, and for dealing with any spillages involving pathological specimens or other known or potentially infectious material.

Used instruments should be soaked in a chemical disinfectant routinely for 30 minutes before cleaning. Disinfection decreases the viral and bacterial burden of an instrument, but does not clean debris from the instrument or sterilise it. Disinfection is to reduce the risk to those who have to handle the instruments during further cleaning. Disinfection is not a sterilising process and must not be used as a substitute for sterilisation.

There are many disinfectant solutions, with varying degrees of effectiveness. In most countries, the most widely available disinfectant is sodium hypochlorite solution (commonly known as bleach or chlorox), which is a particularly effective antiviral solution.

### 9.6.2. Cleaning

All used instruments and equipment must be cleaned with detergent and water after disinfection and before being high-level disinfected or sterilised. Otherwise, organic matter may prevent adequate contact with the

disinfectant or sterilising agent. The organic matter may also bind and inactivate chemical disinfectants.

#### Instructions for manual cleaning

- Wear thick household or utility gloves.
- Wear protective eyewear, mask and plastic apron, if available, to prevent contaminated fluids from splashing into your eyes or onto your body.
- Thoroughly wash items to be cleaned with soap and clean water.
- 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).
- Using a soft brush, scrub instruments under the surface of the water to prevent splashing, paying particular attention to any teeth, joints, or screws.
- Rinse the instruments with clean water.
- Dry the instruments with a towel or allow them to air-dry.

### 9.6.3. High-level disinfection

High-level disinfection destroys all microorganisms except some bacterial endospores. It is usually used for heat-sensitive instruments and equipment that are used in critical sites, but that cannot be sterilised. High-level disinfection is the only acceptable alternative to sterilisation for heat-sensitive surgical instruments.

There is no single ideal disinfectant. Different grades of disinfectants are used for different purposes. However, glutaral (glutaraldehyde) is generally the most appropriate chemical for high-level disinfection. It must be used under very strictly controlled conditions, in a safe working environment, and strictly according to the manufacturer's handling instructions.

### 9.6.4. Sterilisation

Sterilisation is the destruction of all microorganisms, including bacterial endospores. Sterilisation can be achieved by

either physical or chemical methods. Sterilisation is necessary for medical devices that will be used in sterile body sites.

Sterilisation can be done using:

- high-pressure steam (autoclave) or dry heat (oven)
- chemicals, such as ethylene oxide or formaldehyde
- radiation

Sterilisation of all surgical instruments and supplies is crucial in preventing HIV transmission. All viruses, including HIV, are inactivated by high-pressure steam sterilisation (autoclaving) for 20 minutes at 121–132°C, or for 30 minutes if the instruments are in wrapped packs.

Sterilised items need to be properly stored, to ensure that they do not become re-contaminated.

- The storage area should be clean, dry, and free of dust and lint.
- Keep temperature at approximately 24 °C, and the relative humidity at less than 70%, if possible.
- Store sterile packs and containers 20–25 cm off the floor, 45–50 cm from the ceiling and 15–20 cm from an outside wall.
- Do not use wooden or cardboard boxes for storage of sterile items, as they shed dust and debris and may harbour insects.
- Mark the date of sterilisation on the package, and use the oldest packages first – “first in, first out”. Dates serve as indicator of when packs should be used, but do not guarantee sterility of the packs.

### 9.6.5. Environmental cleaning

Routine cleaning is important to ensure a clean and dust-free clinic environment. Visible dirt usually contains many microorganisms, and routine cleaning helps to eliminate such dirt. Clean administrative and office areas with no patient contact regularly in the same way as other offices. Clean most patient care areas by wet mopping; dry sweeping is not

recommended. Hot water (80°C) is a useful and effective environmental cleaner. The use of a detergent solution improves the quality of cleaning.

### 9.6.6. Management of spills

Clean all horizontal surfaces and all toilet areas daily. Clean the operating table and instrument trolley with detergent and water between cases.

## 9.7. SAFE DISPOSAL OF INFECTIOUS WASTE MATERIALS

### 9.7.1. Waste management

The purpose of waste management is to:

- protect people who handle waste items from accidental injury
- prevent the spread of infection to health care workers and the local community

### 9.7.2. Tips for safe handling and disposal of infectious waste

- Place all waste in plastic or galvanised 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 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.

- When 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.

### 9.7.3. Disposing of sharp items

Disposable sharp items, such as hypodermic needles, require special handling. They are the items most likely to injure the health care workers who handle them. If these items are disposed of in a municipal landfill, they become a danger to people in the community.

**Step 1:** Do not recap a used hypodermic needle or disassemble the needle and syringe.

**Step 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.

**Step 3:** When the container is three-quarters full, dispose of it.

When disposing of the sharps container:

**Step 1:** Wear heavy-duty utility gloves.

**Step 2:** Cap, plug, or tape the opening of the container tightly closed. Make sure that no sharp items are sticking out of the container.

**Step 3:** Dispose of the sharps container by burning, encapsulating, or burying it.

**Step 4:** Remove utility gloves.

**Step 5:** Wash hands and dry them with a clean cloth or towel or allow to air-dry.

### 9.7.4. 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.

### 9.7.5. Encapsulating waste containers

Encapsulation is the easiest way to safely dispose of sharps containers. When the container is three-quarters full, pour cement (mortar), plastic foam, clay or other similar material into the container until it is completely full. After the material has hardened, seal container and dispose of it in a landfill or bury it.

### 9.7.6. Burying waste

In health care facilities with limited resources, burial of waste (such as excised foreskins) near the facility may be the only practical option for waste disposal. To limit health risks and environmental pollution, some basic rules should be followed:

- Restrict access to the disposal site. Build a fence around the site to keep animals and children away.
- Line the burial site with a material of low permeability (for example, clay), if available.
- Select a site at least 50 meters away from any water source to prevent contamination of the water table.
- Check that the site has proper drainage, is located downhill from any wells, is free of standing water, and is not in an area that floods.

## 9.8. POST-EXPOSURE PROPHYLAXIS

Health care workers may be accidentally exposed to blood and other body fluids that are potentially infected with HIV, hepatitis virus or other blood-borne pathogens. Occupational exposure may occur through direct contact of non-intact skin with potentially infected blood or body fluids, from splashes into the eyes or mouth, or through injury with a used needle or sharp instrument. Post-exposure prophylaxis (PEP) can help prevent the transmission of pathogens after such a potential exposure.

Any person possibly exposed to HIV, hepatitis B virus (HBV), hepatitis C virus (HCV) should

be assessed by a trained health-care worker. Essential components of the clinical pathway include assessing the mechanism of exposure, assessing eligibility for post-exposure prophylaxis, examination of any wound and initial first-aid treatment.

### 9.8.1. Immediate management of occupational exposure to hepatitis B, hepatitis C and HIV

The immediate response to exposure to blood or other fluids that are potentially infected with hepatitis B virus (HBV), hepatitis C virus (HCV) or HIV is as follows.

**Step 1:** Provide immediate first aid care to the exposure site:

- If a splash or a spill occurs on the skin, wash the area immediately with soap and water. Do not use caustic agents, alcohol or bleach, because they will irritate the skin and may increase the risk of infection. Do not apply a dressing.
- If a splash or a spill occurs in the eyes, the nose, the mouth, or on any mucous membrane, rinse the area with clean water for at least 10 minutes.
- If an injury has been caused by a potentially contaminated sharp, wash the area with soapy water, and allow the wound to bleed freely for a few minutes if possible. Then give normal first aid.

**Step 2:** Evaluate the risk by determining the type of fluid (blood, visibly bloody fluid, or other potentially infectious fluid), the severity and type of exposure (percutaneous or needle stick, mucous membranes, intact or non-intact skin), and the source of infection.

**Step 3:** If the source person is identified, it is important to try to obtain information on his or her hepatitis and HIV serostatus and, if positive, an evaluation of the clinical status and treatment history.

- Assess the risk of infection, using available information.
- The source person may be tested only with his or her informed consent.
- Do not test discarded needles or syringes for virus contamination



### 9.8.2. Management of exposure to hepatitis B

The medical response to exposure to hepatitis B virus (HBV) depends on the immune status of the person who has been exposed, as determined by the history of hepatitis B vaccination and vaccine response, and whether the exposure poses a risk of infection. Transmission of HBV may occur following percutaneous injury, or contamination of mucous membranes or non-intact skin. The virus does not cross intact skin. HBV post-exposure prophylaxis is safe for pregnant and breastfeeding women.

**Table 9.2 Recommendations for HBV post-exposure prophylaxis, according to immune status of exposed person**

HBV immune status	Post-exposure prophylaxis
Unvaccinated	HBV vaccination and HB immunoglobulin (HB Ig)
Previously vaccinated, known responder (anti-hepatitis B surface antigen positive)	None
Previously vaccinated, known non-responder	HBV vaccination and HB Ig
Antibody response unknown	Test. If antibody response is poor, give HB vaccination and HB Ig

People who receive hepatitis B vaccine should be tested for anti-hepatitis B surface antigen 1 to 2 months after the last dose. Note that the anti-hepatitis B surface antigen response to vaccine cannot be ascertained if the person was given HB Ig in the previous 3 to 4 months.

### 9.8.3. Management of exposure to hepatitis C

There is no post-exposure prophylaxis regimen for hepatitis C virus (HCV).

- Evaluate the person who has been exposed to hepatitis C virus by performing a baseline test for anti-HCV antibodies and alanine aminotransferase (ALAT).
- Perform follow-up testing for anti-HCV antibodies and ALAT 4–6 months after exposure.
- Confirm repeatedly reactive anti-HCV enzyme immunoassays with supplemental tests.
- Refer any person who is found to have HCV antibodies to a specialist for care.

### 9.8.4. Post-exposure prophylaxis for HIV

Post-exposure prophylaxis for HIV is a set of comprehensive actions aimed at preventing infection in the exposed person. It includes first aid care, counselling and risk assessment, HIV testing following informed consent, and – depending on the risk assessment – the provision of a short course (28 days) of antiretroviral drugs, with follow-up and support.<sup>83</sup> If started soon after exposure, PEP can reduce the risk of HIV infection by over 80%. Adherence to a full 28-day course of ARVs is critical to the effectiveness of the intervention. Recent evidence shows PEP uptake has been insufficient: only 57% of the people who initiated PEP have completed the full course.<sup>84</sup> Assessment for eligibility should be based on the HIV status of the source.

### Step 1: First Aid and Assessment

- Provide immediate first aid care for the exposure site, as described above
- Clinical assessment of exposure by a trained service provider
- Eligibility assessment for HIV post-exposure prophylaxis
- HIV testing of exposed people and source if possible
- Provision of first aid in case of broken skin or other wound

### Step 2: Counselling & Support

- Do HIV testing and counselling. Give counselling, evaluate the risk of HIV transmission having occurred, and decide on the need to prescribe antiretroviral (ARV) medications to prevent HIV infection.
- Discuss risks and benefits of HIV post-exposure prophylaxis and side effects
- Enhanced adherence counselling should be included for HIV prevention in general and in the workplace. Advise the person to use condoms, and not to donate blood or organs for up to 6 months after exposure.
- Advise women of childbearing age to use contraception, and discuss alternatives to breastfeeding with women currently feeding their infants. There is a high risk of transmitting HIV to the infant if the mother becomes infected during breastfeeding.
- Report the incident for further evaluation, according to national requirements regarding recording and notification of occupational injuries and diseases.

### Step 3: Prescription

- Post-exposure prophylaxis should be initiated as early as possible within 72 hours following exposure
- Do not delay starting ARVs for PEP while waiting for HIV test results. The exposed person could start taking ARVs for PEP immediately, and stop the treatment if the test results reveal that he or she is already HIV-positive.
- Provide 28-day prescription of recommended ARV drugs
- Provide drug information
- Assessment of underlying comorbidities and possible drug-drug interactions

### Step 4: Follow up

- Perform HIV-antibody testing at baseline, 6–12 weeks and six months after exposure
- HIV test at 3 months after exposure
- Link to HIV treatment if required
- Provision of prevention intervention as appropriate
- Support the person's adherence to PEP, prevent or treat side-effects of the medicines, and look out for sero-conversion
- Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug adherence and possible drug-related side-effects and toxicity for at least two weeks
- If the person develops HIV antibodies, refer him or her for treatment, care and support

**Exposures that may warrant post-exposure prophylaxis include:**

- Parenteral or mucous membrane exposure (splashes to the eye, nose or oral cavity)
- Exposure to the following bodily fluids: blood, blood-stained saliva, breast-milk, genital secretions and cerebrospinal, amniotic, rectal, peritoneal, synovial, pericardial or pleural fluids

**Exposures that do not require post-exposure prophylaxis include:**

- When the exposed individual is already HIV positive
- When the source is established to be HIV negative
- Exposure to bodily fluids that does not pose a significant risk (tears, non-blood-stained saliva, urine and sweat)

**Recommendations**

TDF + 3TC (or FTC) is recommended as the preferred backbone regimen for HIV post-exposure prophylaxis for adults and adolescents. This is available as a fixed dose combination. LPV/r or ATV/r is recommended as the preferred third drug.

**9.8.5. Clinic staff should know their HIV status**

It is advisable for all clinic staff who carry out surgical procedures to have an HIV test at periodic intervals. If a health care worker is known to have recently had a negative HIV test, then post-exposure prophylaxis can be started immediately.

# 10

## **MANAGING A CIRCUMCISION SERVICE**

## SUMMARY

- *The manager of a clinic circumcision service has several roles. These include ensuring quality of services, making sure that good quality records are kept, monitoring and evaluating the programme, and carrying out supportive supervision.*
- *To meet these responsibilities, the clinic manager must set the desired levels of performance for the services provided, assess current levels of performance, work with other clinic staff to analyse the causes of inadequate performance and find solutions*



## 10.1. RATIONALE FOR MANAGING A CIRCUMCISION SERVICE

It is important to ensure that management of circumcision services is evidence-based and that proper systems are developed to guide planning, coordination and implementation of services. This will facilitate effective and efficient use of resources and will improve accountability and transparency on resource allocation and use.

## 10.2. RECORD-KEEPING, MONITORING AND EVALUATION

The clinic manager should ensure that the health care providers maintain adequate records on all clients. Records should include information on the identity of the client, the type of service provided, and any special circumstances associated with it.

There is a more detailed account of indicators and monitoring and evaluation of male circumcision programmes in the WHO/UNAIDS publication, *A guide to indicators for male circumcision programmes in the formal health care system*, which can be downloaded from the Clearinghouse on Male Circumcision for HIV prevention ([www.malecircumcision.org](http://www.malecircumcision.org)).

### 10.2.1. Indicators

Health care facility managers need detailed information to allow them to make decisions on the best use of scarce resources. They might want to know the answers to questions such as:

- Are we reaching our target audience?
- Can we provide the necessary services (for example, do we have the appropriate equipment, staff and

medications)?

- Are our services of high quality (for example, do they meet national and international standards)?
- Do our services meet our clients' needs?
- Are we referring clients who need it?

The following indicators are used to monitor the MMC programme in South Africa.

**Table 10.1 MMC Programme Indicators**

Indicator	Frequency
Number of male circumcisions performed where foreskin was fully removed	Monthly
Number of males with an HIV test in the past 1 month	Monthly
Number of circumcised males experiencing a moderate or severe adverse event	Monthly
Number of circumcised men receiving at least one post-operative follow-up visit after the procedure	Monthly
Number of sites delivering MMC services	Quarterly
Number of facilities that did not experience any interruption of services due to stock-outs of commodities	Quarterly
Number of service providers who were trained by an accredited trainer	Annually

## 10.2.2 What is monitoring?

Monitoring is the routine collection and analysis of information to track progress against set plans and check compliance to established standards. It helps identify trends and patterns, adapt strategies and inform decisions for programme management

### Monitoring helps to:

- track progress towards the programme targets or performance standards
- identify aspects of the programme that are working according to plan and those that are in need of adjustment

## 10.2.3. What is a monitoring system?

Collecting information to track indicators requires the collaboration of dedicated and knowledgeable staff. Obtaining and reporting the required information represent an extra burden of work, and may even be impossible unless an effective monitoring system is in place. This means

- All those involved know what information is needed and by whom.
- The tools needed to collect the information are available.
- All those involved know how and when to report the information.
- One person is responsible for making sure the system is working, checking that indicators are up to date, that records are being properly kept, and that data are reported to appropriate partners.

The person responsible for the monitoring system must keep clinic staff informed about what needs to be recorded and reported. He or she must also adjust monitoring tools to reflect the information required.

Monitoring through routine data collection can help identify how programme performance relates to programme objectives.

## 10.2.4. What is evaluation?

Evaluation is a systematic and objective assessment of a programme/ policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, efficiency, effectiveness, impact and sustainability. An evaluation should provide information that will enable the incorporation of lessons learned into the decision-making process and improve future interventions

There are, of course, many factors that can cause things to change. A formal evaluation tries to demonstrate how much a specific intervention contributed to an observed change.

## 10.2.5. Why Evaluate Male Circumcision Programmes?

The purpose of evaluating a male circumcision programme is to:

- assess progress made at particular points in time
- assess progress towards objectives
- provide feedback on whether targets are being met
- identify reasons for successes and failures
- provide a basis for future planning

Evaluation can be done by:

- reviewing available records and reports (such as client record forms, clinic register, theatre register, adverse events forms, drug inventory forms, referral forms)
- conducting supervisory assessments
- having staff conduct self-assessments

- conducting peer assessments
- obtaining feedback from clients (for example through exit interviews)
- surveying community perceptions of the service
- comparing the clinic's services with those of other facilities

### 10.2.6. What is "good data"?

A monitoring system will provide useful information only if the data recorded is "good". Clinic managers should ensure that staff are aware of the following:

- **Understanding the data.** Staff responsible for keeping records should know exactly what information is needed, for example, adverse events associated with male circumcision.
- **Recording the data every time.** Every time a staff member performs a procedure, sees a client, prescribes medication, receives a test result, or makes a referral, it should be recorded on the appropriate form.
- **Recording all the data.** Complete all the information requested on the monitoring forms. This might require noting when a particular treatment was not provided.
- **Recording the data in the same way every time.** Always use the same definitions, rules, and tests for reporting the same piece of information. In the long term, this may not be possible, as tests and definitions change, treatment evolves and new technologies are developed. When it is not possible to record data in the same way, make a note describing the change.

It is not the role of clinicians (circumcision providers or medical, clinical and nursing officers) to develop a functional monitoring system for the facility. That is the role of the health planner or clinic manager. However, the clinicians need to know who is responsible for the monitoring system, to record data accurately and reliably, and to know how and when to report information related to the service or to patients.

Clinicians can also help those responsible for the system by providing feedback about how the system is working, how information is shared with other clinicians, and how easy the various forms are for clinicians to complete accurately and reliably. In this way, the monitoring system can be as accurate and reliable as possible.

## 10.3. PROVIDING QUALITY MMC SERVICES

### 10.3.1. What Is Quality Assurance, Quality Improvement And External Quality Assessment

Quality in health involves doing the right things in the right ways through performance of work according to standards. This will ensure that policies, programmes, services and research for the users of the health care system help to achieve the desired outcomes and the conditions expected from the health care system. Quality improvement on the other hand, is an integrative process that links knowledge, structures, processes and outcomes to enhance quality throughout an organisation.

Quality assurance and quality improvement are two interlinked processes of quality and address the following dimensions:

### 10.3.2. Dimensions of quality

DIMENSION	DEFINITION
Accessibility	Delivering health care that is timely, geographically reasonable and provided in a setting where skills and resources are appropriate to medical need. It is the degree to which healthcare services are not restricted by geographic, economic, social, organisation or linguistic barriers
Acceptability	Delivering patient-centred health care that is respectful of and responsive to the preferences and aspirations of individual service users and the cultures of their communities and also allowing them to take ownership of their own health
Continuity of services	Delivering consistent and appropriate care at site level with appropriate and timely referral of clients and communication between providers
Effectiveness	Delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need (degree to which desired results of care are achieved – OUTPUT)
Efficiency	Delivering health care in a manner which maximises resource use and avoids waste (correct use of available resources – INPUT)
Equitable	Delivering health care which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status
Choice	As appropriate and feasible, client choice of provider and treatment plan
Safety	Delivering health care which minimises risk and harm to services users
Interpersonal relations	Delivering health care which is founded on trust, respect, confidentiality, courtesy, effective listening and communication between provider and client

### 10.3.3. Quality assurance (QA)

Quality assurance is defined as any systematic process of checking to see whether services being provided meet specific requirements. QA includes the assessment or evaluation of the quality of care; identification of problems or shortcomings in the delivery of care; designing activities to overcome these deficiencies; and follow-up monitoring to ensure effectiveness of corrective steps.

There are three key activities involved in Quality Assurance:

1. Defining quality – can be defined through the development and communication of male circumcision standards.
2. Measuring quality – determined by whether standards are being met using different methods such as self-assessment, peer-assessment and external assessments.
3. Quality improvement – quality improvement methodology can be used to continuously improve the quality of male circumcision care and services e.g. continuous quality improvement (CQI) methodology.



**Figure 10.1 Quality assurance triangle**

*(Adapted from the PEPFAR Fy2014 Quality (Ruelas E. Frenk J. Presentation at the International Society for Health Care Conference, Mexico City, Mexico. 1992)*

### 10.3.4. Continuous Quality improvement (CQI)

Continuous quality improvement is an integral part of the way in which everyday services are performed. It ensures understanding of the systems under which work is done and applies evidence-based changes that yield better outcomes. This is essentially a constructive process, whereby sites are assessed to gauge the extent of compliance to the minimum quality standards, performance against quality indicators and guidelines, identified gaps are noted, remedial plans and actions are put in place and monitored, onsite mentoring and coaching is performed and reassessments are conducted on a regular basis.

CQI involves efforts of testing changes that will lead to better patient outcomes, better system performance and better professional development through always focusing on the why and how things need to be done.

### 10.3.5. External Quality Assessment (EQA)

To further enhance the safety and quality of services and to ensure that MMC services meet the global standards, NDOH, WHO, donors and international institutions conduct EQA at least once annually. The objectives of EQA are to monitor PEPFAR-funded MMC service delivery programmes by conducting QA assessments of implementing partners' service sites; assure that all PEPFAR-funded MMC service provision meets appropriate standards and clinical practices; provide technical assistance and support for programme improvement where needed as well as build and strengthen the capacity of respective country Departments/ Ministries of Health to conduct EQA.

### 10.3.6. The Goal of CQI in MMC

The main goal of the National Continuous Quality Improvement programme is to shift the focus from merely providing MMC services but to also ensure that the care provided is of high quality and meets the expectations of the clients or users of the health care system. In instances where care is sub-optimal, it is the responsibility



of managers and all service providers to ensure that the care provided is adapted so as to meet the required standards. This can be achieved through the use of scientific evidence-based approaches of generating and inculcating new knowledge to improve responsiveness and competence of staff for efficiency and effectiveness. CQI in the MMC programme is also intended to promote use of data to inform planning and improvement.

Comprehensive Quality systems encompass internal and external Quality Assurance (IQA / EQA) as well as Continuous Quality Improvement (CQI) mechanisms. The development of a well-coordinated, comprehensive quality assurance and continuous quality improvement strategy is critical to any Voluntary MMC scale-up plan.

It must be understood that while EQA and CQI are separate activities, they are inextricably linked, comprising inherent synergies and latent potential, as demonstrated in the diagram below.



**Figure 10.2 Links between Quality Assurance and Quality Improvement**  
(Adapted from the PEPFAR Fy2014 Quality Strategy)

The overall process of EQA and CQI includes an initial baseline assessment, followed by CQI feedback, follow up, problem solving and mentoring on an ongoing manner. In order to ensure steady progress, there should be CQI reassessment visits conducted every quarter.

Linking to the National Core Standards, this guideline outlines envisaged standards and steps towards implementation of a robust CQI strategy for MMC at all levels of care by everyone involved in the services provision to ensure patients safety, uphold high standard of ethical practices and reduce unintended harm to the users of the MMC services.

In South Africa sites need to maintain eight quality standards that need to be adhered to in the implementation of QUALITY Medical Male Circumcision services. Table 10.2 describes the quality standards in MMC, the rationale for the standard as well as the sub-standards.

### 10.3.7. Quality standards

**Table 10.2 Quality standards in MMC**

No.	Quality Standard	Rationale	Sub-standards
1	Leadership and Planning	For coordination and strategic direction through proactive leadership, planning, risk reduction and mentoring, and support by management structures; as well as to ensure knowledge of catchment area by health care workers to facilitate planning and demand creation	<p>1.1 Staff knowledge of the catchment area profile including the population size to facilitate planning and preparedness to provide services and meet demands of the male population served</p> <p>1.2 The level of strategic direction from district management teams and their involvement in the VMMC services provision.</p>
2	Management systems	For establishment of management systems supporting provision of safe and effective MMC services.	<p>2.1 Availability of relevant MMC Policies, Guidelines and Standards and staff are aware of them</p> <p>2.2 Availability of a written site-specific plan for implementation of MMC</p> <p>2.3 Evidence that the MMC clinic is able to balance the demand and supply.</p> <p>2.4 Availability of clearly defined MMC staff roles and responsibilities and staff knowledge of these</p> <p>2.5 Evidence that services are provided in an organised and efficient manner with different categories of qualified and competent human resources available according to the MMC service delivery plan</p> <p>2.6 Evidence of continuous data review and use of data for planning and improvement of quality of service delivered</p> <p>2.7 Documentation, reporting and review of moderate to severe adverse events</p> <p>2.8 Availability of a functional supply and equipment ordering system</p> <p>2.9 Exploring task-shifting practices among the clinical staff involved in the MMC</p>

No.	Quality Standard	Rationale	Sub-standards
3	Infrastructure, equipment, environment and supplies	To ensure appropriate clean, safe and secure physical infrastructure, conducive environment, availability of supplies and equipment necessary for provision of services that minimises health risks	<p>3.1 The infrastructure is appropriate for VMMC service provision</p> <p>3.2 The site has availability of necessary equipment for performing safe MMC services</p> <p>3.3 The necessary commodities are available for performing surgeries</p> <p>3.4 Adequate supplies of essential medicines and commodities (HIV test kits, condoms) are available for non-surgical aspects of MMC service provision</p> <p>3.5 Availability of emergency resuscitation guidelines, equipment, supplies and medicines that are checked regularly for functionality and kept according to the first in first out (FEFO) policy.</p> <p>3.6 Availability of a well-functioning equipment maintenance system and plan</p>
4	Registration, group education and IEC	All clients to be registered and provided with appointment cards, to receive information on healthy lifestyles including prevention of new HIV infections, STIs and other sexual and reproductive health information	<p>4.1 The client information is correctly recorded in the register</p> <p>4.2 The facility has appropriate information and educational materials on MMC and other reproductive health</p> <p>4.3 Group education delivered with correct information</p> <p>4.4 Group education delivered with appropriate techniques</p>

No.	Quality Standard	Rationale	Sub-standards
5	Individual counselling for MMC procedure and HCT	For provision of minimum package of HCT services in the context of MMC to promote linkage of clients to other services including care and treatment	<p>5.1 The counsellor provides appropriate individual counselling on MMC</p> <p>5.2 The provider provides routine HIV testing for every client</p> <p>5.3 The provider is properly giving results and post-test counselling</p> <p>5.4 The provider uses appropriate counselling skills throughout the session</p> <p>5.5 All clients receive condoms along with appropriate counselling and instructions on the use</p> <p>5.6 The provider obtains informed consent from clients</p>
6	Surgical Procedure	To ensure delivery of appropriate, safe, efficient MMC surgical procedure performed according to National Department of Health and WHO standards	<p>6.1 The provider correctly takes history (PRE-OPERATIVE CARE)</p> <p>6.2 The provider correctly performs pre-operation examination</p> <p>6.3 The operating or surgical theatre/room</p> <p>6.4 The provider prepares the client for surgery (OPERATIVE CARE)</p> <p>6.5 The provider administers anaesthetic and performs surgical procedure correctly</p> <p>6.6 The provider achieves haemostasis, sutures the wound and applies the dressing correctly</p> <p>6.7 The provider completes the procedure and assists the client to the post-operative area</p> <p>6.8 The availability of emergency equipment at surgical theatre and post-op room</p> <p>6.9 The provider monitors immediate post-op client</p> <p>6.10 The provider gives client appropriate post-op care instructions</p> <p>6.11 Client records are updated and completed prior to discharge</p> <p>6.12 The provider correctly manages initial follow up (FOLLOW UP VISITS)</p>

No.	Quality Standard	Rationale	Sub-standards
7	Infection prevention and control	To prevent the risk of exposure to facility-acquired infections during care of MMC clients through adherence to and application of standard precautions and to reduce post-operative patient-related risks of infections through appropriate education and information giving	<p>7.1 The concentration and use of antiseptics are according to the standards</p> <p>7.2 The process of cleaning rooms between and after procedures is performed according to the standards</p> <p>7.3 The preparation of a disinfectant cleaning solution is performed according to the standards</p> <p>7.4 The cleaning equipment is decontaminated, cleaned and dried before reuse or storage according to the standards</p> <p>7.5 The decontamination of instruments and other articles (immediately after use and before cleaning) is performed according to the standards</p> <p>7.6 The storage process of sterile or high-level disinfected items is performed according to the standards.</p> <p>7.7 Waste is disposed of / handled appropriately: Health Care Waste Management</p> <p>7.8 The system for interim storage is appropriate</p> <p>7.9 The facility ultimately disposes waste properly</p> <p>7.10 The process of cleaning instruments and other items is performed according to the standards</p> <p>7.11 The process of packaging of items to be sterilised is performed according to the standards (non-disposable instruments are used)</p> <p>7.12 The process of sterilisation is performed according to the standards.</p>
8	Monitoring and Evaluation	This gives an opportunity to understand data management practices at the site including the recording of the services provided.	<p>8.1 Availability of relevant tools for MMC data management</p> <p>8.2 Data are correctly transferred from MMC Client Form/File to the relevant MMC Registers</p> <p>8.3 Client records/Patient files are completely and correctly filled in all relevant/specified elements of MMC services</p> <p>8.4 Client records/Patient files correspond with all relevant MMC tools</p> <p>8.5 MMC data management system and practices</p> <p>8.6 MMC data analysis, learning and sharing is taking place</p>



### 10.3.8. The quality improvement approach

Comprehensive quality systems encompass internal and external Quality Assurance (IQA / EQA) as well as Continuous Quality Improvement (CQI) mechanisms. The development of a well-coordinated, comprehensive quality assurance and continuous quality improvement strategy is critical to any MMC scale-up plan.

Without a targeted strategy focusing on provision of high quality MMC services, patient safety and robust infection control practices, investments in VMMC service provision and scale-up may not yield the anticipated results. Furthermore, the MMC programme may continue to be vulnerable to several unanticipated consequences, such as poor patient outcomes, high morbidity and mortality rates, and fear/stigma of the MMC programme, thereby potentially negating investments in demand creation activities. Therefore, it is of paramount importance that QA and CQI activities are prioritised during scale-up of MMC program, and concerted and tangible efforts are made towards ensuring integration, capacity development, routine quality monitoring and implementation to ensure sustainability.

#### The model of improvement

CQI is a formal approach of analysing performance and systematically improving it through ongoing efforts of everyone involved in the care of patients using tools within the Plan – Do – Study – Act cycle for improvement. The PDSA cycle defines the aim or what the desired performance is, helps in root cause analysis, packaging of changes that need to be tested, measuring improvement and scaling up of best practices.



Figure 10.3 Model for Quality Improvement

#### Basic principles underlying CQI

- Understanding work in terms of processes (inputs from suppliers) and systems (sum total of all element working towards the same goal)
- Developing solutions by teams of health care providers and patients
- Focusing on patient needs and involvement
- Testing and measuring effects of changes routinely
- Shared learning

#### Steps in the CQI process

The approach to quality improvement follows the following steps:

1. Form internal quality improvement teams (site, district and province specific) who will focus on what needs to be improved
2. Develop improvement aims to the identified problems/gaps to answer the question "What are we trying to achieve"
3. Establish measures for improvement - "How will we know a change is an improvement". Use national and locally developed QI indicators on a regular basis.

4. Package changes that will result in improvement
5. Test the changes and adopt those resulting in desired outcomes/outputs
6. Refine or adapt changes that did not work through several PDSA cycles. Some changes may need to be discarded
7. Document lessons learned and best practices for implementation
8. Spread and disseminate successful changes to other parts of the system – intentional spill over.

### **Mentoring and coaching**

Quality mentors should provide need-based mentoring and coaching at all level of care. Mentorship may be internal and external. The quality mentors should monitor the progress through CQI and EQA assessments which may take three to four hours per site and include direct observation of the facility procedures and activities that include counselling of clients, screening and actual performance of surgical procedure; interviewing of staff and review of material resources, registers and patients' records.

### **Monitoring and Evaluation in CQI**

Monitoring and evaluating the outcomes of male circumcision services should be incorporated into the existing health information system of the programme. It provides ongoing information on the programme, usually based on a framework of specific indicators to measure performance, outcome and impacts over time.

## **10.4. SUPERVISION**

Traditional approaches to supervision emphasise inspecting facilities and checking individual performance. They focus on finding fault or errors, and sanctioning those responsible, or thought to be responsible. This type of supervision often causes negative feelings and rarely results in an improved service.

In contrast, supervision for performance and quality improvement focuses on:

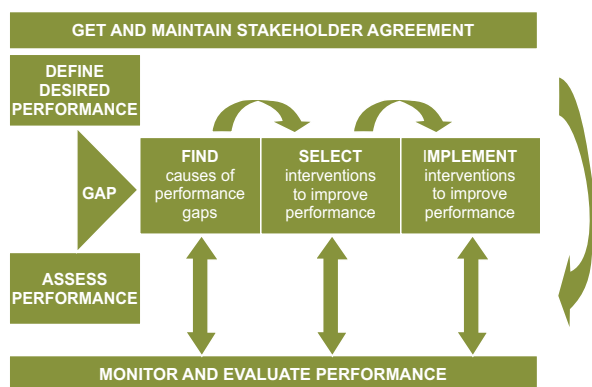
- the goal of providing high-quality health services
- a style of encouraging, inclusive and supportive interaction
- a process of continuous performance and quality improvement

**The goal of supervision:** The goal of supervision is to promote and maintain the delivery of high-quality health services. In a traditional system of supervision, this goal is often lost, or at least is not obvious to those being supervised. By clearly stating that the goal of supervision is the delivery of high-quality health care services, the supervisor can transform the sometimes negative impression of supervision into a positive one.

**The style:** Supervision for performance and quality improvement should be done in a style that involves as many stakeholders as possible, achieves results through teamwork, and provides constructive and useful feedback.

The underlying assumption is that people work better when they participate actively and are listened to, treated well, encouraged to do a good job, and recognised for a job well done.

**The process:** Supervisors can use the step-by-step process of performance and quality improvement presented here to help achieve a high-quality service. The process involves a cycle of logical steps, which are repeated until the desired performance is achieved. The cycle can be used to solve any type of performance problem, for instance involving infection prevention practices, management of stocks, or counselling.



**Figure 10.4** *The performance and quality improvement process<sup>v</sup>*

The performance and quality improvement process involves the following:

### Define desired performance

For people to perform well, they must know what they are expected to do. Performance standards need to be set. Staff must know not only what their duties are, but also how they are expected to perform them. The desired performance should be realistic and based on common goals, the expectations of the community and the resources available. Examples of desired performance standards related to male circumcision are:

- All clients over the age of 18 years must complete a written informed consent form before undergoing male circumcision.
- Instruments used during a male

circumcision procedure must be decontaminated in 0.5% sodium hypochlorite solution for 10 minutes before being cleaned and sterilised.

- All clients undergoing male circumcision (and/or their parents) should be counselled about HIV.

### Assess performance


The team should continually assess its own performance in relation to how it is expected to perform. This assessment can be done on a continuous basis informally, or more formally at periodic intervals, by monitoring specific activities and steps, conducting self-assessments or obtaining feedback from clients. Using the above desired standards as examples, performance assessment may show the following:

- 76% of clients over the age of 18 years completed a written informed consent form before undergoing male circumcision (a gap of 24%).
- Instruments used during male circumcision procedures were decontaminated in 0.5% sodium hypochlorite solution for 10 minutes before being cleaned and sterilised 50% of the time (a gap of 50%).
- 36% of clients undergoing male circumcision (and/or their parents) were counselled about HIV (a gap of 74%).

### Find the causes of performance gaps

A performance gap means that what is occurring does not meet the set performance standards. If this is the case, the manager needs to explore with staff the reasons for the gap. Sometimes the reasons for poor performance are not immediately obvious, and it may take some time to find the real cause. For example, if 74% of clients undergoing male circumcision are not being

<sup>v</sup>Adapted from: Performance improvement framework, developed through a collaborative effort by members of the Performance Improvement Consultative Group (PICG).



counselled about HIV infection, analysis of the gap may reveal the following possible causes:

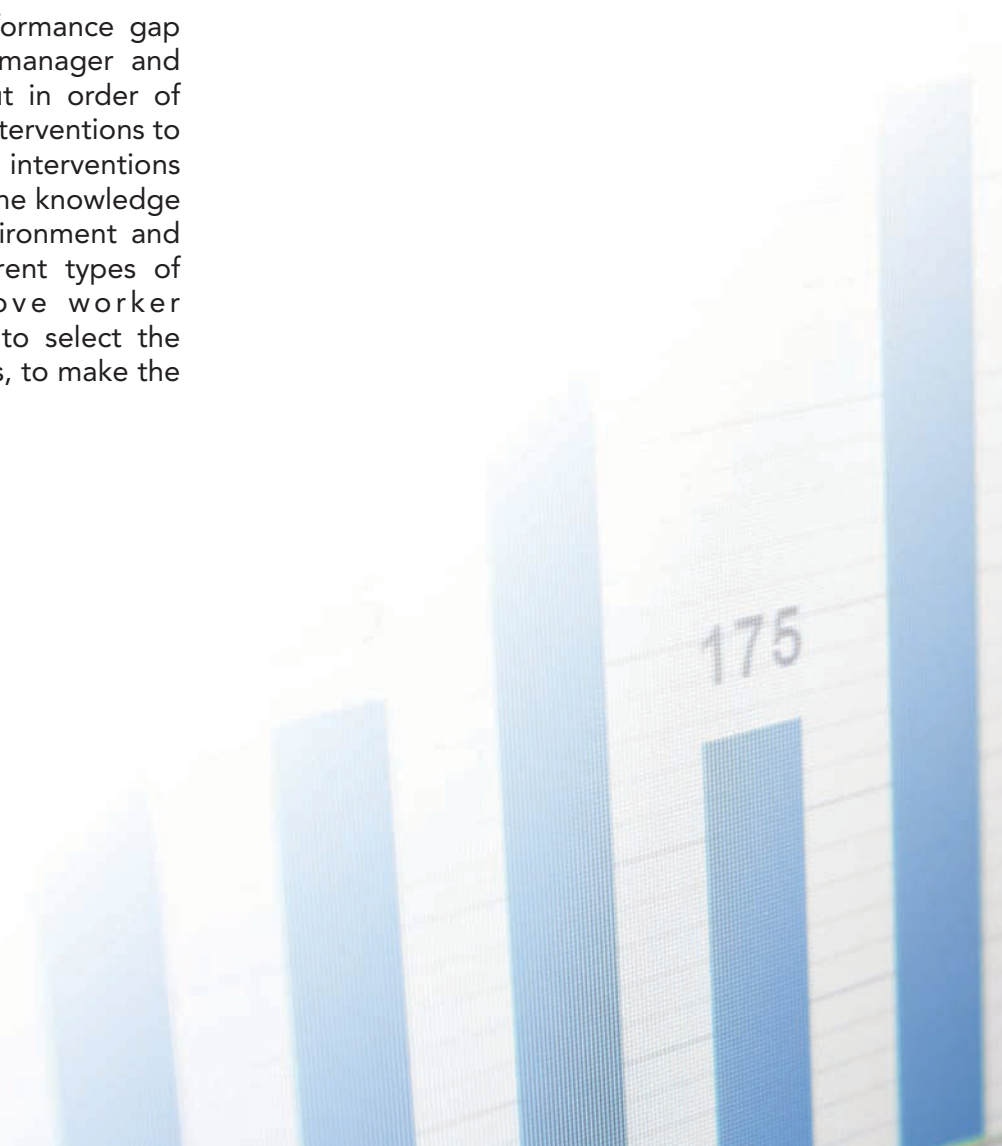
- shortage of staff (especially counsellors and nurses)
- a high client load
- no space in the clinic for counselling clients
- a shortage of test kits for HIV
- staff not aware of facility policy
- no one in the facility has been trained in counselling and testing

### **Select and implement interventions to improve performance**

When the causes of the performance gap have been determined, the manager and staff will need to identify, put in order of priority, plan and implement interventions to improve performance. These interventions can be directed at improving the knowledge and skills of staff, or the environment and support systems. Many different types of interventions can improve worker performance. It is important to select the most appropriate interventions, to make the best use of resources.

### **Monitor and evaluate performance**

Once an intervention has been implemented, it is important to determine whether it has had the desired result. In other words, did the intervention lead to improved performance? Did the team come closer to meeting established standards? If not, the team will need to look again at what is hindering performance, to make sure that the interventions were targeted at the real cause of the performance gap. If performance has improved, it is important to continue monitoring to make sure that the improved level of performance is maintained.





# ANNEXURES



## ANNEXURE 1: Medical Male Circumcision: Group Education Checklist

No	Task/Activity	Task/Activity Completed	
		Yes	No
<b>Introduction</b>			
1	Greet the group and introduce yourself		
2	Explain what you wish to talk about		
3	Use easy-to-understand language and check for understanding		
4	Encourage participants to ask questions, voice concerns and listen to what they have to say		
5	Explain that confidentiality will be maintained		
6	Describe the male reproductive health services, including MMC, that are available in the clinic		
<b>Medical Male Circumcision</b>			
7	Ask a volunteer to share what he already knows about MMC		
8	Give positive feedback to the volunteer on any correct information provided and fill in the gaps on: <ul style="list-style-type: none"> <li>• What is MMC?</li> <li>• Benefits and risks of MMC</li> <li>• Link between MMC and HIV infection</li> <li>• MMC procedure</li> <li>• Pain relief options</li> <li>• Recovery period</li> <li>• Post-operative care and follow-up</li> <li>• Process for contacting healthcare workers, if necessary</li> </ul>		
9	Check for questions and address concerns that participants may have		
<b>HIV Test</b>			
10	Ask a volunteer what they already know about HIV		
11	Give positive feedback to the volunteer on any correct information provided and fill in the gaps		
<b>Other sexually transmitted infections</b>			
12	Ask the group if they know of any other sexually transmitted infections		
13	Give positive feedback to the volunteer on any correct information provided and fill in the gaps on: <ul style="list-style-type: none"> <li>• Common STIs in South Africa</li> <li>• Signs and symptoms of common STIs</li> <li>• How STIs can be prevented</li> </ul>		

## ANNEXURE 1: continued

No	Task/Activity	Task/Activity Completed	
		Yes	No
14	Tell clients where they can receive services if they experience signs and symptoms of an STI		
<b>Closing</b>			
15	Ask participants for further questions on MMC and male reproductive health and provide additional information as required		
16	Tell participants where they can go for the services that they require		
17	Remind participants of the need for them to know their HIV status		
18	Reinforce that confidentiality of clients will be maintained		
19	Thank participants for their attention		
20	Ask if participants would be interested in an individual counselling session to find out more about MMC		

Completed by: .....Date: .....

Signature: .....

## ANNEXURE 2: Medical Male Circumcision: Individual Counselling Checklist

No	Task/Activity	Task/Activity Completed	
		Yes	No
<b>Introduction</b>			
1	Ensure privacy for client or parent/guardian		
2	Explain to client or parent/guardian the process and get permission before starting		
3	Explain to client or parent/guardian that confidentiality will be maintained		
4	Encourage client or parent/guardian to ask questions and voice concerns. Listen to what he has to say		
<b>Medical Male Circumcision</b>			
5	Ask client or parent/guardian to share what he already knows about MMC		
6	Give positive feedback to the client or parent/guardian on any correct information provided and fill in the gaps on: <ul style="list-style-type: none"> <li>· What is MMC?</li> <li>· Benefits and risks of MMC</li> <li>· Link between MMC and HIV infection</li> <li>· MMC procedure</li> <li>· Pain relief options</li> <li>· Recovery period</li> <li>· Post-operative care and follow-up</li> <li>· Process for contacting healthcare workers, if necessary</li> </ul>		
7	Check for questions and address concerns that client or parent/guardian may have		
<b>HIV Test</b>			
8	Ask client or parent/guardian what they already know about HIV		
9	Ask if client has ever been tested for HIV		
10	Explain the link between MMC and HIV		
11	Explain how risky behaviour can remove the benefits of MMC		
12	Explain the need for and importance of condom use after MMC		
13	Offer client HIV test		
<b>HIV Consent</b>			
14	Ask client or parent/guardian to sign the Consent Form		

Completed by: .....Date: .....

Signature: .....

## ANNEXURE 3: Medical Male Circumcision: Client Record Form

Client Record Form (pg 1 of 9)

### Informed Consent

- I declare that I was freely offered pre-test counselling on HIV/AIDS and Medical Male Circumcision (MMC). I freely consent to be tested for HIV. I choose to be tested for HIV. I consent for the undersigned health professional to take a sample of my blood for the purpose of the HIV test. I consent to have my HIV status shared with me and with my healthcare providers.
- I understand that my HIV test results will be kept confidential and no-one will have access to my test results other than my healthcare team.

I DECLARE THAT I HAVE READ AND UNDERSTOOD THIS FORM AND CONSENT TO HIV TESTING AND COUNSELLING ON MMC

MINORS (Less than 18 years old)	Adults (More than 18 years old)
Date of Consent (dd/mm/20yy)	Date of Consent (dd/mm/20yy)
Name of Parent/Legal Guardian	Name of Client
ID Number of Parent/Legal Guardian	ID Number of Client
Signature of Parent/Legal Guardian	Signature of Client
Name and Signature of Minor	
ID Number of Minor	

### Consent for Medical Male Circumcision Operation

I consent that Medical Male Circumcision (MMC) operation be carried out for me. I give you permission to do this MMC operation.

- I declare that I have been given information about the MMC operation, the benefits and risks and post-operative care by the person whose name and signature is provided below.
- I agree to abide by the post-operative care instructions given to me.

**Signature of Client:**

.....

**Name of Counsellor:**

.....

**Signature of Parent/Legal Guardian:**

.....

**Signature of Counsellor:**

.....

## ANNEXURE 3: continued

### Client Record Form (pg 2 of 9)

To be completed by Receptionist

#### A. GENERAL INFORMATION

1. Name: \_\_\_\_\_

2. Address: \_\_\_\_\_

3. Date of visit:        
Day Month Year

4. Client's ID Number:

5. Clinic/Hospital ID Number:  if different from above

6. Date of birth:       Age: \_\_\_\_\_ years  
Day Month Year

7. Name of facility closest to home: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_

8. Client is referred by:  
a. Self/parent  
b. Family planning clinic  
c. HIV Counselling and Testing  
d. Community Outreach  
e. Other \_\_\_\_\_

9. Next of Kin  
Name: \_\_\_\_\_  
Relationship: \_\_\_\_\_  
Contact: \_\_\_\_\_



## ANNEXURE 3: continued

Client Record Form (pg 3 of 9)

To be completed by Counsellor

### 10. Relationship status of client

- |   |   |
|---|---|
| <input type="checkbox"/> Married (one wife)           | <input type="checkbox"/> Single with regular partner    |
| <input type="checkbox"/> Married (more than one wife) | <input type="checkbox"/> Single with no regular partner |
| <input type="checkbox"/> Divorced/Separated           | <input type="checkbox"/> Other (Specify) _____          |

### 11. Primary indication for circumcision:

- |   |  |
|---|--|
| <input type="checkbox"/> Partial protection against HIV | <input type="checkbox"/> Appearance            |
| <input type="checkbox"/> Protection against STIs        | <input type="checkbox"/> Personal hygiene      |
| <input type="checkbox"/> Social/Religious               | <input type="checkbox"/> Sexual pleasure       |
| <input type="checkbox"/> Medical (Specify) _____        | <input type="checkbox"/> Other (Specify) _____ |

### 12. Is the client sexually active? Yes No

### 13. Previous contraceptive use:

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> None      | <input type="checkbox"/> Condoms               |
| <input type="checkbox"/> Vasectomy | <input type="checkbox"/> Other (Specify) _____ |

### 14. HIV test

- |                                 |                                   |                                   |
|---------------------------------|-----------------------------------|-----------------------------------|
| a. HIV test offered:            | <input type="checkbox"/> Yes      | <input type="checkbox"/> No       |
| b. HIV test performed:          | <input type="checkbox"/> Yes      | <input type="checkbox"/> No       |
| c. HIV test result:             | <input type="checkbox"/> Positive | <input type="checkbox"/> Negative |
| d. Post-test counselling given: | <input type="checkbox"/> Yes      | <input type="checkbox"/> No       |

### 15. TB Screening

- Have you had a cough of 2 weeks or more OR of any duration if you are HIV-positive?  Yes  No
- Have you had a persistent fever of more than two weeks?  Yes  No
- Have you had unexplained weight loss >1.5kg in a month?  Yes  No
- Do you have drenching night sweats?  Yes  No
- Have you ever had contact with a TB-infected person?  Yes  No
- Have you been diagnosed with TB?  Yes  No
- If you have answered 'Yes' to the above question, did you complete your TB treatment  Yes  No

## ANNEXURE 3: continued

Client Record Form (pg 4 of 9)

To be completed by Nurse

### MEDICAL HISTORY

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

- a. Haemophilia or bleeding disorders: Yes  No   
b. Diabetes: Yes  No

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

- a. Anaemia Yes  No   
b. Diabetes: Yes  No   
c. HIV: Yes  No   
d. Other (specify) \_\_\_\_\_ Yes  No

18. Does the client have any known allergy to medications, including lignocaine or iodine?

Yes  No

If yes, specify: \_\_\_\_\_

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

If yes, specify nature, date, and any complications:  
\_\_\_\_\_

20. Does the client have any of the following complaints?

- 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. Frequent urination Yes  No   
g. Difficulty passing urine Yes  No   
h. Swelling or redness of foreskin or penis Yes  No   
i. Discharge or thick liquid under foreskin Yes  No   
j. Difficulty in retracting foreskin Yes  No   
k. Concerns about erection or sexual function Yes  No   
l. Other (specify) \_\_\_\_\_ Yes  No

## ANNEXURE 3: continued

Client Record Form (pg 5 of 9)

To be completed by Nurse (Continued)

### PHYSICAL EXAMINATION

21. Blood Pressure: \_\_\_\_\_/\_\_\_\_\_ mm Hg      Pulse: \_\_\_\_\_  
Weight: \_\_\_\_\_ kg

22. Any significant abnormality on general genital examination

- a. (e.g., hypospadias, epispadias)?    Yes     No   
b. If yes (specify) \_\_\_\_\_

23. Examination of penis:

- a. Normal     Abnormal   
(e.g., phimosis, paraphimosis, discharge, genital warts, genital  
ulcer disease)  
b. If abnormal (specify) \_\_\_\_\_

### SUITABILITY FOR CIRCUMCISION PROCEDURE

24. Is client suitable for circumcision at the clinic?    Yes     No

If no, give reason for unsuitability? \_\_\_\_\_

25. Is client in good general health?    Yes     No

If client is not in good general health, circumcision should be delayed until he has recovered. If client shows signs of immunodeficiency (e.g., severe unexplained weight loss, unexplained recurrent opportunistic infections, requires bed rest for at least half the day), client should be referred to a higher level of care and an HIV test should be performed to verify that client does not have HIV infection.

26. If the client is not in good health, has the client been referred for further care?

Yes     No

If yes, please state for what service \_\_\_\_\_



## ANNEXURE 3: continued

Client Record Form (pg 7 of 9)

To be completed by Doctor/Nurse

### CLIENT RECOVERY

33. Blood Pressure: \_\_\_\_\_/\_\_\_\_\_ mm Hg

Pulse: \_\_\_\_\_

### 34. Intra-Operative Complications

Yes

No

If yes, state nature of complications

AE (Mark all that apply)	Mild (1)	Mod (2)	Severe (3)
<input type="checkbox"/> Anaesthesia reaction (AR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Bleeding (BL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Damage to penis (DP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Excess removal of skin (ES)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Insufficient skin removal (IS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Occupational Exposure (OT)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Pain (PA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Disposition

- Hold in recovery and monitor for 20 minutes; discharge home with standard instructions; follow-up within 2 days
- Hold in recovery and monitor for  minutes; discharge home with standard instructions; follow-up within  days
- Other (Specify):

\_\_\_\_\_

\_\_\_\_\_

Name of Doctor/Nurse: \_\_\_\_\_

Signature of Doctor/Nurse: \_\_\_\_\_

35. Postoperative medications: \_\_\_\_\_





## ANNEXURE 3: continued

Client Record Form (pg 9 of 9)

### Client Record Form Checklist

Process	Completed		If Completed		
	Yes	No	Name	Signature	Date
Counselling conducted					
HIV Test conducted					
Physical Examination conducted					
Informed Consent provided					
Assent Form for under 18 year olds completed					
Client referral completed (where applicable)					
MMC Procedure explained					
Wound Care explained					
Follow-up visits explained					
Adverse Event reported (where applicable)					

Checked by:..... Title ..... Date .....

Signature .....

Doctor:.....

Date .....

Signature .....

## ANNEXURE 4: Medical male circumcision: Follow-up visit checklist

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

Client's Name	
Client's ID No	
Client's File No	
Date of MMC procedure	
Date of Follow-up visit	

Note to Doctor: Inspect the patient's penis before completing the grid

1. Is the patient experiencing any of the following adverse events? (Tick all that apply)

Definitions:

- Moderate: Notable symptoms requiring modification of activity, but not resulting in loss of work or cancellation of social activities
- Severe: Incapacitating symptoms, requiring bed rest and loss of work
- P = Probably related to the circumcision procedure
- D = Definitely related to the circumcision procedure

Adverse Event	Adverse Event status (Tick No, New or Existing)			Severity (Tick P or D in the correct column)			
	No	New	Existing	Moderate		Severe	
				P	D	P	D
Abnormal pain							
Excessive swelling							
Haematoma							
Bleeding							
Infection							
Difficulty urinating							
Wound disruption/Delayed Healing							
Problems with appearance							
Injury to glans							
Other (Specify):							

1. Has the patient performed normal activities or work since the circumcision?

Yes

No

2. How many days after the circumcision did the patient resume normal activities or work?

..... days

Name of Doctor: .....

Signature .....

Date: .....

## ANNEXURE 5: Medical Male Circumcision: Adverse Event Reporting Tool

### Clinic Summary Form (Submission to DMT and Provincial MMC Co-ordinator)

SEVERE ADVERSE CLINIC REPORT	
Clinic:	<input style="width: 100%; height: 20px;" type="text"/>
Nearest Hospital:	<input style="width: 100%; height: 20px;" type="text"/>
Sub-district:	<input style="width: 60%; height: 20px;" type="text"/> Month: <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/>
District:	<input style="width: 100%; height: 20px;" type="text"/>
Province:	<input style="width: 100%; height: 20px;" type="text"/>
<b>Totals of Severe Adverse Events per type</b>	
<input style="width: 30px; height: 20px;" type="text"/> Abscess formation	<input style="width: 30px; height: 20px;" type="text"/> Scarring / disfigurement
<input style="width: 30px; height: 20px;" type="text"/> Bleeding	<input style="width: 30px; height: 20px;" type="text"/> Sexual complications
<input style="width: 30px; height: 20px;" type="text"/> Damage to Penis	<input style="width: 30px; height: 20px;" type="text"/> Swelling / haematoma
<input style="width: 30px; height: 20px;" type="text"/> Excessive skin removal	<input style="width: 30px; height: 20px;" type="text"/> Torsion
<input style="width: 30px; height: 20px;" type="text"/> Insufficient skin	<input style="width: 30px; height: 20px;" type="text"/> Voiding problems
<input style="width: 30px; height: 20px;" type="text"/> Infection	<input style="width: 30px; height: 20px;" type="text"/> wound dehiscence
<input style="width: 30px; height: 20px;" type="text"/> Pain	Total of All Severe Adverse Events: <input style="width: 30px; height: 20px;" type="text"/>
Comments: <input style="width: 100%; height: 20px;" type="text"/>	
<input style="width: 100%; height: 20px;" type="text"/>	
<input style="width: 100%; height: 20px;" type="text"/>	
<input style="width: 100%; height: 20px;" type="text"/>	
Name of Facility Manager: <input style="width: 100%; height: 20px;" type="text"/>	
Signature of FM.....	Date: <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/> / <input style="width: 15%; height: 20px;" type="text"/>

## ANNEXURE 5: Continued

<b>SEVERE ADVERSE EVENT DISTRICT REPORT</b>	
District: <input style="width: 150px; height: 20px;" type="text"/>	Month <input style="width: 100px; height: 20px;" type="text"/>
Province: <input style="width: 250px; height: 20px;" type="text"/>	
<b>Totals of Severe Adverse Events per type</b>	
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Abscess formation	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Scarring / disfigurement
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Bleeding	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Sexual complications
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Damage to Penis	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Swelling / haematoma
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Excessive skin removal	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Torsion
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Insufficient skin	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Voiding problems
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Infection	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> wound dehiscence
<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> Pain	Total of All Severe Adverse Events: <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>
Comments: <input style="width: 250px; height: 20px;" type="text"/>	
<input style="width: 250px; height: 20px;" type="text"/>	
<input style="width: 250px; height: 20px;" type="text"/>	
<input style="width: 250px; height: 20px;" type="text"/>	
Name of District Manager: <input style="width: 250px; height: 20px;" type="text"/>	
Signature of DM:.....	Date: <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> / <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> / <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>



## ANNEXURE 6: Medical Male Circumcision: Adverse Event Form

To be completed for a patient presenting with an adverse event related to male circumcision

Clinic name: \_\_\_\_\_

Form completed by: \_\_\_\_\_ Date: \_\_ \_\_ / \_\_ \_\_ / 20\_\_ (dd/mm/20yy)

### I. Client Information

Name: \_\_\_\_\_

ID No: \_\_\_\_\_

Client File No: \_\_\_\_\_

Date of visit: \_\_ \_\_ / \_\_ \_\_ / 20\_\_ (dd/mm/20yy)

Date of Circumcision: \_\_ \_\_ / \_\_ \_\_ / 20\_\_ (dd/mm/20yy)

Clinic where Surgery took place: \_\_\_\_\_

From existing clinical records, when patient presents at same facility where circumcision performed:

Doctor/Operator (who removed foreskin): \_\_\_\_\_

Nurse: \_\_\_\_\_

### II. Adverse Event (first time patient presents with the condition)

Date of AE(s) Diagnosis: \_\_ \_\_ / \_\_ \_\_ / 20\_\_ (dd/mm/20yy)

<input type="checkbox"/>	A	Intra-operative or prior to leaving clinic
<input type="checkbox"/>	B	Up to 30 days post-operative
<input type="checkbox"/>	C	More than 30 days post-operative

Clinician Name: \_\_\_\_\_

Signature: \_\_\_\_\_

### III. Type and Severity of Adverse Event

Type of Adverse event (code)	Description of AE and/or Actions Taken (✓ as many as applicable)	Severity (✓1/ AE) Level	Treatment (write in)	Disposition or Outcome (✓1 & write in)
<b>Bleeding (BL)</b>	<ul style="list-style-type: none"> <li>• More significant bleeding than usually experienced, but easily control (intra-operative)</li> <li>• Stained underwear/dressing with no active bleeding or Small amount of bleeding from minor clot disruption when changing dressing</li> <li>• Required 10 or less minutes of manual pressure to control</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to _____ <input type="checkbox"/> Repeat visit (date): ___ / ___ / ____ <input type="checkbox"/> Other (list):
	<ul style="list-style-type: none"> <li>• Bleeding difficult to control, requiring significant additional intra-operative time to control</li> <li>• Ongoing active bleeding and/or swelling that required a special return to the facility for medical attention</li> <li>• Required extra pressure dressing or extra couple of sutures to control</li> <li>• Observed patient for at least 1 hour and reviewed dressing before sending home or taking further action</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>• Unable to control bleeding adequately during operation</li> <li>• Required post-operative blood transfusion (significant blood loss and/or signs of shock present)</li> <li>• Surgical re-exploration for ligation or cauterization of bleeding vessels</li> <li>• Required hospitalization</li> <li>• Transferred to another facility</li> </ul>	Severe (3)		
<b>Swelling of penis/ scrotum, including haematoma (SH)</b>	<ul style="list-style-type: none"> <li>• Significant circumferential swelling along incision line (without bleeding) that resolves with time</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ___ / ___ / ____ <input type="checkbox"/> Other (list):
	<ul style="list-style-type: none"> <li>• Localized swelling associated with some bleeding that resolves spontaneously (with or without pressure dressing)</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>• Generalized haematoma causing significant discomfort and distress, with ongoing oozing of blood from suture margins</li> <li>• Surgical re-exploration for drainage of haematoma</li> <li>• Required that residual bleeder be cauterized or transfixied</li> </ul>	Severe (3)		

Type of Adverse event (code)	Description of AE and/or Actions Taken (✓ as many as applicable)	Severity (✓1/ AE)	Treatment (write in)	Disposition or Outcome (✓1 & write in)
	<ul style="list-style-type: none"> <li>Required hospitalization</li> <li>Transferred to another facility</li> <li>Required transfusion</li> </ul>			
Infection (IN)*	<ul style="list-style-type: none"> <li>Marked signs of erythema and minimal serous discharge or infective process noted at frenulum or suture margin</li> <li>Only topical antibiotics used</li> <li>Infected area less than 1 cm in length</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>Purulent discharge from wound</li> <li>Systemic (Oral or IV) antibiotics needed</li> <li>Infected area greater than one cm in length</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>Abscess (also report AB)</li> <li>Severe cellulitis</li> <li>Wound necrosis (also refer to SD)</li> <li>Severe wound disruption (also report WD)</li> <li>Tissue loss</li> <li>Referral to specialist required for treatment or monitoring</li> </ul>	Severe (3)		
Wound dehiscence &/or disruption (WD)	<ul style="list-style-type: none"> <li>Disruption involving only one suture or less than one cm</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>Disruption involving two or more sutures or 2 cm, but no surgical intervention</li> <li>Systemic antibiotics needed</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>Wound disruption requiring additional surgery, e.g. re-suturing or debridement</li> <li>Transferred to another facility</li> <li>Required hospitalization</li> </ul>	Severe (3)		
Abscess formation (AB)	<ul style="list-style-type: none"> <li>Localized swollen, fluctuant area: hot to touch, offensive smell, and thick yellow pus discharge (patient may have fever)</li> <li>Opened, drained and irrigated on site</li> <li>Transferred to another facility</li> </ul>	Severe (3)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____

Type of Adverse event (code)	Description of AE and/or Actions Taken (✓ as many as applicable)	Severity (✓1/ AE)	Treatment (write in)	Disposition or Outcome (✓1 & write in)
Scarring &/or disfigurement (SD)	<ul style="list-style-type: none"> <li>• Patient complains of disfigurement but physical exam normal</li> <li>• Visible ridging which the client complains about or provider notices, but no distortion of the penile organ</li> <li>• The affected portion of the suture line is more than a third of the circumference</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>• Disfigurement noted on physical exam but no re-operation necessary</li> <li>• Ridging is gross and either involving more than a third of the suture line or the suture line describes more than one circumferential line</li> <li>• Penis looks like it will be able to remould during healing (sufficient penile skin left to permit moulding)</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>• Discernible scarring/disfigurement</li> <li>• Such distortion that the client cannot tolerate the appearance</li> <li>• Surgical intervention required</li> <li>• Transferred to another facility</li> </ul>	Severe (3)		
Pain (PA)	<ul style="list-style-type: none"> <li>• Mild discomfort (3-4 on pain scale) with client able to remain still and cooperate for duration of procedure</li> <li>• No additional local anaesthetic required</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>• Moderate discomfort (5 or 6 on pain scale), with client expressing pain clearly</li> <li>• Required interruption of operation for additional local anesthetic</li> <li>• Patient unable to work or cancelled normal activities lasting for 4-7 days after surgery</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>• Severe discomfort (7 on pain scale), with client expressing pain and the addition of local anaesthesia having no effect</li> <li>• Required early termination of MC or administration of general anaesthesia</li> <li>• Patient unable to work or cancelled normal activities lasting for 7 or more days after surgery</li> </ul>	Severe (3)		

Type of Adverse event	Description of AE and/or Actions Taken (✓as many as applicable)	Severity (✓1/ AE)	Treatment (write in)	Disposition or Outcome (✓1 & write in)
Damage to Penis (DP)	<ul style="list-style-type: none"> <li>• Bruising or abrasion</li> <li>• Superficial burn or laceration to glans or shaft</li> <li>• Required extra dressings</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____
	<ul style="list-style-type: none"> <li>• Significant laceration or burn to glans or shaft</li> <li>• Required prolonged intra-operative attention to treat</li> <li>• Required extra pressure dressing</li> <li>• Requires additional clinic follow up care</li> </ul>	Moderate (2)		<input type="checkbox"/> Repeat visit (date): ___ / ___ / _____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>• Severe injury including severed portion of glans, shaft laceration with ongoing bleeding or significant burn injury leading to tissue necrosis/death/loss or strangulation from too tight a dressing or device application.</li> <li>• Required additional surgery</li> <li>• Transferred to another facility</li> <li>• Required hospitalization</li> </ul>	Severe (3)		
Insufficient skin removed (IS)	<ul style="list-style-type: none"> <li>• Prepuce extends over the coronal margin but less than one third of the glans is covered at rest in flaccid stat</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____
	<ul style="list-style-type: none"> <li>• Between one and two thirds of glans is covered by residual prepuce at rest in flaccid state</li> </ul>	Moderate (2)		<input type="checkbox"/> Repeat visit (date): ___ / ___ / _____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>• Greater than two thirds of glans is covered by residual prepuce at rest in flaccid state</li> </ul>	Severe (3)		
Excessive skin removed (ES)	<ul style="list-style-type: none"> <li>• Intra-operative excess removal noted requiring either:               <ul style="list-style-type: none"> <li>○ mobilization of skin near wound margin</li> <li>○ placement of extra sutures for reinforcement</li> </ul> </li> <li>• Post-operative tightening of the skin is discernible, but re-operation not required</li> </ul>	Moderate (2)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ___ / ___ / _____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>• Provider was unable to adequately close the wound margins</li> <li>• Mobilization of skin to close the wound margin required</li> <li>• Discernible tightening requiring reoperation</li> <li>• Transferred to another facility</li> <li>• Required hospitalization</li> </ul>	Severe (3)		



Type of Adverse event (code)	Description of AE and/or Actions Taken (✓as many as applicable)	Severity (✓1/ AE)	Treatment (write in)	Disposition or Outcome (✓1 & write in)
Torsion of Penis—new onset (TO)	<ul style="list-style-type: none"> <li>Torsion is visible as misalignment of the two lines, causing a twisted/rotated appearance, but does not cause discomfort in all states of turgidity</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>Flaccid penis appears rotated and is increasingly apparent at erection</li> <li>Torsion causes mild pain or discomfort with erection but no surgery needed</li> <li>Torsion less than 90 degrees</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>Distortion is apparent in the flaccid state</li> <li>Erections are painful and the client cannot tolerate the appearance, discomfort, or pain</li> <li>Severe symptomatic torsion requiring re-operation</li> <li>Torsion greater than 90 degrees</li> </ul>	Severe (3)		
Voiding problems, difficulty urinating (VO)	<ul style="list-style-type: none"> <li>Partial obstruction that is transient</li> <li>Resolved spontaneously or with loosening of dressing</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>Partial obstruction requiring special return to clinic outside of routine follow-up</li> <li>Required treatment in clinic - such as transient catheterization</li> </ul>	Moderate (2)		
	<ul style="list-style-type: none"> <li>Complete urinary retention/obstruction</li> <li>Required surgical re-exploration for urethral injury or blockage</li> <li>Required placement of supra-pubic tube</li> <li>Transferred to another facility</li> </ul>	Severe (3)		
Anaesthesia reaction or complication (AN)	<ul style="list-style-type: none"> <li>Mild palpitations, vaso-vagal reaction (light-headedness/dizziness) or nausea requiring monitoring at clinic</li> <li>Resolved spontaneously without medical treatment</li> </ul>	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): ____/____/_____ <input type="checkbox"/> Other (list): _____
	<ul style="list-style-type: none"> <li>Significant palpitations, vasovagal reaction or emesis (vomiting)</li> <li>Required medical intervention at clinic</li> </ul>	Moderate (2)		

Type of Adverse event (code)	Description of AE and/or Actions Taken (✓ as many as applicable)	Severity (✓1/ AE)	Treatment (write in)	Disposition or Outcome (✓1 & write in)
	<ul style="list-style-type: none"> <li>• Severe allergic reaction or other reaction to anaesthetic</li> <li>• Transferred/referred to another facility</li> <li>• Hospitalised for anaphylaxis or other anaesthetic reaction</li> </ul>	Severe (3)		
Occupational Exposure (OE)	•	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____
	•	Moderate (2)		<input type="checkbox"/> Repeat visit (date): ___ / ___ / _____
	•	Severe (3)		<input type="checkbox"/> Other (list): _____
Sexual Complications (SC)	• Transient occurrence impairing sexual function, lasting less than 3 months	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____
	• Transient occurrence impairing sexual function, lasting between 3-5 months	Moderate (2)		<input type="checkbox"/> Repeat visit (date): ___ / ___ / _____
	• Permanent sexual dysfunction lasting more than 6 months	Severe (3)		<input type="checkbox"/> Other (list): _____
Other:	•	Mild (1)		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____
	•	Moderate (2)		<input type="checkbox"/> Repeat visit (date): ___ / ___ / _____
	•	Severe (3)		<input type="checkbox"/> Other (list): _____

## ANNEXURE 6: continued

### Additional Notes:

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### IV. Continuing Adverse Event (to be completed when patient returns for follow up of AE)

Note: Adverse events can progress over time; the outcome of an adverse event may become more or less severe over time.

Changes in severity or additional AEs must be documented separately along with the date of new diagnosis.

Date of Re-examination: \_\_ \_\_ / \_\_ \_\_ / 20\_\_ (dd/mm/20yy)

Timing (check one):

A	Intra-operative or prior to leaving clinic
B	Up to 30 days post-operative
C	More than 30 days post-operative

Clinician Name: \_\_\_\_\_ Signature: \_\_\_\_\_

## ANNEXURE 6: continued

AE Treatment and disposition

### a. Updated Diagnosis from previous AE:

Type & severity ( <i>write in</i> )	Treatment ( <i>write in</i> )	Disposition/Outcome (✓one & write in)
		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): __ __ / __ __ / __ __ <input type="checkbox"/> Other (list): _____
		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): __ __ / __ __ / __ __ <input type="checkbox"/> Other (list): _____

### b. New AE Treatment and Disposition

Type & severity ( <i>write in</i> )	Treatment ( <i>write in</i> )	Disposition/Outcome (✓one & write in)
		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): __ __ / __ __ / __ __ <input type="checkbox"/> Other (list): _____
		<input type="checkbox"/> Resolved (no further action) <input type="checkbox"/> Referred to: _____ <input type="checkbox"/> Repeat visit (date): __ __ / __ __ / __ __ <input type="checkbox"/> Other (list): _____

### Additional Notes:

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## ANNEXURE 7: Medical male circumcision: Adult Emergency Supply Checklist

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

Once each item has been checked, date and sign in the corresponding block for the item

Emergency Medicines and Equipment	Checked		Checked		Checked		Checked	
	Date	Sign	Date	Sign	Date	Sign	Date	Sign
Portable suction machine								
Oxygen source								
Defibrillator								
Laryngoscope (x)								
Endotracheal tubes (x)								
Pocket mask with one way valve								
Ambu bag with valve and mask								
Oxygen mask								
Assorted adult airways								
Yankauer suction								
Tongue depressors								
Atropine (0.6 mg/ml ampoules)								
Adrenaline (1 in 1000 solution, 1mg in 1ml ampoules)								
Rectal diazepam (10mg in 2.5 ml suppositories)								
50% dextrose								
Hydrocortisone								
Aminophyline								
Intravenous saline and tubing								
IV cannulas (2 each 16, 18, 22F)								
Tourniquets (x2)								
Alcohol Swabs (x6)								
Adhesive tape (1 roll of 2cm tape)								
Water for injection								



## ANNEXURE 8: Medical Male Circumcision: Medicine Stock Card

Facility Name: \_\_\_\_\_  
 Item: \_\_\_\_\_ Expiry Date: \_\_\_\_\_  
 Min Level: \_\_\_\_\_ Max Level: \_\_\_\_\_  
 Storage Condition: \_\_\_\_\_

Date	Stock In	Stock Out	Difference	Balance	Name	Signature	Comments

### Directions:

- Use one stock card per item
- ITEM: List the item, including:
  - Generic name of medicine
  - Strength
  - Dosage Form (e.g. ampoules, vials, suppositories, etc.)
- STORAGE: Indicate if there are any storage conditions that apply to this item (e.g. temperature, light)
- MIN LEVEL: Indicate the minimum level of this item that should be kept in stock (i.e. when the item should be reordered)
- MAX LEVEL: Indicate the maximum level of the item that should be kept in stock
- When taking this item, fill in the columns as follows:
  - Date
  - Stock In: How many items have been received (added to stock)
  - Stock Out: How many items have been taken out of stock
  - Difference: Note losses of the item that have been identified
  - Balance: How many of these items are left
  - Name: Name of person doing the stocktaking should be printed
  - Signature: Person doing the stocktaking should sign
  - Comments: Any explanation of losses or other information should be noted

## ANNEXURE 9: Medical Male Circumcision: Infection Control

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

No	Assessment Items For items not observed, write N/A in the Comments column	Item Observed		Comments
		Yes	No	
<b>Injection Safety</b>				
1	Injection is prepared on a clean designated table or tray where blood or body fluid contamination was unlikely			
2	New syringe and needle is used from sterile packets for every injection			
3	All needles are removed from the medicine vial between injections			
4	New sterile needle and syringe is used to reconstitute each vial			
5	Two-handed recapping of a used needle is avoided			
6	Hand rub is used or hands are washed with soap and water before injecting			
7	Needles are disposed of properly, i.e. no bending, breaking, removing of needle from syringe or setting the needle/syringe down before disposal, into a puncture-proof box immediately after use			
<b>Hand-washing</b>				
8	Healthcare providers wash their hands or use hand rub when indicated, e.g. before and after patient care, before putting on gloves, when visibly dirty			
9	When washing their hands, healthcare providers use soap and running water			
10	After washing, hands are dried with a paper towel, clean towel reserved for their use only or air-dried			
<b>Use of Gloves</b>				
11	Gloves are worn whenever contact with blood or body fluids is anticipated			
12	Utility gloves are worn when contaminated instruments and other items are handled, medical or hazardous waste and linen are handled, housekeeping chores are performed, and contaminated surfaces are cleaned			

## ANNEXURE 9: continued

No	Assessment Items For items not observed, write N/A in the Comments column	Item Observed		Comments
		Yes	No	
<b>Antiseptics and Disinfectants</b>				
13	Antiseptics are used only on skin and mucous membranes			
14	Disinfectants are used for processing instruments and other items for reuse and for housekeeping activities			
15	Antiseptics and disinfectants are used in a manner that reduces contamination			
<b>Protective Covering</b>				
16	Protective goggles are available and used when the splashing of body fluids is expected			
17	Either aprons or gowns that are worn by persons performing circumcisions changed between each procedure			
<b>Aseptic Technique</b>				
18	Surgical hand scrub is performed before the first surgical procedure of the day, including thorough cleaning of nails			
19	Hands are decontaminated between procedures by washing with liquid antiseptic soap (not bar soap) or hand rub			
20	Sterile or single-use nailbrushes are used			
21	Sterile or high-level disinfected gloves are put on and removed in ways that do not contaminate them or allow the wearer to touch the contaminated outside part of the gloves			
22	If hair is removed, it is removed immediately before the operation, preferably with electric clippers			
23	Surgical procedure site is prepared properly with the use of an antiseptic solution			
24	A sterile field is established and maintained during all surgical/clinical procedures			
25	Traffic and activities are controlled			
26	Operating room doors are closed except when moving personnel, patients or equipment			
27	Appropriate attire is worn in surgical procedure areas			

## ANNEXURE 9: continued

No	Assessment Items For items not observed, write N/A in the Comments column	Item Observed		Comments
		Yes	No	
<b>Instrument Processing</b>				
28	Personnel who process instruments (cleaning and sterilising) are trained and competent to carry out the procedures			
29	'Clean' and 'Dirty' activities are carried out in separate areas. (When only one room is available for processing instruments and other items, it should be arranged so that activities and objects flow in an organised fashion from receiving used items to storing sterilised or high-level disinfected items)			
30	Instruments and other items are decontaminated by placing them in a 0.5% chlorine solution immediately after use and letting them soak for 10 minutes (not left indefinitely in the solution)			
31	Instruments are thoroughly scrubbed using a soft brush, detergent and water, and rinsed thoroughly with clean water before sterilisation or high-level disinfection			
<b>Steam Sterilisation (Note: Boiling is not recommended unless it is the only option available)</b>				
32	For steam sterilisation, instruments and other items are packed in a way that allows for steam to reach all the surfaces			
33	The appropriate parameters are followed for steam sterilisation, e.g. time, temperature, pressure			
34	The appropriate parameters are followed for dry-heat sterilisation, e.g. time, temperature			
35	The sterilisation equipment is properly monitored and maintained using a maintenance log			
36	If gloves are steamed, they are placed in the steamer so that steam can contact all surfaces and the gloves are steamed for 20 minutes			
37	Instruments and other items are stored in a way that limits the risk of contamination, i.e. stored above floor level			

## ANNEXURE 9: continued

No	Assessment Items For items not observed, write N/A in the Comments column	Item Observed		Comments
		Yes	No	
<b>Chemical Sterilisation</b>				
38	A properly prepared chemical solution, such as one containing glutaraldehyde is used for chemical sterilisation			
39	Instruments and other items are dry, open or disassembled and completely submerged in the solution			
40	Instruments and other items are soaked in the chemical solution for the time indicated in the manufacturer's instructions and then rinsed with sterile water			
<b>Medical Waste Management</b>				
41	The foreskin is disposed of in a medical waste container			
42	There is a system for separating infectious waste from non-infectious waste at the source of generation, e.g. red bags/containers, well-marked			
43	Sharps containers are no more than three quarter full			
44	Sharps boxes that are ready for disposal/incineration are properly sealed and stored in locked/secure areas inaccessible to the public			
45	All waste is contained (lids) so that sharps and medical waste is not observed in open containers, on table, on floors, or elsewhere exposing staff to needle-stick injuries			
46	All used syringes and needles are outside the facility or at the disposal site and completely buried or incinerated			
47	Liquid wastes and hazardous chemical are routinely poured down the drain or buried in a pit			
48	Medical waste containers are cleaned with a disinfectant cleaning solution and rinsed with water daily or more frequently if visibly contaminated			
49	Disposal site is secure			
50	Medical waste is properly burned, buried or transported to waste management site			



## ANNEXURE 9: continued

No	Assessment Items For items not observed, write N/A in the Comments column	Item Observed		Comments
		Yes	No	
<b>Cleaning</b>				
51	Mop heads are decontaminated every time they are contaminated with body fluids or weekly			
52	Buckets are cleaned, dried and inverted after use			
53	Cleaning products are NOT decanted			
54	Medicine/dressing trolley is wiped with disinfectant between procedures			
55	Surfaces, including tables, floors, walls, ceilings, lights, are cleaned after each operation			
56	Visibly soiled surfaces are wiped with disinfectant			
57	Medical equipment left in the theatre is covered at the end of the day			

Completed by: .....

Signature.....

Title.....

Date.....

## ANNEXURE 10: Medical Male Circumcision: Sharps Disposal Process

DISPOSAL OF SHARP ITEMS	
Step 1	✓ Do not recap a used hypodermic needle or disassemble the needle and syringe
Step 2	✓ Place the needle 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 the inside
Step 3	✓ Dispose of the container when it is three quarter full

DISPOSAL OF SHARP CONTAINERS	
Step 1	✓ Put on heavy-duty utility gloves
Step 2	✓ Cap, plug or tape the opening of the container tightly ✓ Make sure that no sharp items are sticking out of the container
Step 3	✓ Dispose of the sharps container by burning, encapsulating or burying it
Step 4	✓ Remove utility gloves

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