KINGDOM OF CAMBODIA

NATION – RELIGION – KING

Ministry of Health

National Protocol

Comprehensive Abortion Care

December 2010

PREFACE

Cambodia experienced many difficulties before peace arrived and there was a chance to develop the country. Many women experience reproductive health problems. According to the Cambodian Demographic Health Survey (CDHS) 2005, the Maternal Morlality ratio was estimated to be 472 per 100,000 live births. This high level of maternal mortality is due to primarily to haemorrhage, post partum infection, eclampsia and unsafe abortion. The survey also showed that among 13,200 women interviewed who reported that they had an induced aborlion in the last 5 years, 40% of women who have had an abortion have had more than one.

In order to reduce maternal mortality due to unsafe aborlion, the Ministry of Health introduced the Reproductive and Sexual Health Strategy 2006-2010, which included the provision of safe abortion services to raise health service provider's awareness of the need to ensure provision of such services.

In order to be able to implement effective and safe abortion care services, all health staff are held accountable for respecting professional ethics in providing good quality services for one of four components of induced abortion or miscarriage care, including:'

1. Provision of emergency care and treatment for any complications due to induced abortion or miscarriage;
2. Provision of consultation services and suitable birth spacing options before and after induced abortion or miscarriage;
3. Co-ordination with other reproductive health facilities, in particular with STI and HIV services;
4. Collaboration between themselves as service providers, and the community.

Safe abortion has to be performed by trained and skilled health service providers. The Comprehensive Abortion Care Services Protocol aims to support service providers in providing quality services for women. This manual includes fourteen chapters with each chapter containing technical guidance. It includes a chapter on Medical Abortion which is another method for safe abortion. This protocol was adapted for Cambodia based on the IPAS Manual and the World Health Organisation guidelines and is based on the Cambodian context.

The Ministry of health is confident that good quality service provision, especially the provision of effective safe abortion care services, will contribute to the reduction of the maternal mortality rate in Cambodia.

Phnom penh, October 26, 2009

Professor Eng Huot
Secretary of State
Ministry of Health

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This protocol has been adopted for Cambodia and is based on IPAS [a, b, c] manuals and draws from the World Health Organization [d] and Gynuity [e] guidelines. The draft protocol in English and Khmer was piloted for more than a year. The CAC is also used as a reference manual with the related National CAC Trainer's Guide [f] that is an evolving document that can be used to plan the sessions for the courses and contains the tools required for training.

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[a] *Hyman AG. & Castleman L.(2005) Woman-centered abortion care: Reference manual. Chapel Hill, NC, Ipas.*

[b] Ipas. *2009. Medical Abortion Study Guide. Chapel Hill, N.C.*: Ipas

[c] Baird TL, Castleman LD, Hyman AG, Gringle RE Blumenthal RD. (2007) *Clinician's Guide for Second-Trimester Abortion, Second Edition*. Chapel Hill, NC, Ipas.

[d] World Health Organization (2003) Safe abortion: technical and policy guidance for health systems. WHO:Geneva.

[e] Gynuity (2009) *Providing medical abortion in low-resource settings: an introductory guidebook* (2nd Ed). New York.

[f] Ministry of Health, Options (2010 Version) The Comprehensive Abortion Care (CAC) National Trainer's Guide.

TABLE CONTENTS

Chapter

1 Introduction

This chapter describes in brief the abortion situation in Cambodia and outlines the law related to abortion. The specific context related to quality of health care services in which abortion care is provided is outlined, and the aims and structure of this National protocol Comprehensive Abortion Care (CAC) are presented. The reader is directed to other documents for more detailed information.

1.1 Overview of abortion in Cambodia

An estimated 14% of pregnancy-related deaths in Cambodia were attributable to the complications of unsafe abortion in 2005[1], and where 8% of women of reproductive age reported having an abortion[2]. Almost half the women reported having the procedure in a setting outside of a health facility, and many were performed by non-clinicians.

Millions of women each year have abortions that are unsafe performed either by persons lacking the necessary skills or in an environment lacking the minimal medical standards or both[3]. Deaths and injuries from unsafe abortions are a serious public health problem that affects women and indirectly affects men, children and families. In Cambodia, 32,000 women with abortion complications were treated in public health facilities in 2005 and 42% of those women had severe complications[4]. In total, 14% of public health facilities in the same year reported at least one maternal death related to abortion complications, but it is likely that many more abortion-related deaths have not been reported.

This comprehensive abortion care (CAC) protocol is evidence-based and has been issued in response to address the morbidity and mortality related to unwanted pregnancies and unsafe abortions in Cambodia. The protocol has been developed for use as a reference manual and for trainers following the CAC curriculum, which together aim to:

- Increase the number of providers who can safely provide abortion care services across the country;
- To help trainers effectively teach appropriate skills necessary for the provision of safe and comprehensive abortion care services;
- To help trainees learn those skills and retain the information;
- To provide the tools required to achieve internationally recognised standards of care.
- To increase access to safe abortions through supporting the expansion of CAC services throughout Cambodia.

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1 World Health Organisation 1998. Unsafe Abortion; Global and regional estimates of incidence of and mortality due to unsafe abortion. Geneva, WHO.

2 NIPH, NIS and RC Macro (2006) Demographic and Health Survey 2005 National Institute of Public Health and National Institute of Statistics and ORC Macro Calverton, Maryland, USA.

3 World Health Organization. (2003) Safe abortion: Technical and policy guidance for health systems. Geneva, WHO

4 T Fetters, S Vonthanak, C Picardo,T Rathavy (2008) Abortion-related complications in Cambodia. BJOG; Volume 115, Issue 8, pages 957–968, July 2008

1.2 Abortion law in Cambodia

The Abortion Law of Cambodia was passed in 1997[5], and the *Prakas*[6] was passed in 2002. The box below provides Article 8 of the Kram dated November 12th 1997 on abortion.

Box showing Article 8 of the Kram on Abortion

The law states that: abortion may only be carried out for those foetuses that are under 12 weeks old. If the foetuses are over 12 weeks old, they may be authorised to be aborted only if, after a diagnosis, it is found out that:

- There is a probable cause that such a foetus does not develop itself as usual or which may cause danger to the mother's life.
- The baby who is going to be born may have a serious and incurable disease.
- In case, if after victimised of a rape a woman became pregnant, the abortion may be carried out despite the above stated conditions. However in all cases, there must be a request from the concerned person – if such a person is 18 years old or above, or from an insistent request from parents or guardian and from the concerned person for women under 18 years old.
- Decisions on this above matter requires an approval from a group of 2 to 3 doctors and also a consent form from the concerned person (or her parents or guardian).

Under the declaration in the guidelines for the execution of the abortion law of 2002, several conditions are stipulated under which an abortion can be performed legally. These are:

- For each abortion, there must be written consent with signatures or thumbprints of the woman.
- Abortions can be performed only in hospitals, health centres, and clinics authorised by the Ministry of Health (MoH).
- Only physicians, medical assistants or secondary midwives can perform abortions, and they must have CAC training and a certificate from the MoH.
- Anyone not qualified to perform abortions under this declaration may be imprisoned for between one month and ten years for performing illegal abortions.
- Public and private facilities must record information about each abortion and provide monthly reports including number of first- and second-trimester abortions, the methods used, ages of clients, and number and reason for referral.

1.3 Quality in health in Cambodia

Quality is an important aspect of safe abortion care services, and a quality assurance system is required to ensure that appropriate standards are maintained.

The MoH has issued a Master Plan for Quality Improvement in Health for 2010 to 2015[7] that outlines

[5] Administrative Kram Department & Ministry of Health (January 2002) Health Law on: The management of pharmaceuticals; Abortion; and The Management of private medical, Paramedical and Medical Aide Practice. (unofficial English translation available)

[6] A regulation issued by a Minster.

[7] Ministry of Health (2009) Master Plan for Quality Improvement.

the strategic approach with which to implement the national policy. The MoH's technical working group on Quality Improvement is continuing the development of tools with which to assess overall quality of care in facilities. This section provides an overview of the MoH approach to quality, to which this protocol aims to be coherent with.

The National Policy for Quality in Health focuses on the following six strategic areas:

i. Empowering consumers
ii. Institutional management
iii. Clinical practice
iv. Professional development
v. Management development
vi. Institutionalisation of quality in the Ministry of Health.

The MoH has acknowledged that there are several challenges to achieving quality in health services in general, including low use of cost-effective public health interventions. Some of these include; poor communication between health-service providers and clients; unequal distribution of providers, especially trained midwives; high prices; limited access to essential services or referral hospitals; irregular and inadequate flow of funds to service deliver. Additionally, poor management and leadership capacity persist especially in monitoring, evaluation, supervision and for evidence-based, delegation decision making.

This CAC protocol aims to encourage quality of abortion care services in line with the guiding principles laid out in the Ministry of Health's Master Plan on Quality Improvement, by providing quality health care that is:

- **Safe:** ensuring that the patients and staff do not suffer undue harm from treatment.
- **Effective:** patient care will be based on guidelines that follow correct scientific evidence.
- **Patient-centred:** health care will be responsive to and respectful of the patient's values and choices.
- **Accessible:** care must be is timely and affordable.
- **Efficient:** resources are not wasted and are used appropriately to ensure the most benefits for the patients and the health-care providers.
- **Equitable:** health care is provided to all who need it regardless of gender, ethnicity or socioeconomic status.
- **Continuous:** efforts will be made to ensure that care is coordinated within the health-care system and with the community, to ensure that the health needs of patients are met.

In addition, these guidelines support provision of care that is guided by the following core values in coherence with the principles stated in the MoH National Policy for Quality in Health (2005):

- **Transparency:** people involved in care will take part in the development of policies, standards and guidelines that impact on the provision of health care. Results of performance assessments will be made available to the general public.

- **Core of ethics:** care shall be guided by the codes of ethics of respective professions.
- **Evidence-based:** current professional knowledge shall inform organisational management and care rendered to patients.
- **Top-down, bottom-up approach:** the MoH shall ensure proper coordination of all levels of the health-care system.
- **Shift from blame to improvement:** the MoH shall see problems as opportunities for improvement.
- **Accountability:** all health-care providers shall be held responsible for their actions or inactions.

1.4 Clients' rights and providers' rights and duties

Fundamental to quality abortion care are the rights of clients and duties of providers to them. Further, in settings where there are misconceptions about the legality of provision of services, it is important to ensure the rights of providers. The CAC Protocol and training approach aim to be in line with those rights and duties as set out in the MoH's Operational Guideline For Clients' Rights And Providers' Rights And Duties (February 2007).

In summary, the rights of clients (with specific reference to reproductive rights) include the rights to:

- ***Equality and freedom from discrimination:***
  Care should not be denied due to race, ethnicity, colour, poverty, sex, marital status, physical or mental disability and illnesses, age, language, religion, political orientation, national or social origin.

- ***Information and health education:***
  Women seeking care have the right to information about their condition; the range of treatment options available; the costs of treatment needed; and the identity and professional status of those providing their care. They also have the right to information and health education about services such as birth spacing services or prevention of STIs.

- ***Health care and treatment:***
  Women choosing abortion have the right to treatment that is consistent with MoH technical standards. They also have the rights to be treated with dignity and to continuity of care.

- ***Confidentiality:***
  Women seeking CAC are often concerned about whether information about their abortion will be talked about or shared. All information gathered and recorded must be kept confidential.

- ***Privacy:***
  Women have the right to privacy for modesty during counselling, examinations and treatment.

- ***Choice and informed consent:***
  Women can choose among treatment options (if options exist) or refuse treatment or services offered.

- ***Express opinions and to participation:***
  Women must be able to express opinions, ask questions or complain about care without fear their care will be affected. Clients have the right to evaluate health services.

In order to ensure the rights of clients are met, the rights and responsibilities of providers must be respected. That is, their rights and duties to ask and receive information; to provide health care and treatment and to decide on appropriate interventions.

1.5 Overview of the CAC training

The CAC services training course is designed for health-service providers who are appropriately qualified and who are motivated to provide safe and comprehensive abortion care services. The goals of the training aim to ensure quality services as laid out by the MoH, and are:

- to create positive attitudes among service providers about abortion services
- to give providers the knowledge, skills and confidence to perform CAC services
- to build upon the knowledge and skills of post abortion care (PAC) services
- to provide the knowledge and skills to establish and manage CAC sites.

The training course emphasises the knowledge, attitudes and skills development required for providing CAC services. The training methods are based on adult learning principles and the trainers are expected to create a positive learning environment. The training is competency-based, meaning that skills are practiced and measured against a standard during the training.

CAC training is currently conducted through in-service programmes for medical doctors, medical assistants and secondary midwives.

1.6 Structure of the protocol

This protocol provides an overview of recommended types of uterine evacuation (abortion) methods in Chapter 2. Chapters 3 and 4 detail the requirements to create an environment where safe abortions procedures can be conducted by outlining the preparation of facilities and detailing the procedures for preventing infection. Chapters 5 and 6 then guide the reader step-by-step sequentially through the processes for examining and counselling a client and chapter 7 provides an overview of managing pain during abortion procedures. Chapters 8 and 9 detail the procedures for, and recovery after, conducting a medical abortion. Chapters 10 and 11 detail the procedures for conducting and recover after a manual vacuum aspiration. How to manage potential major complications and emergencies arising from first trimester abortions is described in chapter 12. As counselling on birth spacing is a critical component of after care, this is dealt with in a separate chapter, 13, and the final chapter, 14, deals the monitoring and evaluation of abortion care services as an important component of quality health care services. An addendum is provided that details the procedure and after care for second trimester abortions. However, this is provided only for completeness –only providers with access to back up services, who have adequate experience and have undergone recognised training can conduct abortions in the second trimester.

Chapter

2 Overview of Uterine Evacuation Methods

2.1 Introduction

Uterine evacuation is the removal of the contents of the uterus. There are several methods for accomplishing uterine evacuation depending upon clients' individual circumstances, a woman's personal clinical situation, uterine size, duration of pregnancy and preferences are key factors in determining which method is most appropriate. Which technique is used depends also up the training and skills of the staff and the equipment and medications available. This chapter presents the methods appropriate according to whether the pregnancy is in the first or second trimester.

2.2 First trimester methods

In the first trimester, the preferred methods for uterine evacuation are:

- vacuum aspiration (manual and electric, MVA and EVA) for up to 12 completed weeks since last menstrual period; and
- medical abortion, MA (with pharmacological agents usually mifepristone and misoprostol) for up to 9 completed weeks since last menstrual period. The safety and effectiveness of MA for between 9 and 12 completed weeks is under investigation)

Vacuum aspiration and sharp curettage (also known as dilatation and curettage, D&C), are commonly referred to as surgical methods of uterine evacuation. However, evacuating the uterus with vacuum sources is now referred to as an aspiration method rather than a surgical method. Methods of abortion that involve the use of drugs, referred to as medical or medication methods, which interrupt the continuation of pregnancy causing uterine contractions which expel the pregnancy.

Vacuum aspiration and medication abortion are preferred over D&C for uterine evacuation in the first trimester. Sharp curettage should be used only when vacuum aspiration and medication abortion are not available because there is a greater risk of complications associated with D&C. Therefore, health managers should make all possible efforts to replace sharp curettage with vacuum aspiration or medication abortion.

2.3 Second trimester methods

Medication abortion has become more widely available using safe protocols based on various research studies. While research is ongoing, the most effective regimens in the first trimester work up to nine weeks from the last menstrual period (LMP). Back-up services, preferably vacuum aspiration, are required in case of the event of a failed medication abortion.

The preferred methods for any length of pregnancy in the second trimester are:

- ***medical abortion*** using mifepristone followed by repeated doses of misoprostol. In some settings, misoprostol alone is safely used, but with lower efficacy than the combined regimen; or
- ***dilatation and evacuation (D&E)***, which uses a combination of vacuum aspiration and forceps.

Only appropriately skilled providers are to conduct second trimester abortions. These pre-requisites are specified in the addendum. Providers must have the ability to manage gynaecologic emergencies or to quickly transfer clients to a surgical ward for management of complications requiring gynaecologic surgery

The precise procedure for each of the preferred methods for uterine evacuation, including cervical preparation, are detailed in chapters 8 (MA), 10 (MVA).

Chapter

3 Facility Preparation

The health-service delivery component for safe abortion and post abortion management in The Cambodian Health Sector Strategic Plan 2008 - 2015[8], specifies safe abortion care as a strategic health priority. To improve the quality of abortion services, the Ministry of Health has specified stipulations in the following areas for providing the essential elements of high-quality abortion care delivered by public, private and non-governmental agencies:

1. Types of abortion services, facility capacity and where they can be provided;
2. Personnel required to ensure safe provision of abortions;
3. Facilities, essential equipment, supplies and medications;
4. Emergency equipment/drug; and
5. Referrals.

The stipulations are detailed in this chapter for each of these four areas. Additional considerations for the general management of services are presented.

3.1 Types of abortion services, facility capabilities and where they can be provided

The MOH has developed a Minimum Package of Activities (MPA)[9], covering health centre and community services, and a Complementary Package of Activities (CPA)[10], covering referral hospital services (excluding national hospitals).The services that should be provided at the different levels of hospital have been defined in a Complementary Package of Activities (CPA) (except for national hospitals). A CPA 1 hospital is a small district hospital without major surgical services, a CPA 2 hospital is a larger district hospital with major surgical services, and a CPA 3 hospital is the equivalent of a provincial hospital which acts as a secondary referral facility. This therefore determines where which type of abortion-related services can be provided in the public sector, and are outlined in table

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8 Ministry of Health, Royal Government of Cambodia (2008) Health sector Strategic Plan Accountability ,efficiency, quality and equity. March 2008.

9 Ministry of Health, Kingdom of Cambodia. National Guidelines on Minimum Package of Activities for Referral Hospital Development from 2006 to 2010.

10 Ministry of Health, Kingdom of Cambodia. National Guidelines on Complementary Package of Activities for Referral Hospital Development from 2006 to 2010. Second Version, 15 December 2006.

3.1 that follows.

Table 3.1 showing abortion services and where they can be provided

MPA (Minimal package of activities) **Health centre level**		**CPA** (Complimentary package of activities) **Referral Hospital Level**			**Private sector**
Community Outreach	Health centre	CPA district hospital 1	CPA+ Provincial hospital 2	CPA++ Some Provincial Hospitals 3	
Inform and refer to appropriate facility Provide birth spacing methods	Same as outreach *plus* Assess and manage abortion cases < 12 weeks Refer septic abortions and complications Provide birth spacing methods	Manage referrals safe abortion manage septic abortion refer complications	Same as 1 *plus* blood transfusion Surgery if needed	Same as 2	Follow Ministry's guidelines

3.2 Essential equipment, supplies and medications

In order for abortion care services to run effectively, a minimum level of equipment and resources need to be in place. Instruments, drugs, contraceptives and other supplies must be in stock and easy to find when needed and there must be systems to monitor the use of such equipment and medications and there must also be a system to reorder them. In general, facilities should ensure the following:

- on-site access to an ultrasound machine, although not necessarily in the procedure area;
- space for women to wait comfortably while the cervical-preparation agent is taking effect;
- a private, clean room for all procedures;
- for medication induction procedures, a comfortable space is required for women to wait as they expel the pregnancy (separate from wherever women wait to deliver babies) that includes reclining chairs, beds or cots;
- a recovery area for women to rest after the procedure.

Facilities are required to achieve a minimum operating standard in order to ensure the provision of safe abortion care appropriate to their level of function (see checklist sample in appendix 2a). Specific equipment and drugs required for conducting first trimester procedures are listed in appendix 2b and for second trimester in appendix 2c. A list of equipment required for dealing with emergencies is listed in appendix 2d.

Every site providing second-trimester abortion should in addition be prepared to manage or refer women with complications, including those requiring emergency operations, like laparoscopy or laparotomy. If these services are not available on site, there should be an efficient system to transfer patients to appropriate health-care institutions with adequate facilities.

The resources required at each level of facility according to the MPA and CPA guidelines and the abortion procedures that they can conduct are outlined in the following table, 3.2.

Table 3.2 showing resources required for safe abortion care services at different levels of facilities as graded by the Ministry of Health

Staff may include:	Activities	Facilities	Equipment / Drugs
HEALTH CENTRE LEVEL			
Trained secondary midwives Trained medical assistants Trained doctors	Uterine evacuation for 1st trimester. Treatment of most abortion complications. Local anesthesia. Diagnosis of pregnancy. Diagnosis and referral of severe complications such as septicemia, peritonitis or renal failure. Pre- and postabortion counseling. Contraceptive counseling. Birth spacing services.	Treatment room and recovery area	Sufficient quantity of uterine evacuation equipment for projected caseload Essential drugs for minimum package of activities(MPA) and 1st trimester abortions Pregnancy tests Ambulance or transport Range of contraceptives
DISCTRICT LEVEL REFERRAL HOPSITAL			
Trained secondary midwives Trained Medical assistants Trained Doctors	All of activities for health centre *and* Evacuation for 2nd trimester Treatment of most abortion complications Blood cross-match and Transfusion General anaesthesia Laparotomy and indicated surgery including surgery for ectopic pregnancy if skilled staff are available Ultrasound	Same facilities for health center *and* Laboratory Surgical theatre	Same equipment/drugs for health center *and* Essential drugs for the first referral level Laboratory equipment and reagents for microscopy, culture, and basic hematology Blood or blood substitutes Blood collection, transfusion, and storage equipment Anesthetic equipment Standard laparotomy set

Table 3.2 showing resources required for safe abortion care services at different levels of facilities as graded by the Ministry of Health

Staff may include:	Activities	Facilities	Equipment/drugs
PROVINCIAL & NATIONAL HOPSITAL LEVEL			
Trained secondary midwives Trained Medical assistants Trained doctors	Same as for referral district *and* Treatment of severe complication (e.g. bowel injury, tetanus, renal failure, gas gangrene, sever sepsis, septic shock, coagulopathy) including: Diagnostic X-ray Ultrasonography Laparotomy including hysterectomy	Same as for referral district level *and* 24 hour access to surgical theatre (may include a specific gynecological emergency theatre) More complete laboratory facilities Intensive care facilities Shielded X-ray room Blood bank	All of the equipment and drugs listed for the first referral level *and*: More elaborate anesthetic and intensive care equipment X-ray equipment Sonography equipment Laparoscope

Remarks: Most facilities and equipment needed for the treatment of abortion complications will already be present in a district hospital for general emergencies and essential obstetric functions. Sites might need new maintenance procedures; a working ambulance or other transport; and radio or phone contact with tertiary or primary health-care facilities that have maternal and child health programmes.

Chapter

4 Principles of Infection Control

This chapter provides an overview of the importance of infection prevention. As abortion procedures and care involve contact with blood and other body fluids, all clinical and support staff involved in all facilities where safe abortion procedures are provided should understand and apply universal precautions for infection prevention to protect themselves and clients. These staff include doctors, nurses, midwives, workers who wash instruments, staff who clean procedure rooms and those responsible for disposing or handling waste.

Universal precautions are simple standards of infection control practices that decrease the risk of transmission of blood-borne infections. These precautions are applied universally when caring for all clients, regardless of diagnosis. How blood-borne infections can be transmitted and the steps for infection prevention are summarised here[22]. Additionally, methods to reducing infection during abortion care procedures is presented.

4.1 Exposure to blood-borne infections

The blood-borne pathogens of primary concern are the human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV). These pathogens can survive on wet body surfaces and skin that is not intact but cannot be seen by eye. Such pathogens can be transmitted if they come into contact with places on the body not covered by skin, such as the mucus membranes of the eyes, mouth and genitals or through cuts in the skin, or with contaminated instruments that penetrate the skin.

Occupational exposure to blood can result from percutaneous injury (from needle-stick or other sharps injury through the skin), mucocutaneous injury (splash of blood or other body fluids into the eyes, nose or mouth) or blood contact with non-intact skin.

The most common causes of occupational exposure are needle-stick injury especially from two-handed recapping of needles and unsafe collection and disposal of sharps waste. Health workers in areas such as operating, delivery and emergency rooms and laboratories have a higher risk of exposure. Cleaners, waste collectors and others whose duties involve handling blood-contaminated items are also at risk of spillages. If instruments and equipment used for and by clients are not clean, clients are also potentially exposed to pathogens.

Bacterial pathogens are not necessarily blood-borne, but worthy of mention because they can also cause serious infections. These are carried in spores, that that can cause tetanus or gangrene, for example. Sterilisation is the only effective way to eliminate all spores.

4.2 Universal or standard precautions

It is not always possible to know which individuals are infected with blood-borne diseases. For this reason universal or standard precautions should be used by all workers at all times with all clients to protect both the worker and the client from risk of exposure to infectious pathogens that may be present in blood or other body fluids, secretions and excretions (except sweat).

[22] A more detailed account of infection prevention is available in the National Infection Prevention and Control Guidelines published by the Ministry of Health (2010)

Universal or standard precautions also mean that there should be no special treatment of any person known to have a blood-borne disease. For example, there is no need to have different disposal of secretions or blood-stained items for someone infected with HIV. Universal precautions should be used when handling all body fluids or potentially infectious waste. Standard precautions include: hand washing; environmental cleaning; safe disposal of contaminated waste; safe handling and disposal of sharps; use of protective barriers and proper disinfection of instruments and contaminated equipment. Each of these procedures is discussed here.

4.2.1 Hand washing

Hand hygiene is the single most important technique to prevent and minimise the spread of infection within health facility environments. This section outlines routine and surgical hand washing methods.

Routine hand washing

Hands should be washed in running water from a tap, bucket or scoop. Routine hand washing should take place at the following times:

- upon arrival at work
- before and after examining each client
- after removing gloves
- after touching patient surroundings
- after handling contaminated materials, even if gloves were worn
- after using the toilet or latrine
- before leaving work
- before putting on gloves for a clinical procedures.

The method for routine hand washing is shown in figure 4.1 that follows. Hands and wrists are washed for 40–60 seconds with soap and water. Note that you should not scrub your hands in a basin that contains standing water, even if an antiseptic solution is added. This is because micro organisms grow and multiply in standing water. Hands are dried with a paper towel or, if unavailable, a single-use hand towel or air dried.

Surgical hand washing

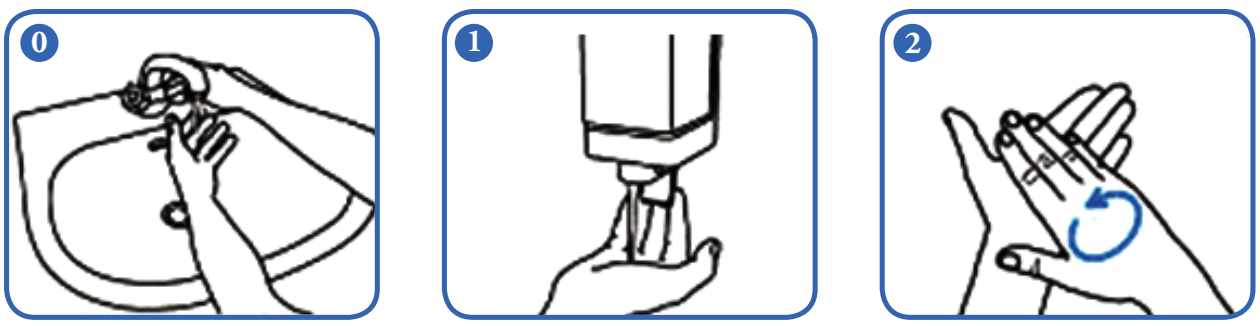
The purpose of the surgical hand scrub is to reduce skin flora to a minimum. Proper hand scrubbing for several minutes with both soap and antiseptics and the wearing of sterile gloves and a sterile gown provide the patient with the best possible barrier against pathogenic bacteria in the environment and against bacteria from the surgical team. Surgical hand washing should be carried out before all invasive procedures, including surgical abortions. Figure 4.2 shows the method for surgical hand washing.

4.2.1 Environmental cleaning

Environmental cleaning refers to the general cleaning of hospitals and clinics, including the floors, walls, certain types of equipment, tables and other surfaces. The purpose of general environmental cleaning is to reduce the number of micro organisms that may come in contact with patients, visitors, staff and the community; and provide a clean and pleasant atmosphere for patients and staff.

Areas at high-risk of heavy contamination from blood and body fluids include operating rooms, post-operative recovery rooms, in-patient wards, toilets and latrines. Disinfectant solutions should be used before cleaning with water and soap in these areas.

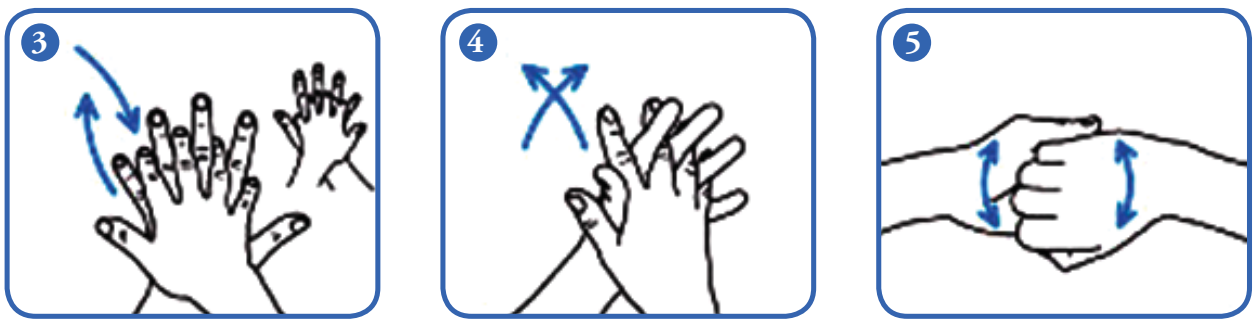
Figure 4.1: Method for routine hand washing



Wet hands with water

apply enough soap to coverall hand surfaces

rup hands palm to palm



right palm over left dorsum with interfaced fingers and vice versa

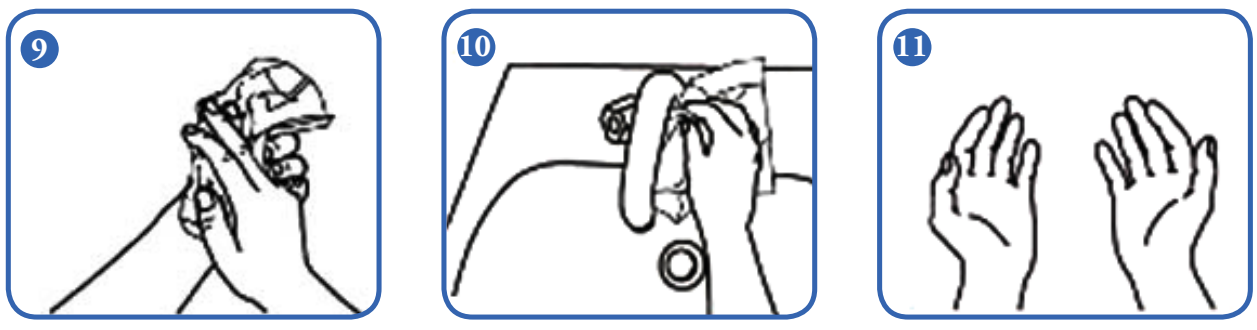
palm to palm with fingers interfaced

backs of fingers to opposing palms with fingers inter locked

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

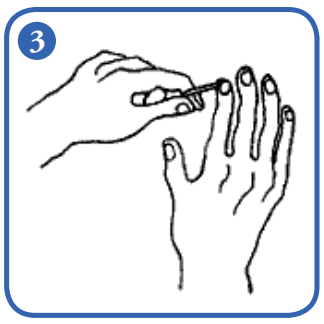
use towel to turn off faucet

...and your hands are safe.

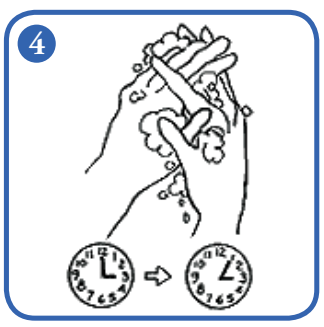
Figure 4.2: Method for surgical hand washing

Steps 1 & 2
Remove jewellery / watch. Hold hands above the level of the elbow and wet hands thoroughly.

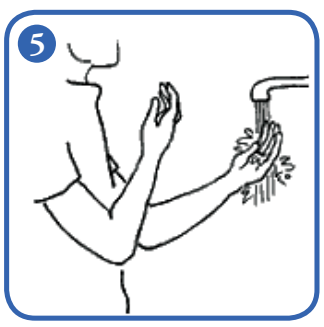
Step 3
Apply soap, clean under each finger-nail using a brush / stick. With water flowing from hands towards arms.



Step 4
Holding your hands up above the level of your elbow, apply the antiseptic. Using a circular motion, begin at the fingertips of one hand, lather and wash between the fingers, continuing from fingertip to elbow. Wash between all fingers. Move from fingertips to the elbow of one arm and repeat for the second arm. Moving from area of least contamination to area of most contamination decreases the possibility of spreading. Continue for 3-5 minutes.

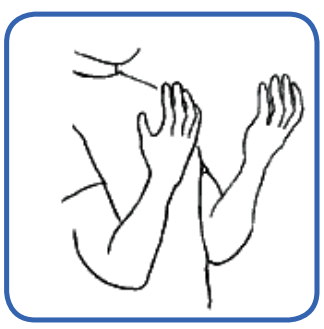


Step 5
Rinse each arm separately, fingertips first, holding your hands above the level of your elbow. Do not let rinse water flow over clean area. Water should flow from area of least contamination to area of most contamination to decrease the possibility of contamination.



Step 6
Use a sterile towel to dry arms from fingertips to elbow, using a different side of the towel on each arm.

Step 7
Keep hands above waist level and do not touch anything before putting on sterile surgical gloves.



Cleaning solutions

There are two types of cleaning solutions that can be used for environmental cleaning:

- Plain detergent and water: used for low-risk areas and general cleaning tasks.
- Disinfectant solution (sodium hypochlorite): used to decontaminate an area so that it is safer for staff to clean with a cleaning solution.

Principles of environmental cleaning

Develop and display cleaning schedules where all housekeeping staff can see them. Make sure that cleaning schedules are closely maintained. (e.g. “Walls should be cleaned every Tuesday”).

- Always wear gloves (preferably thick utility gloves) when cleaning.
- To reduce the spread of dust and micro organisms, use a damp or wet mop or cloth for walls, floors, and surfaces instead of dry-dusting or sweeping.
- Scrubbing is the most effective way to remove dirt and micro organisms. Scrubbing should be a part of every cleaning procedure.
- Wash surfaces from top to bottom so that debris falls to the floor and is cleaned up last. Clean the highest fixtures first and work downward--for example, clean ceiling lamps, then shelves, then tables, and then the floor.
- Isolation rooms and other areas that have patients with known transmissible infectious diseases should be cleaned with a household bleach solution at least daily and after the patient leaves.
- Dusting is most commonly used for cleaning walls, ceilings, doors, windows, furniture and other environmental surfaces. Dusting should be performed in a systematic way, using a starting point as a reference to ensure that all surfaces have been reached. When doing high dusting (ceiling tiles and walls), check for stains that may indicate possible leaks (Leaks should be repaired as soon as possible because moist patches provide a reservoir for fungal growth).
- Change cleaning solutions whenever they appear to be dirty. A solution is less likely to kill infectious micro organisms if it is heavily soiled.
- Use separate equipment (e.g. cloth, brushes and buckets) for cleaning contaminated areas such as toilets.
- Cleaning supplies and equipment need to be cleaned regularly. Equipment such as mops, buckets and cloths should be decontaminated with a disinfectant solution, cleaned in detergent and water, rinsed in clean water, and dried before next use.

Frequency of cleaning clinical areas

At the beginning of each day:

- Wipe down surfaces such as counters and examination tables with a cloth dampened with water.

Between clients:

- Clean procedure tables, counters, and any other potentially contaminated surfaces with a cloth dampened with a disinfectant cleaning solution.
- Clean spills of blood or body fluids with a 0.5% chlorine solution immediately.

- Clean visibly soiled areas of the floor, walls, or ceiling with a disinfectant cleaning solution immediately.

At the end of each clinic day:

- Wipe down all surfaces with a cloth dampened with a disinfectant cleaning solution.
- Clean the floors with a disinfectant cleaning solution.
- Check sharps disposal containers – replace them if they are three-quarters full.
- Remove medical waste, and burn or bury immediately.
- Wash waste containers with a disinfectant cleaning solution.

Cleaning up spills

To prevent the spread of infections and prevent accidents, small spills of blood and other bodily fluids including excreta should be wiped with A paper towel then disinfected with bleach 0.05% being washed with water and soap.

4.2.3 Disposal of contaminated waste

Other types of waste that must be disposed of correctly from abortion care facilities include general and infections waste.

General waste: non-hazardous, non-clinical waste, such as paper, boxes, bottles and plastic containers that are not soiled with blood or body fluids.

General waste should be separated from other waste, and in government facilities, must be placed in green bags.

Infectious waste: any non-reusable materials that have been used in direct client care, possibly contaminated with blood or other body fluids such as bandages and surgical sponges, human tissue, hypodermic and suture needles, scalpel needles scalpel blades, blood tubes and pipettes.

Infectious waste must be sorted to containers marked with 'INFECTIOUS', and in government run facilities, placed in yellow bags. The steps for correct disposal of Infectious waste include[12]:

- Use of personal protective barriers when you handle waste, such as heavy duty gloves and aprons (see section below).
- For interim storage, place waste in a leak-proof container or enclosed container with lid.
- Liquid waste can be poured into a drain or sewer if this flows into a sewage system, but not if it flows into a river or the ground. Rinse the sewer thoroughly with water and disinfect. Soak the container that held the liquid waste in 0.5% liquid chlorine for 10 minutes.
- Contain the waste so items cannot be stolen or picked through.
- Bury waste on-site away from any water source and surrounded by fence or wall. Cover waste with a layer of soil. Avoid transporting waste to a community dump.
- Incinerate or burn the waste in a well-ventilated oil drum downwind from the clinic; treat ash as general waste.

[12] See National Infection Prevention and Control Guidelines published by the Ministry of Health, 2010 for more details.

- Never throw waste into an open pile.

4.2.4 Disposal of sharps

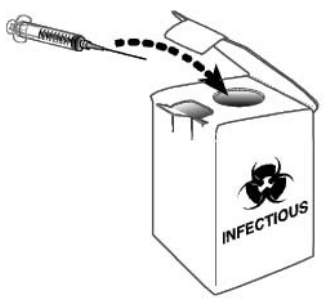
Sharps include needles, plastic syringes and scalpel blades, and these items must be placed in a puncture-resistant container. This may be metal or plastic containers, but not cardboard. Containers should be placed in any area where sharps objects are frequently used.

To minimise the risk of needle stick injuries:

- Place needles and other equipment for injection preparation in a kidney dish, creating a 'safe zone' in a sterile or clean field.
- Do not bend, cut, detach or carry needles unsheathed.
- Tell nearby fellow workers if there is a sharp item in a close work space to avoid accidentally injuring a colleague

Never administer medications from single-dose vials or ampoules to multiple patients or combine leftover contents for later use

- Do not recap needles – this is the most common cause of injury. Discard of needles immediately after use.
- There should be disposal units for sharps anywhere in the facility where they may be used, so they do not end up in inappropriate waste or linen containers.



Proper disposal of needles:

- Dispose of sharp instruments safely and quickly.
- If disposable, drop into a sharps container immediately at place of use.
- Do not detach the needle first – if detaching is necessary to fit into the disposal unit, the unit is too small and should be replaced.
- When the container is three-quarters full, pour in fuel, set it on fire and wait until the fire goes out on its own. Then bury the waste in the type of hole used for solid medical waste.
- When possible, make sharps unusable by incinerating them in an industrial incinerator.

4.2.5 Personal protective equipment, PPE.

Personal protective equipment, PPE, include gloves, masks, eye wear, gowns, aprons and caps (shoe covers do not have any effect on reducing transmission of infection).Which PPE to use should be chosen according to the risk of exposure, thus not all PPE should be worn for every exposure. A risk assessment of the procedure should be made, and providers then make a decision about which PPE according to: the nature of the procedure; the risk of exposure to blood or body fluids; the risk of exposure to pathogenic micro-organisms and the risk of contamination.

PPE must be used by healthcare workers who provide direct care to patients in situations where they may have contact with blood, body fluids, excretions or secretions. This includes providers of abortion care. PPE must also be worn by support staff including cleaners and laundry staff in situations where they may have contact with blood, body fluids, secretions and excretions of patients.

4.3 Management of occupational exposure

Exposures occur through needle-sticks or cuts from other sharp instruments contaminated with an infected patient's blood or through contact of the eye, nose, mouth, or skin with a patient's blood. If a health-care worker is exposed to blood or other body fluids, the following steps should be taken immediately:

1. Wash needle-sticks and cuts with soap and water
2. Flush splashes to the nose, mouth, or skin with water
3. Irrigate eyes with clean water, saline, or sterile irrigants for 10 minutes.

No scientific evidence shows that using antiseptics or squeezing the wound will reduce the risk of transmission of a blood-borne pathogen. Using a caustic agent such as bleach is not recommended.

After these immediate steps, the risk of infection from HIV and other blood-borne infections should be assessed. The exposure should be recorded, and an infectious diseases expert consulted. Refer to the Ministry of Health's Post-Exposure Guidelines for further information and to identify whether post-exposure prophylaxis is required.

4.4 Protecting the client

There are some general principles in conducting invasive procedures to ensure an antiseptic procedure to reduce transmitting infection to clients. Providers should:

- Never use antiseptic solution on mucus membranes or to disinfect inanimate objects, such as instruments or reusable rubber gloves.
- Never leave items such as pickup forceps, scissors, scalpel blades or suture needles soaking an antiseptic solution.
- Never leave cotton balls, wool or gauze sponges soaking in an antiseptic solution. Instead, pour some antiseptic into a small container, dip the cotton or gauze into the container, and throw away the unused antiseptic.

As well as protecting health care workers from exposure to infection, there are steps that must be taken to protect clients from infection during a surgical abortion procedure. For example, using a no-touch technique when preparing for and conducting an aspiration procedure. These are detailed in Chapter 9.

Chapter

5 Clinical Assessment, Diagnosis and Management Options

When dealing with a client, the first step in providing abortion care is to confirm the pregnancy and estimate the duration of the pregnancy. It is also essential to take the woman's medical history to allow the provider to properly assess as woman's situation and help her to determine the best options for her circumstances.

This chapter presents the steps to be taken in the clinical assessment prior to conducting an abortion procedure. A summary of the female reproductive anatomy is provided in appendix 3 as an *aide memoir*.

5.1 Clinical assessment

Clinical assessment prior to medical abortion is similar to assessment prior to vacuum aspiration. Assessment includes gestational dating, consideration of the woman's general health status, and any contraindications or precautions to the abortion method chosen. As with any procedure, it's necessary that the woman knows what to expect; this is especially true with MA since in many cases, the woman will take the misoprostol herself outside the clinic and the abortion will take place at home.

The contact that a provider has with the woman at this time is very important. Providers should adopt the following approaches:

- Take the medical history in private, speaking to the woman alone and where no one can hear what is said.
- Use a gentle, non-judgmental tone
- Allow her to speak freely, and notice how much (or little) she says
- Display concern
- Observe body language for signs of distress
- Referral as appropriate and if necessary (for example, for counselling following violence, etc).

5.1.1 Taking a Client history

A complete history should include recording the following information (also refer to table 5.1, over page for further details):

- first day of last menstrual period (LMP)
- signs and symptoms of pregnancy
- history of bleeding or clotting disorders
- known drug allergies
- history of previous pregnancies (ectopic pregnancy, miscarriage, abortion, live births or foetal deaths)
- history of any recent abortion-related care
- any recent medications taken, including misoprostol or herbal remedies
- any known medical conditions
- physical or cognitive disability, including mental illness
- surgical history

- sexual history, especially of violence
- HIV status (if known) and presence of sexually transmitted infection (STI)
- history of contraceptive use
- history of alcohol or drug use, including smoking.

Table 5.1 showing clinical relevance of pre-existing conditions (Adapted from Ipas 2005)

Pre-existing condition	Things to remember
Hypertension	If a women has hypertension: methergine, (an ergotamine derivative), should ONLY be used with caution in hypertensive clients for treatment of postabortal atony. It should be avoided in clients with blood pressure greater than 160/100.
Seizure disorder	• The woman should take her usual dose of anti-seizure medication on the day of the abortion procedure. • Benzodiazepine sedative may be administered before performing an abortion. • Several anti-epileptic drugs interfere with some forms of combined hormonal contraception
Anaemia	• If haematocrit or hemoglobin is very low, be prepared to treat appropriately.
Blood-clotting disorders	• If the woman has an active clotting disorder, proceed with caution, preferably in a facility that is able to treat women who are haemorrhaging.
Diabetes	• High blood-glucose levels are not dangerous, but ketoacidosis should be avoided. • Insulin dose will probably not be changed if vacuum aspiration is performed under local anaesthesia.
Heart disease	• If symptomatic or severe disease, vacuum aspiration may be performed in an operating room and monitored with the assistance of an anaesthetist.
Asthma	• Some prostaglandins (PGF2 alpha—haemabate) should be used with caution in asthmatics in case of post-abortal atony; PGE1 and PGE2 (Prostin) can still be given. • The woman should be stable and not having an acute asthmatic attack prior to abortion procedure.
Suspected ectopic pregnancy	• Evaluate, treat or refer according to local protocol.
Cervical stenosis	• Consider performing vacuum aspiration under ultrasound guidance, using an agent such as misoprostol or laminaria to prepare the cervix prior to procedure, or waiting until the woman is eight weeks since the LMP.
Alcohol or drug abuse	• Be prepared for low pain threshold. • Consider use of narcotic analgesic and parenteral sedative.

5.2 Physical examination

The physical examination includes making general observations of the woman's appearance and health; accurately estimating or confirming the gestation by bimanual pelvic examination and conducting a pelvic examination using a speculum.

5.2.1 Assess general health

- Check and record vital signs, note any abnormalities
- Note the woman's general health (i.e., whether she is malnourished, anaemic, or in poor general health)
- Auscultate the heart to check for abnormal arrhythmias
- Auscultate lungs for signs of infection
- Check her abdomen for mass or gross abnormalities.

5.2.2 Gestational Dating

Accurately determining the length of the pregnancy is a critical factor in both selecting an abortion method and preventing complications.

Clinicians who conduct abortions need to be competent in diagnosing and dating early pregnancy in particular. Three commonly used approaches to pregnancy dating are:

i. determining the date of the last menstrual period (LMP)
ii. performing a bimanual examination as part of a pelvic exam to assess uterine size
iii. using ultrasound.

Often gestational age can be accurately estimated based on LMP and physical examination together. Ultrasound may be reserved for cases when it is difficult to confirm the gestational age from the LMP and pelvic exam alone. These methods are detailed in the sections that follow.

Last Menstrual Period

The LMP date refers to the first day of the last menstrual period.

It may help the woman to recall this date through questions about what she was doing or where she was when her last period began. This estimation assumes that conception occurs on day 14 of the cycle, and so relies upon women being able to provide enough detail about their LMP.

Sometimes LMP estimations may be difficult, for example, if a woman cannot recall the dates of her LMP, or when some women experience bleeding during early pregnancy that is mistaken for a menstrual period or among breastfeeding women who may become pregnant without having regular menstrual periods.

Therefore, the date of a woman's LMP should not be the only factor in determining the length of a pregnancy. For this reason, a bimanual examination is used to confirm the estimated gestation (see below).

5.2.3 Pelvic examination

The pelvic examination includes a speculum and bimanual, and the purpose of a pelvic examination is to:

- Assess the age of pregnancy,

- Assess position of the uterus,
- Assess for ectopic pregnancy and
- Screen for STIs.

Before conducting the pelvic exam, the provider should explain the need for doing this, and as the woman's permission. The woman should be asked to empty her bladder, and then she should be helped onto the examination table and into the lithotomy position. The woman's privacy and dignity should be respected at all times, and care should be taken to provide cover for the woman's legs to protect her privacy.

Commence with the speculum examination, and then procede to the bimanual exam.

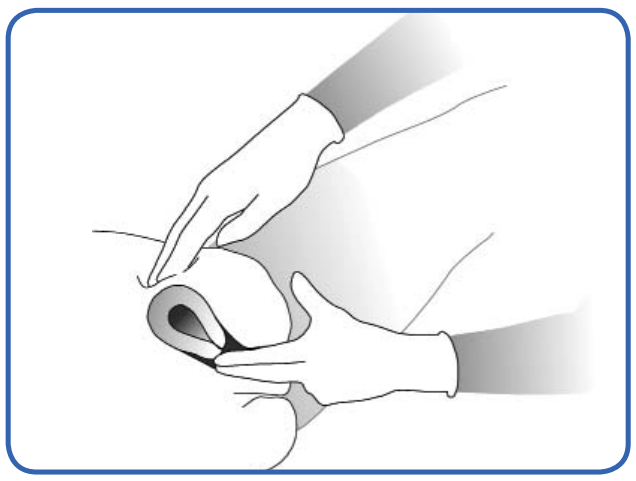
Speculum examination

- Begin the examination with clean, undamaged gloves.
- Gently insert the speculum to expose the cervix.
- Note any abnormal discharge.
- Check for signs of cervical infection or STIs.

Bimanual examination

Figure 5.3 shows a bimanual examination. Insert two fingers in the vagina and, with the other hand, palpate the abdomen to feel for the shape, position and size of the uterus.

Figure 5.3: performing a bimanual examination



Determining the uterine shape and position

Correctly determining the shape and position or the uterus is critical to the safety and success of the procedure. If the clinician is unaware of any of the following positions, risk of perforation is increased.

- ***Retroverted uterus:*** when the uterus is tilted backwards inside the pelvis. A mildly retroverted uterus may be best palpated by retrovaginal examination.
- ***Anteverted uterus:*** when the uterus is tilted forwards.

- ***Laterally displaced uterus:*** when the uterus tilted to one side.

Determining the uterine size and gestation

Assessing the uterus in early pregnancy can be challenging and requires a great deal of practice.

After 6 weeks gestation, the uterus increases in size by approximately 1 centimetre per week and takes on a roundish shape. The size can be compared to fruits or different eggs to help decide the gestation, as shown in table 5.2, over page. This method of uterine sizing used along with LMP may be a useful guide for less experienced clinicians.

Table 5.2 facilitating determination of uterine size

Gestational Date	Uterus Size
6 Weeks	Hen egg
8 Weeks	Duck egg
10 Weeks	Goose egg
12 Weeks	Fundus just palpable above symphysis pubis

If the uterus is smaller than expected, this could indicate one of the following:

- woman is not pregnant
- inaccurate menstrual dating
- ectopic pregnancy
- early pregnancy failure, including missed abortion
- molar pregnancy
- normal variation between women at a given length of pregnancy.

If the uterus is larger than expected, consider one of the following conditions:

- Inaccurate menstrual dating
- Multiple pregnancies
- Uterine anomalies such as fibroids or bicornuate uterus (when the uterus has two horn-shaped fundi)
- Gestational trophoblastic neoplasm/molar pregnancy (although the uterus can sometimes be smaller also)
- Normal variation between women at a given length of pregnancy.

Situations that make it difficult to accurately assess uterine size include fibroids, retroverted position of the uterus, obesity, full bladder or the woman contracting abdominal muscles (not relaxing her abdomen).

Any discrepancy of more than two weeks between the palpated uterine size and the gestation as estimated by LMP must be further evaluated. If uncertain about the size of the uterus, or if there is a discrepancy between size and gestational age determined by LMP, it may be helpful to use an

ultrasound, if available (see section 5.4), or to ask another clinician to check the uterine size by bimanual exam.

Do not attempt to evacuate the uterus until its size has been determined.

5.3 Laboratory tests

5.3.1 Urine pregnancy test

In most cases, providers only need the information obtained from a woman's history and physical examination to confirm pregnancy and determine length of pregnancy. However, if the typical signs of pregnancy are unclear and the provider is unsure about whether the woman is pregnant, laboratory tests may be helpful if indicated and available. However, if the pregnancy test is not available but the woman has physical signs of pregnancy, the procedure should not be delayed. If the pregnancy test or bimanual exam is inconclusive, and the equipment is available, consider performing an ultrasound to confirm the pregnancy - this is especially important with regard to second-trimester abortion (see following section, 5.4).

5.3.2 Haemoglobin or haematocrit tests

Hemoglobin or haematocrit tests detect anaemia and may help providers prepare for haemorrhage during or after abortion.

5.3.3 Rhesus grouping

The need for routine Rhesus (Rh) iso-immunisation ***has not been proven*** by clinical studies. In relation to Rh factor identification, isoimmunisation can occur if an abortion is performed on an Rh negative woman who has a Rh positive foetus. This is currently rare in Cambodia so ***routine Rh testing is not recommended***. However, this can change in the future if the demographic situation changes in which case the issue of Rh testing and anti-D (Rhogam) administration should be readdressed at that time.

5.4 Ultrasound exam and ectopic pregnancy

Ultrasound is not required for abortion, and increases the cost for the client. However, it may be helpful for accurate dating when there is a discrepancy revealed by the bimanual exam abortion [13]. Where it is available, it can be used along with quantitative β–hCG measurements to help detect ectopic pregnancies.

An ectopic pregnancy occurs when a fertilized egg attaches itself outside of the uterus, most often in a fallopian tube. It can be challenging to identify or rule out ectopic pregnancies. Providers must ensure that women referred for pelvic ultrasound to rule out a suspected ectopic pregnancy are sent to a sonographer experienced in visualising early pregnancy. uterine evacuation methods, whethervacuum aspiration or medication methods using misoprostol and mifepristone, cannot terminate an ectopic pregnancy. A woman with an early ectopic pregnancy may be asymptomatic. See chapter 12 for more details on diagnosing an ectopic pregnancy.

[13] World Health Organisation (2003) Ibid.

5.5 Reproductive-tract infections

For surgical abortion, including vacuum abortion, giving antibiotics to women at the time of an abortion using vacuum aspiration helps reduce their risk of infection if available[14]. However, if not available, vacuum aspiration should still performed. Prophylactic antibiotics are not necessary for prevention of infection during medical abortion.

Common infections such as yeast infections (candida or thrush) and bacterial vaginosis, can be treated concurrently when providing uterine evacuation, and treatment should not be delayed. Providers will need to assess women with existing acute purulent cervicitis and determine treatment; some forms of acute purulent cervicitis may be a result of sexually transmitted infections (STIs). Women with active STIs should receive counselling and begin treatment with antibiotics. Once antibiotic coverage is established, perform the uterine evacuation. These women will also need a course of antibiotics after the procedure to ensure that the infection is over, and partner treatment should be encouraged.

5.6 Screening for violence

Violence against women may take the form of domestic violence, such as wife-beating, or sexual abuse such as rape, incest, forced prostitution, sexual torture or acid throwing.

Abused women may be more at risk of experiencing depression before or after an abortion, placing them at higher risk for further abuse. For these women in particular, empathetic[15] (or understanding) counselling is essential.

There are often no physical signs of violence against women. However, providers should be alert to the following signs, while understanding that these signs can also be present outside the context of violence:

- New or old bruises on the woman's body, including the genital area, head, neck or upper arm
- Injuries that do not fully match the explanation of how they occurred
- Burns or marks with distinctive patterns, such as cigarette burns
- STIs, pelvic inflammatory disease, urinary-tract infection, chronic irritable bowel syndrome, chronic pelvic pain
- Vaginal bleeding, painful defecation or painful urination and abdominal or pelvic pain

These signs may indicate the need for further discussion and screening for violence by providers or counselors to determine if a woman is in a dangerous situation. If this proves to be the case, providers should do what they can to help the woman before she leaves their care. Referrals to any existing resources should be made before she leaves the facility, as many women may not return for follow-up appointments.

The counsellor should try to gain the abused woman's trust, since this may be one of the few contacts with someone who can help her. If the woman has been a victim of violence, she should be referred

[14] Sawaya, GF, Grady D, Kerlikowske K. & Grimes DA. (1996) Antibiotics at the time of induced abortion: The case for universal prophylaxis based on a meta-analysis. Obstetrics & Gynecology, 87(5), Part 2.

[15] **Empathy** is the ability to understand another person's feelings and to communicate this understanding to the person. Empathy does not mean "feeling sorry" for the person. Rather, empathetic abortion providers imagine how they would feel and how they would

to appropriate services that provide help with issues of domestic violence or rape. Providers should find out what local services are available for women in their district or province. It is each facility and providers' responsibility to find local services for abused women and supply them with a written referral and information on where to go. If a woman does not want to carry her pregnancy to term, she has the right to a safe abortion.

One of the best ways to screen for violence against women is simple: that is, to ask about it. In an abortion-care setting, questions should be included into each woman's clinical assessment to let the woman know that she can talk about it. The provider can help the woman to feel more at ease about answering questions about abuse by introducing the subject in one of the following ways, for example:

- "Because violence is present in many women's lives, we now ask all our clients about abuse."
- "Many of the women I see are dealing with violence at home. Because some are afraid to bring up the subject, I've started to ask all patients about it."

This can be followed by a more direct question, for example:

- "Has your partner ever hit you, physically hurt you or made you feel threatened or afraid?"
- "Has your partner or anyone else ever forced you to have sex when you didn't want to?"
- "Has violence ever been a problem for you?".

Providers should, accordingly, allow time for the woman's response, and should be sensitive to any possible negative experiences a woman has had. Pelvic examinations can be particularly traumatic for women who have experienced sexual violence so providers should be especially sensitive and compassionate during pelvic examinations.

5.7 Management options

Based on the assessment and the woman's desires and consent, decide upon the appropriate option for each individual, which includes:

- Continuing with the pregnancy, possibly considering adoption - refer to ante-natal care and other services
- Proceeding with an abortion: help woman select appropriate evacuation method: MVA, EVA, MA for the first-trimester; D&E or MA for the second trimester. The abortion procedure should be explained to the woman so that she knows what to expect and can consent to the procedure. See more details about informed consent in chapter 6.

Chapter

6 Counselling and Informed Consent

Having an abortion is an emotional as well as a physical experience for women. When providers deliver emotional support in addition to medical care, the woman is better able to comprehend her medical condition, the various options available to her, understand the possible outcomes and related health concerns. All women seeking abortion care have the right to high-quality, comprehensive abortion counselling by abortion providers[16].

This chapter describes the principles of counselling in an abortion setting, and describes the topics that should be covered when counselling an abortion client.

6.1 Principles of counselling in an abortion setting

Counselling is not simply providing information or giving advice. In the context of an abortion, good quality counselling will help a woman to explore her feelings and coping abilities about the pregnancy and possible options for dealing with an unwanted pregnancy. A good counsellor will accept the client's feelings and will not try to influence the woman's decision. A good counsellor will respect a woman's privacy and confidentiality regardless of the counsellor's own beliefs and needs. Counselling also provides an opportunity for a health care provider to identify when a woman needs special care because of emotional distress or other related personal circumstances. Additionally, providing complete and accurate information to a woman will enable her to make a informed decision about her care and will help her to be better equipped in managing the period following the procedure.

This section describes each of these components that together comprise quality counselling in an abortion care setting.

Counselling sessions should cover the following issues:

- Provision of accurate information about the client's medical condition, test results, pregnancy and abortion options.
- Information about the benefits and risks of the abortion procedure and pain management options.
- Provision of an opportunity to discuss her feelings about her pregnancy, the abortion, her options for care.
- Any other health concerns that the woman has including about her reproductive health future and referral possibilities if necessary.
- Information on an appropriate follow-up plan.

6.1.1 Privacy and confidentiality

Women seeking abortion are often under great emotional strain. Positive interaction with a health-care provider will improve patient comfort and overall satisfaction.

[16] In this section, the term providers and counsellors are used interchangeably because in Cambodia, the abortion care providers are the professionals who act as abortion counsellors.

In the abortion-care setting, the counselling sessions should take place in an area where no one else can hear the conversation. The counsellor should not permit anyone else to participate without the woman's prior consent. Furthermore, the counsellor must obtain this consent at a time when the woman is alone, and inform her that her medical and personal information will not be shared.

6.1.2 Voluntary informed consent

Voluntary informed consent refers to the process by which a woman is given full information about her options about whether to undergo a procedure and the benefits, risks, likelihood of success and alternatives associated with any part of those options. Informed consent means that the woman makes her decisions freely, without pressure or coercion of any type.

In the context of abortion care, voluntary informed consent is when a woman makes her own choices about whether to continue or terminate the pregnancy after she is given accurate and complete information about pregnancy decisions, abortion procedures, pain medications and contraception—in words she can easily understand.

Therefore, to give truly informed consent, the woman must understand:

1. the benefits, risks, and alternatives to various medical procedures
2. Medications that will or might be taken
3. Consequences of not receiving treatment
4. Birth spacing methods available post-abortion.

In order to ensure this information has been understood, the provider should ask the woman to summarise the information provided to her. This allows an opportunity to correct any misunderstandings and fill any information gaps. This may require providers to adapt the way they give the woman information. For example, if the woman is hard of hearing, has a mental illness or disability, is very young or has difficulty communicating due to language barriers.

Additional attention must be paid to situations where a woman might be under pressure from her family members to have an abortion against her will. Providers should act as advocates for the woman in such situations.

In Cambodia, abortion clients must sign or thumbprint a consent form before the procedure begins. Signing this form means that the woman has understood everything about the procedure and has made the decision to continue. It is not necessary for the husband to sign a consent form. However, for minors, a parent or guardian must sign on behalf of the client. The consent form(s), should be signed before any medication or treatment is provided. An example of a consent form is provided in Appendix 4.

Box summarising the elements of Informed Consent

- Determine if the woman is capable of listening to and understanding the information offered
- Explain the procedure(s) available to her, including benefits, risks and alternatives, in clear, non-technical language
- Always ask her in private if she wishes to include others, and include her partner or family members only if she desires their presence; otherwise, speak to her privately
- Encourage the woman to ask questions and discuss her condition in privacy from other staff or family members.
- Ensure that the woman understands the information you have provided; if she does not, explain the procedure and her options again
- Ask the woman (or her representative if she is unable to comprehend medical explanations) to give consent for care.
- Have the woman or her representative sign the appropriate consent form once the provider is assured that the woman understand her decisions fully.

6.1.3 Effective communication

Women seeking abortion care may be experiencing many emotions such as fear, sadness, shame, relief, anger or guilt. The way that a provider or counsellor communicates with a client through verbal and non-verbal cues has an impact on the woman's experience and well-being, and a positive experience will lead to a better recovery.

Counsellors may have personal beliefs that conflict with those of a woman, and it is important that these do not have a negative impact on clients' experiences and must not influence clients rights to make their own decisions. Service providers who are empathetic and non-judgmental will encourage open two-way communication with the clients, even when their personal beliefs differ from those of clients. Such providers can have a positive impact the experience and well-being of clients.
Conversely, providers who allow their biases to affect their interactions with clients can have a negative impact on women's experiences. It is helpful for providers to think about how their own beliefs may negatively bias their attitude.

To communicate effectively, it is important for the providers to take into account each woman's emotional state, medical background, level of education, cultural and religious background and her ability to understand medical terms.

Effective counsellors use verbal and non-verbal active-listening skills to show that they are focused on the client's needs. Using encouraging statements and open-ended questions[17] can support women to explore their feelings. However, counsellors should not insist that a woman talk or reveal information that she is not comfortable sharing with the counsellor.

[17] **Open-ended questions** are questions that encourage people to talk about whatever is important to them. They help to establish rapport, gather information, and increase understanding. They are the opposite of closed-ended questions that need a simple brief response such "yes" or "no." Open-ended questions begin with "how," "what," "when" and "tell me about."

A summary of effective verbal and non-verbal communication

Counsellors / providers who practice effective communication:	Counsellors / providers who do not practice effective communication:
• Separate their values from those of clients. • Stay attentive and focused on the woman and her needs. • Use non-verbal cues to convey interest in and concern for the woman. • Ask open-ended questions. • Place close attention to the woman's spoken words. • Listen for the meaning underlying a woman's words. • Observe the woman's nonverbal cues. • Follow up with appropriate questions.	• Make assumptions about what is best for the woman. • Focus on their own priorities rather than the woman's needs. • Ask only close-ended questions. • Do not listen carefully. • Interrupt the woman. • Do not check back with the woman to be sure they understood. • Show distraction by fidgeting, frequently looking away or doing something else at the same time as talking to them. • Allow interruptions such as answering telephone calls or people coming into the room.

6.2 Topics to cover when counselling an abortion client

Effective counselling begins with assessing and addressing each woman's unique needs and includes respectful, woman-centred, two-way communication. Abortion counselling can help the woman prepare for every step of the process, as well as help her make future plans to ensure her well-being.

This section provides a summary of the topics to be covered throughout the client's consultation, procedure and recovery period.

6.2.1 Feelings about pregnancy

A client may have conflicting feelings about her pregnancy, the outcome of the pregnancy and other life circumstances that cause her emotional distress. If the woman is in emotional distress, she may be temporarily unable to fully comprehend her situation. Counselling sessions should allow a woman to clarify her feelings about the pregnancy and her decision to have an abortion. This exploration can help a woman to make appropriate decisions.

6.2.2 Options and decision-making

An important part of good abortion services is the provision of complete and accurate information that is easy to understand. A woman should be given as much time as she needs to make a decision. However, the greater efficacy and safety of early abortion should be explained, as well as the legal restrictions about the timing of abortion. Women who decide to continue the pregnancy to term and/or consider adoption, appropriate referrals should be made.

If a woman decides on abortion, providers should give adequate details about the different types of abortion available, how they work and what the benefits and risks are. These are described in table 6.1 that follows. The women should be allowed to ask any questions to allow her to make an informed decision.

Table 6.1 summarising information on the mechanism, benefits and risks of different types of abortion to help women with decision making.

Method	For who and how it works	Benefits	Risks
Medication abortion (MA)	Can safely be used in both the 1st and 2nd trimester, but in Cambodia the MA drugs are licensed only for use in women of less than 9 weeks of pregnancy. Medication abortion usually uses two medications called misoprostol and mifepristone rather than surgical methods to induce uterine contractions and expel the pregnancy.	Avoids invasive surgical procedures that have higher risks of complications. Many women prefer this non-invasive technique, which mimics miscarriage. Effective in 93-97% of women.	Minor side effects include cramping, menstrual-like bleeding, nausea, vomiting or diarrhoea. If medical abortion fails to completely expel the pregnancy or if the provider is not able to determine whether the tissue is completely expelled, the woman may also need vacuum aspiration to prevent or treat bleeding, pain, fever or infection caused by the retained placenta or pregnancy tissue.
Manual vacuum aspiration (MVA)	For induced abortion up to 12 weeks of pregnancy. A cannula (little tube) is put through the cervix and into the uterus. The cervix may need to be widened (dilated) to do this. The products of conception are suctioned out through a hand-held suction pump.	Safe, effective, quick method of uterine evacuation with few complications. Effective in 98-100% of women. Can be repeated if it does not work the first time, Does not require a general anaesthesia, one that makes a woman go to sleep. Can be performed in a clinic or outpatient setting and does not need overnight stays. Can be used in settings that do not have electricity so can be done in an approved facility closer to the woman's home. Reusable instruments can lower per procedure cost and potentially the cost to the woman.	Abdominal cramping, pain and menstrual-like bleeding may occur. When vacuum aspiration is performed by well-trained providers, complications are rare, but can include incomplete evacuation, cervical or uterine injury such as perforation or tearing, reaction to local anaesthesia, haemorrhage, acute haematometra, failed abortion. In rare cases, these conditions can result in secondary infertility or other serious injury or, in some cases, death.
Electric vacuum aspiration (EVA)	For induced abortion up to 12 weeks of pregnancy. An electric pump and rigid cannula (tube) are used to remove the uterine contents after the woman's cervix is dilated (if necessary).	Safe, quick method of uterine evacuation with few complications and does not require general anaesthesia Can be performed in a clinic or outpatient setting using analgesics and or local anaesthesia, and does not need overnight stays. Used in centralised facilities due to cost of electric machine.	Abdominal cramping, pain and menstrual-like bleeding may occur. In a very small number of women, serious complications (pelvic infection, excessive bleeding, cervical injury) may occur. Rare complications (include shock, sepsis, and intra-abdominal injury).

Table 6.1 summarising information on the mechanism, benefits and risks of different types of abortion to help women with decision making.

Method	For who and how it works	Benefits	Risks
Dilatation and evacuation (D&E)	For induced abortion from 13 weeks of pregnancy or more. The cervix is dilated and the pregnancy is evacuated with the use of MVA or EVA in combination with forceps. D&E requires more medication and instrumental dilation than when abortions are done in the first 12 weeks of pregnancy.	Fewer risks than other methods available for 2nd trimester abortion Usually requires only local anaesthesia, mild pain relievers or conscious sedation for later stage pregnancies. Can usually be performed on an outpatient basis.	A higher risk of abortion complications and pain is associated with 2nd trimester abortion compared to women who have 1st trimester abortions. complications are not common, but can include heavy bleeding, uterine and cervical injury or perforation, intestinal or bladder injury, infection and shock.
Sharp curettage (dilation and curettage or D&C)	Sharp curettage uses metal surgical instruments to empty the uterus, usually under general or regional anaesthesia or heavy or mild sedation. **WHO does not recommend D&C and states that wherever possible, it should be replaced with safer methods such as MA or vacuum aspiration.**		Higher complication rate with regard to evacuating the uterus, compared to vacuum aspiration Minor complications of sharp curettage include bleeding, cramping, and mild to moderate nausea and vomiting. More serious complications of sharp curettage include heavy vaginal bleeding, uterine or cervical injury or perforation, injury to internal organs and uterine or pelvic infection and death. These serious risks are much more common in abortions performed by D&C than by vacuum aspiration Operating room facilities and staff are sometimes necessary to manage complications Typical use of anaesthesia and inpatient procedure increases cost.

6.2.3 procedural information

Once the woman has decided which procedure to have for her individual clinical situation, the provider should discuss how the procedure works, including what will be done during and after the procedure, what she is likely to experience and how long the procedure will take. The woman should also be made aware of pain management options (discussed further in chapter 7), what side effects she might experience and what kind of after care and follow-up is needed. Providers should ensure the woman understands the information and has a chance to ask questions.

6.2.4 Thoughts about future pregnancies

There are many different reasons why a woman may decide to have an abortion. Whilst a woman may not wish to be pregnant at this time, she may wish to maintain reproductive options in the future. Counselling during the woman's visit should include discussing her future reproductive plans before mentioning contraceptives, a good counsellor will help a woman clarify her feelings about future childbearing desires, whether she wants to become pregnant soon, delay pregnancy or avoid future pregnancies altogether. The counsellor should reassure her and inform the woman that her fertility should not be affected if the abortion is conducted by a well-trained provider, and that her fertility may return in as little as 10 days. More information about counselling on birth spacing options is provided in Chapter 13.

6.2.5 STI Counselling

Providers should discuss prevention of sexually transmitted infections (STIs, including HIV), the importance of condom use for this reason should be stressed to all women, regardless of their choice of other contraceptives. Dual protection, the use of condoms and another method of contraception, should be promoted. Throughout the counselling session, the provider may be able to assess whether the woman is at increased risk of STIs and HIV. If appropriate, women can be informed of HIV testing options and referred for voluntary testing.

6.3 Supporting the client during and after the procedure

The counselling process should be initiated at the start of the woman's consultation, and may continue up until the woman leaves the facility after her procedure. In addition to the topics covered above, the woman will still require emotional support during and after the procedure, using the principles described above.

During the procedure, the provider can continue to support the woman by providing constant reassurance to lessen her fear, pain and need for anaesthesia. This will contribute to improving her overall outcome. The provider can give verbal support through being kind, considerate, explanatory, patient and gentle. Physical support can be demonstrated by holding the client's hand and safeguarding her physical privacy. This will help to distract her from the lower abdominal cramping.

Additionally, by letting the woman know the discomfort she is feeling is normal may help to put her at ease.

The woman should have all the information she needs before leaving the facility. (See Chapters 9 & 11, about recovery and follow-up care for MAs and MVAs, respectively).

Chapter

7 Principles of Pain Management

Managing pain ensures that the woman experiences as little discomfort as possible, whilst minimising medication-related risks and side effects. Every woman is different, so assess individual needs in order to select appropriate strategies to reduce pain. This chapter discusses in broad terms the causes of pain for women undergoing an abortion and presents techniques for pharmaceutical and non-pharmaceutical methods of managing pain including reducing anxiety, employing gentle operative techniques to administering local anaesthesia and oral analgesia.

The details of pain management regimens for each type of abortion are described in the chapters 8 to 10 detailing how to conduct a medication abortion (MA), manual vacuum aspiration (MVA) and second trimester abortion, respectively.

7.1 Sources of pain

The amount of pain that a woman experiences with abortion varies between individuals, and can depend on the abortion method used (MVA or MA) and the stage of pregnancy (first or second trimester). There are generally three sources of discomfort: anxiety, cervical dilation and uterine cramping.

Anxiety: The choice to terminate a pregnancy is likely to be a major decision, and women undergoing abortion care often experience some emotional stress. Additionally, women will commonly experience anxiety about the procedure itself. This nervousness heightens their sensitivity to pain. If the woman's anxiety reaches very high levels, she may not be able to lie still on the table and her muscles will tighten, making the procedure more painful and difficult.

Respectful, supportive treatment by staff members helps to reduce anxiety and decrease pain and thus should be a standard part of care.

Cervical dilation: Cervical dilation is often required in MVA procedures and for second trimester abortions. The insertion of instruments through the cervix stimulates the network of nerve fibres around the cervix that transmit pain during the process of cervical dilatation.

Uterine contractions: Uterine contractions or cramping is typical after any uterine evacuation procedure, and most women will experience some pain and cramping caused by the abortion procedure. The pain caused by cramping is associated with movement of the uterus, movement of the cannula against the uterine walls, and the spasm of muscles related to emptying of the uterine cavity that marks completion of the procedure. This uterine pain is transmitted from the fundus of the uterus along major uterine nerves that follow the uterine ligaments.

7.2 Pain management options

In almost every uterine evacuation, some pain and cramping will occur. For manual vacuum aspiration, medications used to relieve pain should be targeted specifically to the particular pain: e.g. cervical dilatation, instrumentation of the uterus, or post-procedure cramping. For medicaal abortion, pain usually begins after administration of the MA drugs, often within one to three hours and diminishes after the abortion is complete.

Under no circumstances should pain control medication be withheld or should the woman be treated roughly as punishment for having an abortion. Providers should treat all women with respect and provide appropriate information, both of which can help her to remain relaxed and reduce anxiety and discomfort.

7.2.1 Verbal reassurance

A woman's experience of pain may be affected by her level of anxiety and what and how much information she receives before the procedure. Talking with the woman in a reassuring and respectful way before, during and after the procedure may help the woman relax. However, verbal reassurance should not take the place of analgesia and local anaesthetic. Rather, it should compliment medical methods of pain relief.

For women undergoing MVAs, most women prefer to know what they will feel during the procedure. A woman may feel more relaxed and comfortable if a nurse, assistant or companion talks with her during the procedure. It may be appropriate to hold her hand or rub her arm. Some women may prefer that the health-care worker distract her by talking with her about Other things such as home or work. The provider should let the woman know that the cramping she feels toward the end of the procedure indicates that the procedure is almost complete.

For women having MAs, information about expected discomfort can reassure her that the pain is normal. The pain from cramping usually begins after the administration of misoprostol, often within one to three hours, and diminishes after the abortion is complete. If the woman was accompanied by someone for the consultation, verbal support by this person at home can be reassuring.

Pain levels increase during second-trimester abortion and so while verbal reassurance is good, it is critical to provide additional and adequate pain medications.

7.2.2 Gentle operative technique

When conducting a surgical method of abortion, including MVA, jerky and sudden movements can cause the woman discomfort. As MVA instruments are inserted and moved, use smooth motions and gentle technique in order to minimise discomfort. Additionally, the provider can reduce anxiety by informing the woman whenever s/he is going to touch her and explain what the woman may feel before performing the action.

7.2.3 Medications

When choosing pain-management medications, the following points should be considered:

1. What gestation is the pregnancy and what type of abortion method will be used? This will give an indication of how severe will the pain be.
2. How long will the medication take to become effective? This will enable the provider to ensure that the analgesic is effective before the pain uterine evacuation starts.
3. What systems are in place to ensure safe use? The goal of good pain management is to ensure enough medication to last through the procedure, but not so much that the effect lasts for a long time after the procedure is complete.

There are three categories of pain control medications:

i. Analgesics reduce the sensation of pain in the receptors of the spinal cord. They are given for cramping and pain before the procedure as well as for post-procedure pain. These include

non-steroidal anti-inflammatories, preferably ibuprofen if available and affordable to the woman, or paracetamol (acetaminophen)[18] which can be used for both surgical and medical methods of abortion, including cramping.

Ibuprofen is a non-steroidal anti-inflammatory drug (NSAIDs) and is significantly more effective than paracetamol[19]. but may be too expensive for the woman to afford. NSAIDs that are taken 30 minutes after misoprostol or once cramping begins do not interfere with MA efficacy [20,21].

Narcotic agents such as pethidine or codeine with paracetamol can also be used for more severe pain where available, such as that experienced in second trimester abortions. If narcotics are used, reversal agents must be available in case of complications such as respiratory depression.

ii. Anaesthetics numb all physical sensations either locally, regionally or generally. Local anaesthesia interrupts the awareness of pain from a small area in the body. For example, a paracervical block used for mechanical cervical dilation (see step 4 of section 10.5.2).Regional anaesthesia is delivered through the spinal or epidural route and blocks all sensation below a particular point on the spinal column. General anaesthesia affects the pain receptors in the brain and renders the woman completely unconscious. Using local rather than regional or general anaesthesia enables a faster recovery period.

iii. Anxiolytics or sedatives depress the functions of the central nervous system, they are used to reduce anxiety, relax muscles and promote sleep. These can be used for surgical abortion but side effects include amnesia (memory loss) drowsiness and can delay mobilisation.

Effective pain control for MVA and other surgical abortion methods (D&E or D&C if required) generally consists of some combination of two or three of these drug types, in conjunction with gentle handling, verbal reassurance and clear communication. In MA, a client should receive pain medication or a prescription at the time when she takes medications for an abortion, before the cramping starts. Women should start taking pain medication when the cramping begins rather than waiting until it becomes severe.

7.3 Post-procedure pain management

Providers should inform women prior to taking medication abortifacients that cramping pain is expected as part of the abortion process, and provide them with pain medication. Some pain is normal following even uncomplicated abortion procedures because the uterus is contracting. Pain that increases over time requires clinical evaluation. Mild analgesics such as paracetamol or a non-steroidal anti-inflammatory such as ibuprofen help relieve cramping pain. Narcotics are usually post-procedure not necessary. Clinical judgment must be called upon to differentiate between the expected pain of medication abortion and pain that signifies potential pathology. Pain that is persistent should be evaluated, as should pain in combination with other symptoms of possible ectopic pregnancy. Women should be advised to contact the clinic if they experience pain associated with bleeding that is heavier than expected or persistent fever.

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[18] Cade & Ashley 1993, Hein et al. 1999, Dahl, 2000, cited in WHO (2003) Safe Abortion: Technical and Policy Guidance for Health Systems, WHO: Geneva.

[19] Livshits A, Machtinger R, David LB, Spira M, Moshe-Zahav A, & Seidman DS.(2009). Ibuprofen and paracetamol for pain relief during medical abortion: a double-blind randomized controlled study. *Fertility and Sterility*, 91 (5): 1877-80.

[20] Fiala C, Swahn M, Stephansson O, & Gemzell-Danielsson K. (2005) The effect of non-steroidal anti-inflammatory drugs on medical abortion with mifepristone and misoprostol at 13-22 weeks gestation. *Human Reproduction*, 20 (11): 3072-7.

[21] Creinin CD., & Shulman T. 1997. Effect of nonsteroidal anti-inflammatory drugs on the action of misoprostol in a regimen for early abortion. *Contraception*, 56: 165–8.

Table 7.1 summarising medical pain relief available at public health centres and hospitals in Cambodia

PAIN MANAGEMENT DRUGS AVAILABLE AT HEALTH CENTRES					
Type	**Generic name**	**Usual dose and timing**	**Duration of effect**	**Common side effects**	**Side effects or contraindications**
Analgesic – non-steroidal anti-inflammatory	Ibuprofen	400-800mg orally 1 hour before procedure	4-6 hours	Possible gastro-intestinal upset	Do not use in women with active peptic ulcer disease or renal failure. Allergic reaction may occur in patients with nasal polyps, asthma or sensitivity to NSAIDs
Analgesic	Paracetamol	500-1000mg orally 30-60 minutes before procedure.	4-6 hours	Negligible	Can cause liver toxicity if given in excess., therefore do not use in the presence of renal problems.
Local anaesthesia	Lidocaine	15-20mL of 1% solution in paracervical block. 1% lidocaine means there is 10mg/mL, and 20mL contains 200mg. Using 0.5% lidocaine (5mg/mL) results in half the total dosage of a 1% solution maximum dosage should not exceed 4.5mg/kg of lidocaine.	60-90 minutes	Buzzing in ears, dizziness, numbness of lips, mouth and tongue, metallic taste, seizures	Aspirate before injecting to avoid vascular administration. For mild reactions (with Itching and/or rash), treat with 25-50mg of diphenhydramine (Benadryl) IM or IV. For severe reaction or respiratory distress, treat immediately with epinephrine 0.4 mg under the skin and support respiration with ventilating bag.
PAIN MANAGEMENT DRUGS AVAILABLE AT REFERRAL HOSPITALS					
All drugs as listed above plus general anaesthesia, emergency drugs and equipment and drugs and equipment for an intensive care unit (ICU).					

Chapter

8 Administration of Medical Abortion

This chapter provides a short overview of first-trimester medical abortion, MA (also referred to as medication abortion, pharmacological abortion, or the abortion pill). The mode of action, indications and precautions for use are detailed along with the drug regimens that are used in Cambodia and possible side effects. Other important aspects of care are outlined, including pain management, follow up and complications. The reader is referred to other chapters where these aspects of care are detailed.

8.1 Overview of medical abortion

Medical abortion using mifepristone and misoprostol is a safe, effective and acceptable option for terminating pregnancies[22, 23, 24, 25, 26]. Mifepristone and misoprostol have been licensed for use in abortions together since 1991 in the UK and 2001 in the US, and WHO added both drugs for the use of abortion to its Model List of Essential Medicines in 2005[27] . In Cambodia, they were licensed in December 2009 for use for termination of pregnancy up to 9 weeks of gestation.

MA has the potential to improve access to safe abortion and may be particularly beneficial in settings where uterine evacuation services are limited or not available. MA offers advantages in low-resource settings or in communities where access to safe abortion is restricted because it:

- is simple and easy to administer
- does not require refrigeration
- require less equipment, facilities, and staffing than other abortion methods
- is the safest and perhaps only abortion option available in some clinical conditions such as when a woman has other uterine anomalies or cannot tolerate the procedure in the absence of anaesthesia
- is cost-effective when compared with other methods (costs vary depending on the price of medications, number of clinic visits and specific clinical protocols[28]).

  Further, MA is highly acceptable to women in a variety of settings, including where resources are limited. Studies consistently show that 85 to 95 % of women are satisfied or highly satisfied

[22] RCOG – Royal College of Obstetricians and Gynaecologists. (2000) *The care of women requesting induced abortion*. Evidence-based guideline No.7. London, RCOG Press.

[23] World Health Organization. (2000a) *Managing the complications of pregnancy and childbirth: a guide for midwives and doctors*. Geneva, World Health Organization. (WHO/RHR/00.7)

[24] Winikoff B, et al. (1997) Safety, efficacy, and acceptability of medical abortion in China, Cuba and India: a abortion. *American Journal of Obstetrics and Gynecology* 176:431-437.

[25] Ashok PW, Penney GC, Flett GMM and Templeton A. (1998a) An effective regimen for early medical abortion: a report of 2000 consecutive cases. *Human Reproduction* 13:2962-2965.

[26] Ashok PW, Flett GM and Templeton A. (1998b) Termination of pregnancy at 9-13 weeks' amenorrhoea with mifepristone and misoprostol. Lancet 352:542-543.

[27] World Health Organization. (2005). *The Selection and Use of Essential Medicines*, Report of the WHO Expert Committee, World Health Organization

[28] Creinin MD. (2000) Randomized comparison of efficacy, acceptability and cost of medical versus surgical abortion. *Contraception* 62:117-124.

with the method, and would be willing to use it again or recommend it to a friend if needed [29, 30].

8.2 Benefits and risks of MA for the woman

Benefits

The benefits of MA include safe and effective termination of pregnancy without an invasive medical procedure. If the woman decides to use misoprostol in her home, she may have family or friends with her for support. To some women, having an abortion using pills feels more private than having an invasive procedure. Women can chose to tell family members that they are having a heavy period or a spontaneous miscarriage and disguise the fact that they are having an elective medical abortion.

Risks

Every medical procedure carries some risk, which must be balanced against the risk of not having the procedure. Medical abortion is a very safe procedure; in fact, carrying a pregnancy to term has a higher risk of morbidity and mortality than terminating an early pregnancy[31]. However both MA and vacuum aspiration do have low rates of failed abortion, haemorrhage, infection and extremely rarely, death. These are outlined here.

Unsuccessful medical abortion: There is a small risk that MA will not work, meaning the pregnancy may continue after taking the medications. For women with gestation of up to 9 weeks, less than one woman out of 100 will have an unsuccessful abortion using mifepristone and misoprostol[32, 33] and a vacuum aspiration will be needed to complete the procedure for these women.

Heavy or problematic bleeding: a vacuum aspiration procedure may be clinically indicated for heavy or problematic bleeding [34].

Excessive bleeding: The risk of very heavy bleeding requiring emergency treatment ranges from two women in 10,000 to one in 100[35, 36, 37]. The wide variation in rates reflects differences in gestational age and definition of heavy bleeding.

Infection: Serious infection rates after medical abortion are very low, occurring among less than 1% of women[38, 39]. WHO guidelines do not recommend routine use of antibiotics with medical

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29 Karki C, Pokharel H, Kushwaha A, Manandhar D, Bracken H, Winikoff B. (2009) *Acceptability and feasibility of medical abortion in Nepal*. Int J Gynaecol Obstet. 2009 Jul;106(1):39-42.

30 Winkhoff et al (2007) Ibid.

31 Grimes DA (2005) Risks of mifepristone abortion in context. *Contraception*. 2005 Mar;71(3):161.

32 Allen, RH, Westhoff C, De Nonno L, Fielding SL, Schaff EA. 2001. Curettage after mifepristone-induced abortion: Frequency, timing and indications. *Obstetrics and Gynecology*, 98 (1): 101-6.

33 Reeves MF. Kudva A, & Creinin MD. (2008) Medical abortion outcomes after a second dose of misoprostol for persistent gestational sac. *Contraception*, 78: 332-5.

34 Ipas (2009) Medical Abortion Study Guide. Chapel Hill.

35 Ashok PW, Flett GM & Templeton A. (1998) Termination of pregnancy at 9-13 weeks' amenorrhoea with mifepristone and misoprostol. Lancet 352:542-543.

36 Hausknecht R. (2003) Mifepristone and misoprostol for early medical abortion: 18 months experience in the United States. *Contraception*, 67: 463–5.

37 Schaff EA, Eisinger SH, Stadalius LS, Franks P, Gore BZ and Popperna S. (1999) Low-dose mifepristone 200mg and vaginal misoprostol for abortion. *Contraception* 59:1-6.

38 Shannon C, Brothers LP, Philip NM, Winikoff B. (2004) Infection after medical abortion: a review of the literature Contraception. Sep; 70 (3): 183-90.

39 Allen, Rebecca H., Carolyn Westhoff, Lara De Nonno, Stephen L. Fielding, and Eric A. Schaff. (2001) Curettage after mifepristone-induced abortion: Frequency, timing and indications. *Obstetrics and Gynecology*, 98 (1): 101-6.

abortion[40]. For women who show signs of infection, doxycycline100 mg orally twice a day can be prescribed for seven days.

Allergic reactions: Data about the rate of allergic reactions has not been collected but virtually all have resolved without treatment, or have been treated with antihistamines, such as Diphenhydramine hydrochloride (or the branded name Benadryl®).

Death is extremely rare. For example, the mortality rate from first-trimester MA with mifepristone and misoprostol is estimated to be about seven women per million[41]. The risk of death with MA is roughly equal to the risk of death with spontaneous abortion[42].

Potential Birth Defects: The mechanism by which misoprostol is associated with birth defects could involve the strong uterine contractions induced by misoprostol; the contractions could reduce blood flow between the foetus and the placenta, resulting in a range of defects[43]. If a pregnancy continues once misoprostol is taken, uterine evacuation should be performed; a woman should be committed to following through with the abortion once she takes mifepristone and/or misoprostol. Little is known about potential birth defects associated with mifepristone by itself.

If a woman takes the mifepristone but then decides to have a vacuum aspiration, assist that decision if possible. If she has changed her mind about terminating the pregnancy, inform her about the unknown association of mifepristone and birth defects and the risk that the pregnancy may still abort even without misoprostol.

Future Pregnancies: MA appears to have no negative impact on future reproductive health[44]. MA has not been found to increase the risk of spontaneous abortion, ectopic pregnancy, full-term birth or low-birth weight[45].

8.3 Preparing the client

Using simple, non-technical language, healthcare staff should help the woman understand the entire process before she takes any medications. The details of informed consent are discussed in chapter 6. Women considering a medical abortion should be provided with information about:

- Eligibility and effectiveness
- Regimen and protocols for MA (including a discussion about taking misoprostol at home versus the clinic if both options are available)
- Pain management options

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40 The potential advantages of antibiotic coverage (prevention of some serious infections) must be weighed against disadvantages such as cost, numbers of women needed treatment to prevent one serious infection, overexposure to antibiotics and side effects or potentially (rare) adverse events arising from the antibiotics themselves.

41 Grimes DA(2005) *Ibid*.

42 Grimes DA (2005) *Ibid*.

43 Population Council. 2002. Critical issues in reproductive healthcare: Misoprostol and teratogenicity: reviewing the evidence. Meeting report. May 22, 2002. New York: Population Council.

44 Hogue C, Boardman L, & Stotland N. (2009) Answering questions about long-term outcomes. In *Management of unintended and abnormal pregnancy: Comprehensive abortion care*, eds. Paul, ME. Lichtenberg S, Borgatta L, Grimes DA, Stubblefield PG & Creinin MD. Sussex, UK: Wiley-Blackwell.

45 Virk, Jasveer, Jun Zhang, and Jørn Olsen. 2007. Medical abortion and the risk of subsequent adverse pregnancy outcomes. *New England Journal of Medicine*, 357 (7): 648-53.

- What she will experience and how to dispose of the products of conception
- How long the process typically takes
- Potential side effects and complications
- Warning signs to seek help
- Ensuring access to emergency care
- Birth spacing needs
- When to attend the recommended follow-up visit.

Before leaving the clinic, the woman should receive instructions about what to expect in a normal MA procedure, what pills to take when and how, when to follow up, and when and where to seek medical help in case of a problem. Since some words are probably unfamiliar to her (such as sublingual or buccal), information using drawings should be provided to help her understand how medications should be taken either at home or in the facility. Depending on the setting, the woman may need to make several return visits to the centre to take the pills or she may take medications at home and simply return for follow up.

A pamphlet, card, or handout summarising these points is often useful. A woman who is unable to read may still find it useful to take written instructions with her; she may have someone read it to her if she has questions. Also, pictorial resources for women who cannot read, such as illustrated guides outlining the MA regimen, side effects, and possible complications, may be very helpful.

In settings with telephones, contact information should be provided so the woman can call any time with questions or concerns. In many locations, a return to the health facility may be the only way for the woman to access information and for a clinician to assess her situation. Local referrals close to a woman's home may be given in advance if the woman lives far from the clinic.

See Appendix 6, Frequently asked questions with answers about medical abortion, for other questions that may women and providers may have about MA.

8.4 Mode of action using mifepristone and misoprostol

The combination of mifepristone plus misoprostol is more effective in achieving complete abortion than either drug used alone[46].

Mifepristone, blocks progesterone activity in the uterus, leading to detachment of the pregnancy. Mifepristone makes the uterus more sensitive to prostaglandins (like misoprostol) and softens the cervix. If taken in early pregnancy, the uterus can no longer sustain the growing embryo. Mifepristone also triggers an increase in endogenous prostoglandins and dilates the cervix, thereby facilitating abortion[47].

Misoprostol, a synthetic prostaglandin, is administered at varying intervals to stimulate uterine contractions and causes uterine evacuation. Misoprostol is inexpensive, stable at room temperature and available in many countries for the prevention and treatment of gastric ulcers. It can also be

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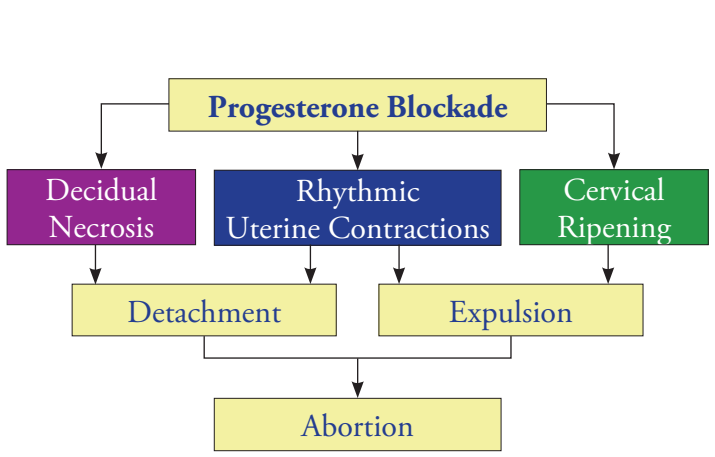
[46] Kulier R, Gülmezoglu AM, Hofmeyr GJ, Cheng LN, Campana A. (2004) Medical methods for first trimester abortion. Cochrane Database Syst Rev.;(1):CD002855. Review. Update in: Cochrane Database Syst Rev. (2):CD002855.

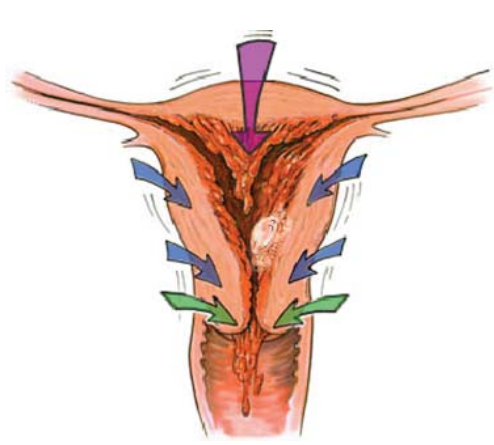
[47] Gynuity (2009) *Providing medical abortion in low-resource settings: an introductory guidebook* (2nd Ed). New York.

used for cervical preparation before surgical abortion, labour induction, prevention and treatment of post-partum haemorrhage, and treatment for missed or incomplete abortion.

Figures 8.1 demonstrating the combined mechanisms of action of the mifepristone and misoprostol.

(Images courtesy of National Abortion Federation & 2005© Lisa Peñalver **penart1@alaska.com**)





8.5 Administration and effects of medications for abortion

8.5.1 Indication for use

Medication abortion using misoprostol and mifepristone can be used in Cambodia for the termination of first trimester intrauterine pregnancy up to 63 days of gestation, i.e. up to 9 weeks since last menstrual period.

8.5.2 Contraindications

Most women with early pregnancies are able to have MA using mifepristone and misoprostol.

Contraindications for mifepristone are:

- Known allergy to mifepristone
- Confirmed or suspected ectopic pregnancy or adnexal mass[48]
- Concurrent long-term corticosteroid therapy - do not use mifepristone in women with who are being treated for any condition requiring long-term oral or intravenous corticoisteroids, such as poorly controlled asthma or rheumatoid arthritis.
- Hemorrhagic disorder or concurrent anticoagulant therapy (i.e. blood thinner medications). There is very limited evidence describing provision of medical abortion in such cases
- Inherited porphyrias (rare genetic blood diseases)[49].

[48] The adnexa of uterus (or uterine appendages) refers to the structures most closely related structurally and functionally to the uterus. The term adnexal mass is sometimes used when the location of the mass is not yet more precisely known.

[49] Cable EE, Pepe JA, Donohue SE, Lambrecht RW, Bonkovsky HL. (1994) Effects of mifepristone (RU-486) on heme metabolism and cytochromes P-450 in cultured chick embryo liver cells, possible implications for acute porphyria. European Journal of Biochemistry. 225(2):651–657.

A contraindication for misoprostol is:

- Known allergy to misoprostol or to other prostaglandins.

8.5.3 Precautions and special considerations

There are some conditions that need to be taken into consideration, but do not exclude the use of MA. These include:

- ***IUD in situ:*** this must be removed before medication is administered.

- Severe anaemia: Although women using medical abortion experience more prolonged bleeding than women having a surgical abortion, the total amount of blood loss and decrease in hemoglobin levels is typically modest for both methods. Anemia is not a contraindication for MA , but all women with severe anemia should initiate treatment for anemia as soon as it is diagnosed.

- ***Concurrent long-term systemic corticosteroid use:*** Mifepristone and corticosteroids may mutually antagonise each other's effects if administered concurrently. Mifepristone is a potent anti-glucocorticoid. The efficacy of chronic corticosteroid therapy, including inhaled corticosteroids, may be reduced for 3 to 4 days after mifepristone administration, and the efficacy of mifepristone may be reduced if the corticosteroid is administered systemically or absorbed systemically[50]. Some corticosteroids (e.g., dexamethasone) may also decrease plasma concentrations of mifepristone.

  When using mifepristone in steroid dependent women, increase dose of glucocorticoids for 3 or 4 days starting from the day of administering mifepristone, and then monitor the woman closely for her underlying medical condition. Conditions such as chronic renal failure may worsen.

- ***Asthma:*** Women using asthma inhalers alone may have medical abortion, since the medications in asthma inhalers are not systemically absorbed. Although some prostaglandins are vasoconstrictors (and therefore contraindicated for use in women with asthma), misoprostol is a type of prostaglandin that promotes bronchodilation, so it actually decreases inflammation and increases oxygen flow.

- ***Breastfeeding:*** There is no evidence to suggest that either medication is harmful to nursing infants. Given that the doses are few and fairly rapidly metabolized, it is unlikely these drugs would be found in large quantities in breast milk. However, most drugs in women's blood do get into breast milk in small amounts. For this reason, women are sometimes advised to discard the breast milk produced for four to six hours after ingestion of each dose of misoprostol.

  Other conditions raise concern among providers. The following conditions, however, require no change in the regimen:

[50] Agarwal MK. (1996)The antiglucocorticoid action of mifepristone *Pharmacology & Therapeutics* Vol 70:3, 1996, Pages 183-213

1. ***HIV/AIDS:*** There is no reason why HIV positive women cannot use medical abortion. HIV positive women may be at higher risk of reproductive tract infections from retained products of conception, but this may occur with medical or surgical abortion. Women with HIV/AIDS may be at risk for anaemia, especially if they have malaria or are taking certain antiretroviral therapies. Iron pills may be prescribed. As with any woman, if heavy bleeding occurs, prompt treatment with surgical evacuation should be provided[51].

2. ***Obesity:*** There is no difference in efficacy for medical abortion with mifepristone and misoprostol among obese women compared to non-obese women[52]. Thus, no dose adjustment for mifepristone or misoprostol is required in obese women.

3. ***Multiple gestation:*** A woman who is pregnant with twins (or other multiple gestations) may receive mifepristone and misoprostol using the standard dosages of medications. The success rate for women with multiple gestations is comparable to those with single pregnancy[53].

8.5.4 Regimen and routes of administration

Different regimens are used in different countries, but the regimen that is described here is coherent with the licensure and legislation in Cambodia. The branded product, Medabon®, is currently licensed for use in Cambodia for termination of pregnancies up to 9 weeks. The product[54] consists of:

- one 200 mg tablet of mifepristone for oral use and
- four 200 µg tablets of misoprostol which can be used vaginally in Cambodia.
  Medical abortion with Medabon® is the same as that recommended by WHO as a safe and effective method for medical abortion[55]. It requires three steps:
- Administration of 200 mg of mifepristone given orally.
  If the woman vomits within 30 minutes of taking mifepristone, she should take another dosed.
- Administration of 800 µg of misoprostol 24 to 48 hours later. The misoprostol tablets are administered vaginally.

  Research has shown that misoprostol can be safely administered via the sublingual or buccal route [56, 57, 58, 59]. However, vaginal administration of misoprostol is more effective than oral

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[51] De Bruyn M. (2003) *Violence, pregnancy and abortion: Issues of women's rights and public health, second edition*. Chapel Hill, NC, Ipas.

[52] Strafford MA, Mottl-Santiago J, Savla A, Soodoo N, & Borgatta L. (2009) Relationship of obesity to outcome of medical abortion. *American Journal of Obstetrics & Gynecology*, (5): e34-6.

[53] Hayes, J.L., S. Achilles, M.F. Reeves, and Mitchell D. Creinin. (2008) Outcomes of medical abortion through 63 days in women with twin gestations. *Contraception*, 78: 168-9.

[54] Mifepristone and misoprostol are licensed separately in many countries.

[55] World Health Organization (2006) *Frequently Asked Questions about Medical Abortion: Conclusions of an International Consensus Conference on Medical Abortion in Early First Trimester*, Bellagio, Italy. Geneva: WHO.

[56] Tang OS, Chan C, Ng E, Lee S, Ho P. (2003) A prospective, randomized, placebo-controlled trial on the use of mifepristone with sublingual or vaginal misoprostol for medical abortions of less than 9 weeks gestation. *Human Reproduction*.;18(11):2315–2318.

[57] Raghavan S, Comendant R, Digol I, et al. (2009) Two-pill regimens of misoprostol after mifepristone medical abortion through 63 days' gestational age: a randomized controlled trial of sublingual and oral misoprostol. *Contraception*.; 79(2):84–90.

[58] Hamoda H, Ashok PW, Dow J, Flett GM, Templeton A. (2003) A pilot study of mifepristone in combination with sublingual or vaginal misoprostol for medical termination of pregnancy up to 63 days gestation. *Contraception*. 68(5):335–338.

[59] von Hertzen H, Piaggio G, Wojdyla D, et al. (2009) Two mifepristone doses and two intervals of misoprostol administration for termination of early pregnancy: a randomized factorial controlled equivalence trial. British Journal of Obstetrics and Gynaecology.116(3):381–389.

administration, and has less side effects than sublingual or buccal administration[60, 61].

- A follow-up assessment one to two weeks (generally 10–14 days) after mifepristone administration to confirm completion of abortion.

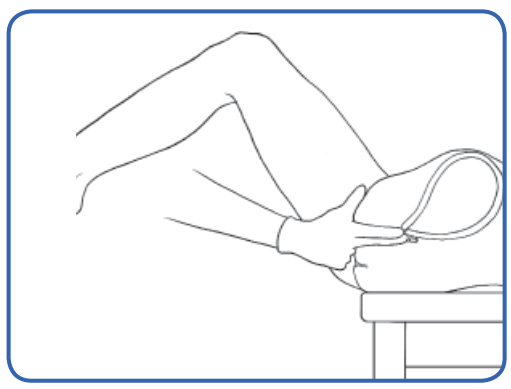
Table showing different regimen options for mifepristone and misoprostol up to 9 weeks of complete gestation

Regimen options	Mifepristone Day 1a	Misoprostol Day 2		Efficacyb
		Dose	Route	
WHO recommended	200mg orally (one 200mg tablet)	800ug (four 200ug tablets)	Vaginally	93%-97% [62, 63]
Used in many countries including USA	200mg orally (one 200mg tablet)	800ug (four 200ug tablets)	Buccally or sublingually	95%-98% [64, 65, 66]

[a]*Day 1 is the day that mifepristone is taken*
[b] *Efficacy is defined here as complete uterine evacuation without further intervention with vacuum aspiration or curettage*

Methods of administration for misoprostol

Instructions for vaginal administration



- Empty bladder and lie down. If clinician is inserting tablets: wash hands and put on clean exam gloves.
- Insert all the misoprostol tablets
- Push the tablets as far into the vagina as possible; they do not need to be in any special place in the vagina
- Often tablets will not dissolve but medication is

60 Honkanen H, et al. WHO Research Group on Post-Ovulatory Methods for Fertility Regulation. (2004) WHO multinational study of three misoprostol regimens after mifepristone for early medical abortion. BJOG. 2004 Jul;111(7):715-25.

61 Kulier R, Kapp N, Gülmezoglu AM, Hofmeyr GJ, Cheng L, Campana A. (2004) Medical methods for first trimester abortion. Cochrane Database of Systematic Reviews, Issue 2. Art. No.: CD002855. DOI: 10.1002/14651858.CD002855.pub3

62 von Hertzen H, et al. (2003) WHO multinational study of three misoprostol regimens after mifepristone for early medical abortion. I: Efficacy. BJOG, 110: 808-18.

63 Ashok PW, Penney GC, Flett GMM and Templeton A. (1998) An effective regimen for early medical abortion: a report of 2000 consecutive cases. Human Reproduction 13:2962-2965.

64 Middleton T, Schaff E, Fielding S, et al. Randomized trial of mifepristone and buccal or vaginal misoprostol for abortion through 56 days of last menstrual period. Contraception. 2005;72(5):328–332.

65 Winikoff B, Dzuba IG, Creinin MD, et al. (2008) Two distinct oral routes of misoprostol in mifepristone medical abortion: a randomized controlled trial. Obstetrics & Gynecology. 2008;112(6):1303–1310.

66 Tang et al (2003) Ibid.

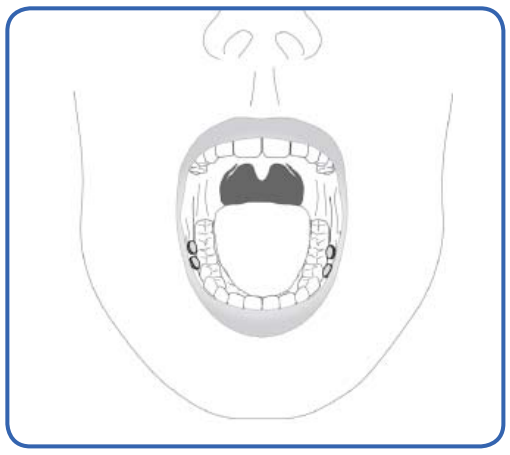
still being absorbed

- Fragments of the tablets may remain visible for many hours
- After lying down for 30 minutes, if tablets fall out when a woman stands up or goes to the bathroom, the woman does not need to re-insert the tablets; the active medicine has absorbed by that time.

Instructions for buccal administration

i. Place 2 pills between each cheek and gums (four total), and allow the pills to dissolve

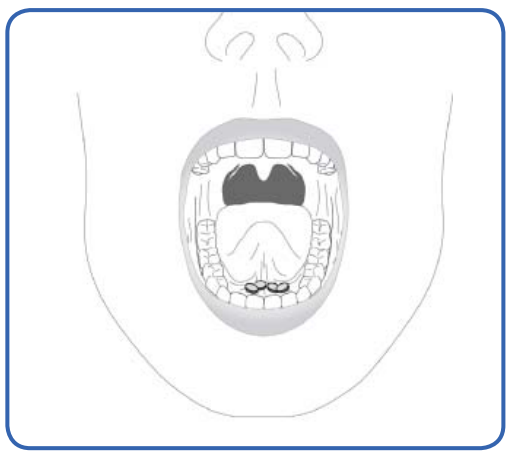
ii. After 30 minutes, swallow any remaining pill residue.



Instructions for sublingual administration

i. Place pills under the tongue (4 pills) and allow the pills to dissolve.

ii. After 30 minutes, swallow any remaining pill residue.



8.6 Location for taking the medications

The first medication, mifepristone is to be taken in the clinic/health facility. Mistoprostol is taken 24 hours after mifepristone, and can be at home as long as the instructions are given clearly and the provider is sure that the woman has understood the instructions accurately.

When misoprostol is to be taken vaginally, the provider should offer the woman a choice of having the misoprostol administered either by herself or by the provider. Thus, women should be offered the choice of taking the misoprostol at home or in the clinic, as different women have different needs and desires.

Self-administration of misoprostol at home

Multiple studies from different countries have shown that allowing women to take the misoprostol at

home is safe, effective and highly acceptable to women [67, 68, 69]. Women taking misoprotstol at home should be given the following:

- Misoprostol tablets
- Detailed information on how to take the misoprostol
- Written and pictorial information on the medical abortion protocols, side effects and warning signs, what signs indicate that the abortion has been completed, and a reminder for the next appointment
- Information on whom to contact in case of questions or complications. Include a telephone number where possible.
- Other optional items: sanitary pads, cotton wool, contraceptive information and supplies, emergency contraception.

Many clinics give this information and supplies in a take-home packet. It is also helpful to talk with each woman about her specific situation such as having her partner or another support person with her when she takes the misoprostol and in the hours thereafter when she is likely to begin bleeding.

Misoprostol administered at the facility

After taking misoprostol, the woman may wait at the facility for approximately four to six hours, depending on when the pregnancy is expelled. Depending on the facility's opening hours, a woman who has not expelled within that time may remain longer to await expulsion, or she may return to her home if she has transportation and can seek follow-up care if necessary.

Facilities may have individual rooms with a bed and restroom or, more commonly, a room that has several cots or reclining chairs and a toilet nearby. Women do not need to be restricted to beds but rather may move around the room, clinic, courtyard or other areas, as appropriate. Staff should provide pain medications such as ibuprofen or paracetamol (see section 8.7 below).

A clinician or counsellor should be available to answer questions and to address any medical concerns, such as nausea, vomiting, diarrhoea or cramping. There should be enough toilet facilities to accommodate the maximum number of women receiving misoprostol at a given time. Depending on space, facilities should also consider allowing each woman to have her partner or a support person with her during this time.

Providers should use their judgement as to whether an examination of the woman prior to her leaving the facility is required. In some cases the pregnancy tissue is lodged at the cervix and may be removed with ring forceps or similar instrument.

If the woman aborts in the clinic, the provider should observe the expelled tissue, if possible, to confirm a complete abortion.

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67 Fiala C, Winikoff B, Helström L, Hellborg M, & Gemzell- Danielsson K. (2004) Acceptability of home-use of misoprostol in medical abortion. Contraception, 70: 387-92.

68 Elul B, Ngoc N, Ellertson C, Slama CB, Pearlman E Winikoff B. (2001) Can women in less-developed countries use a simplified medical abortion regimen? The Lancet, 357: 1402–5.

69 Guengant J, Bangou J, Elul B, & Ellertson C. (1999) Mifepristone misoprostol medical abortion: Home administration of misoprostol in Guadeloupe. Contraception, 60: 167–72.

If the woman leaves the clinic before she aborts:

- Ensure that she has instructions and supplies pertinent to aborting at home
- Provide her with pain medication to take home
- Schedule a follow up visit within two weeks
- Review instructions and provide information on warning signs indicating the woman should contact the clinic
- Provide a contraceptive method if desired (see chapter 13).

8.7 Pain management

Most women find MA-related pain to be manageable, especially if they are prepared for the range of pain that might be experienced and take pain medicines as advised. Women should be provided with pain medication or a prescription at the time of the first clinical visit.

Pain-management medications for MA include ibuprofen and paracetamol (acetaminophen); ibuprofen is significantly more effective[70]. Non-steroidal anti-inflammatory drugs (NSAIDs) that are taken 30 minutes after misoprostol or once cramping begins do not interfere with MA efficacy [71, 72].

See chapter 7 for more details on pain management.

The effects of MA during the abortion and recovery period are detailed in the following chapter, and the follow up required is described.

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70 Livshits A, Machtinger R, David LB, Spira M, Moshe-Zahav A, & Seidman DS.(2009). Ibuprofen and paracetamol for pain relief during medical abortion: a double-blind randomized controlled study. Fertility and Sterility, 91 (5): 1877-80.

71 Fiala C, Swahn M, Stephansson O, & Gemzell-Danielsson K. (2005) The effect of non-steroidal anti-inflammatory drugs on medical abortion with mifepristone and misoprostol at 13-22 weeks gestation. Human Reproduction, 20 (11): 3072-7.

72 Creinin CD., & Shulman T. 1997. Effect of nonsteroidal anti-inflammatory drugs on the action of misoprostol in a regimen for early abortion. Contraception, 56: 165–8.

Chapter

9 Recovery and follow up after a Medical Abortion

This chapter continues from the previous chapter, describing the expected effects of medication abortion and describes the recovery and follow-up care required following a medical abortion.

9.1 Expected effects of medication abortion

The MA process may feel like an intense, crampy menstrual period or similar to a spontaneous miscarriage. The expected effects - vaginal bleeding and cramping - are normal and should be distinguished from side effects of the medications or warning signs of true complications.

When taking mifepristone (for abortion with misoprostol), most women feel no change after taking the pills. Approximately 8-25% of women will have some spotting or bleeding after mifepristone, prior to taking misoprostol[73].When taking misoprostol, the expected effects are cramping and bleeding.

Normally, women feel better the day after the misoprostol is administered. Pregnancy symptoms usually go away within a few days of taking misoprostol and women can resume their usual routines within a few days of taking misoprostol.

Vaginal Bleeding: Vaginal bleeding, often accompanied by the passage of clots, is usually heavier than a menstrual period but may sometimes be lighter. Bleeding most often starts within three hours after misoprostol administration[74], and tends to decrease after the pregnancy tissue has been expelled[75]. The pregnancy is usually expelled between 4 to 6 hours after vaginal misoprostol is administered[76, 77, 78].

Approximately 20% or one out of every five women undergoing MA continued to bleed or spot for 35 to 42 days, which may include the start of the first post-abortion menses[79]. The range of 'normal' bleeding is large for MA; some women using MA have stopped bleeding within a week while others bleed for several weeks, and bleeding from MA tends to be longer than after a vacuum aspiration[80].

Bleeding following an MA is not usually associated with anaemia; a study of MA with mifepristone and misoprostol found that the difference in haemoglobin levels before abortion and after was not

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[73] Schaff, EA., Fielding SL. Westhoff C. (2001) Randomized trial of oral vs. vaginal misoprostol at one day after mifepristone for early medical abortion. *Contraception*, 64: 81–85.

[74] Creinin M. (2003) Current medical abortion care. *Current Women's Health Reports*, 3: 461-9

[75] Paul, M. (2007) Abortion. In *Contraceptive Technology*, 19th revised ed., eds. Hatcher TA et al., New York, NY: Ardent Media, Inc.

[76] El-Refaey H and Templeton A. (1995) Induction of abortion in the second trimester by a combination of misoprostol and mifepristone: a randomized comparison between two misoprostol regimens. *Human Reproduction* 10:475-478.

[77] Ashok PW, Penney GC, Flett GMM and Templeton A. (1998a) An effective regimen for early medical abortion: a report of 2000 consecutive cases. *Human Reproduction* 13:2962-2965.

[78] World Health Organization. (2000a) *Managing the complications of pregnancy and childbirth: a guide for midwives and doctors.* Geneva, World Health Organization. (WHO/RHR/00.7)

[79] Davis, A, Westhoff C, & De Nonno L.(2000) Bleeding patterns after early abortion with mifepristone and misoprostol or manual vacuum aspiration. J*ournal of the American Medical Women's Association,* 55 (3): 141–4.

[80] Davis, A, Westhoff C, & De Nonno L.(2000) Bleeding patterns after early abortion with mifepristone and misoprostol or manual vacuum aspiration. *Journal of the American Medical Women's Association,* 55 (3): 141–4.

clinically significant[81].

It can be difficult for clinicians new to MA, as well as women themselves, to know what the normal or expected amount of bleeding is, or when to seek help for and abnormal bleeding. It is likely that a woman will be more comfortable with what she encounters if the clinician discusses and clarifies bleeding patterns openly with her. Women who bleed more than they are comfortable with can be offered vacuum aspiration. However, this is usually not necessary when women are well-informed and know what to expect about bleeding.

Cramping: As the uterus contracts and its' contents are expelled through the cervix, women generally feel some degree of cramping. There is wide variation in the level of pain and cramping that women experience[82]; some women do not notice cramping and others say the pain is intense. Cramping usually beginning 1 to 3 hours after taking misoprostol, which diminishes soon after passing the pregnancy tissue[83].

Expulsion and disposal of the pregnancy: Occasionally women with pregnancies between 8-9 weeks may see a recognisable foetus though it is usually less than two centimetres in length[84] and most often, the woman will just see blood and clots and will not see the expelled pregnancy. Some of which may be large.

Women may need to know how to dispose of the products of conception; everything can be flushed down the toilet or long drop. Alternatively, the products can be buried, or wrapped in cloths or pads and a bag and thrown away in the same way that materials from a normal menstrual period are disposed of.

9.2 Potential side effects

MA medicines may produce a range of relatively minor side effects that usually do not require treatment. Some of the symptoms described below may be caused by the pregnancy itself rather than MA. Symptoms caused by pregnancy can decrease after MA begins[85]. However, symptoms that can increase after taking misoprostol include nausea, vomiting, diarrhoea, transient fever, and these are detailed here.

Nausea, vomiting and diarrhoea: these gastrointestinal symptoms are common after taking misoprostol[86, 87] and sometimes occur as a side effect of mifepristone. Nausea and vomiting usually

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81 Winikoff (1997) Safety, efficacy, and acceptability of medical abortion in China, Cuba and India: a abortion. *American Journal of Obstetrics and Gynecology* 176:431-437.

82 Honkanen H, et al. (2004) WHO Research Group on Post-Ovulatory Methods for Fertility Regulation. Ibid. WHO multinational study of three misoprostol regimens after mifepristone for early medical abortion. BJOG. Jul;111(7):715-25.

83 Paul (2007) *Ibid*.

84 Callen, PW. (2008) *Ultrasonography in Obstetrics and Gynecology,* 5th ed. Philadelphia:Saunders Elsevier.

85 Honkanen H, et al. (2004). *Ibid*.

86 Faundes A, Fiala C, Tang OS, & Velasco A. (2007) Misoprostol for the termination of pregnancy up to 12 completed weeks of pregnancy. *International Journal of Gynecology and Obstetrics*, 99: S172-7.

87 Tang (2007) *Ibid*.

resolve within one to two days of using misoprostol[88, 89].

Women experiencing uncomfortable gastrointestinal side effects may take an anti-emetic or anti-diarrhoeal medication, as appropriate.

If severe gastrointestinal side effects such as persistent vomiting continue at any time beyond 24 hours after misoprostol is administered, the woman should be clinically evaluated.

Fever, warmth or chills: Many women experience a short-lived fever, a feeling of warmth, chills or shivering during MA as a side effect of the medications[90]. Treatment is generally not required, but women should know that they may experience these symptoms. If the symptoms persist for longer than 1 – 2 days, the woman should be advised to seek help.

Headache and dizziness: Some women (around 20%) undergoing MA report headache or dizziness[91]. Headache is treatable with analgesics. Mild dizziness of short duration is managed by ensuring adequate hydration, rest and by using caution when moving around. Women experiencing persistent dizziness in combination with heavy or prolonged bleeding should be promptly evaluated for hypovolemia.

9.3 Warning signs of complications

Women should contact their health-care provider immediately if they experience any of the following:

- Excessive bleeding: soaking more than two sanitary pads per hour for two consecutive hours, especially if accompanied by prolonged dizziness, light-headedness, and increasing fatigue
- Fever of 38°C (100.4°F) or higher or fever the day after misoprostol is used
- Foul vaginal odour and/or discharge
- Severe abdominal pain the day after taking misoprostol
- Feeling very sick with or without fever, and persistent severe nausea or vomiting the day after taking misoprostol.
- Too little bleeding: Women should return to the clinic before their scheduled follow-up if they experience little to no bleeding by 1 to 2 days following misoprostol. This is not an emergency, but rather cause for seeking early follow-up. Very light bleeding could be because the pregnancy was at a very early gestation, but it could also suggest that there may be a continuing pregnancy or persistent gestational sac (see section 9.6).

9.4 Post-abortion fertility and contraception

If a woman desires contraception, she should receive her method of choice to begin as soon as possible. Ideally, safe abortion care facilities can ensure that women wanting to postpone pregnancy receive at

88 Bracken H, Gliozheni O, Kati K, Manoku N, Moisiu R, Shannon C, Tare V, Tasha I, Winikoff B, & The Medical Abortion Research Group. (2006) Mifepristone medical abortion in Albania: Results from a pilot clinical research study. *European Journal of Contraception and Reproductive Health Care*, 11 (1): 38-46

89 Faundes (2007) *Ibid*.

90 **Honkanen H**, et al. (2004). *Ibid*.

91 **Honkanen H**, et al. (2004). *Ibid*.

least a temporary birth spacing method and a referral for a long-acting contraceptive before leaving the facility.

Every woman who has an abortion should be made aware of three facts:

1. That it is possible to become pregnant again right away. A woman may ovulate within 10 days of an abortion[92], and this could quickly lead to another pregnancy if she resumes sexual intercourse without using a modern birth spacing method[93].
2. That it is possible to delay or prevent another pregnancy by using modern contraceptives.
3. Where to obtain modern contraceptives and information on how to use it correctly.

After MA, a woman may have sexual intercourse when she feels comfortable doing so. If she is trying to avoid pregnancy, she should wait until her chosen contraceptive method becomes effective.

Eligibility for modern birth spacing methods

In general, all modern contraceptive methods can be used immediately following first-trimester MA provided that the provider screens for any precautions and that adequate information and counselling is provided. A list of criteria for each type of method is outlined in table 9.1.

Table 9.1 showing when modern birth spacing methods can be used after MA

Contraceptive type	The earliest time that method can be started
Oral contraceptive pill	On the same day that misoprostol is taken
Implants	On the same day that misoprostol is taken
Injections	On the same day that misoprostol is taken
Contraceptive vaginal ring	On the same day that misoprostol is taken, or 2-3 days later if bleeding is still heavy
Intrauterine device	At follow-up visit after confirmation that the woman is no longer pregnant

Natural birth spacing, or the fertility-awareness method, should only be used after a woman has had at least one post-abortion menses, provided that before this pregnancy she had normal menstrual cycles[94].

9.5 Follow-Up

A follow-up appointment 2 weeks after the administration of the MA is recommended since use of the medications may be associated with birth defects if the pregnancy is not aborted, and so

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92 Boyd,E, Forrest J, & Holmstrom EG. (1972) Ovulation following therapeutic abortion. *American Journal of Obstetrics and Gynecology*, 113 (4): 469-73

93 Wolf M, &Benson J. (1994) Meeting women's needs for post-abortion family planning: Report of a Bellagio Technical Working Group. *International Journal of Gynecology and Obstetrics*, 45 (Supplement): S3-23.

94 World Health Organization (WHO). 2004. *Medical eligibility criteria for contraceptive use, third edition*. Geneva: WHO.

confirmation of completion of the abortion is necessary. All women who have MA should be given a follow-up appointment for two weeks following the procedure, but should be aware that if they have any other complications, that they should return to the clinic sooner if required.

Women at follow up commonly present either believing that the abortion has not yet occurred, or concerned that her bleeding is problematic or believe that an infection is present. The provider should conduct an assessment to confirm or eliminate each of these possible, although rare, complications.

9.5.1 What to expect at the follow-up visit

Normal

This is the most common outcome if the woman took the medicines as instructed. Generally, the day after the woman takes misoprostol, she will start to feel better and by the follow-up visit will no longer feel pregnant. Her bleeding and cramping will be significant for about a day following misoprostol, but then diminish over the following week so that by the time of the follow up visit, cramping is usually gone. By the 2 week follow up, approximately 60% of women who had MA are still having light bleeding or spotting[95].

Problematic bleeding

Some women report tiresome or problematic bleeding at the follow up visit despite the fact that the pregnancy is not continuing, pregnancy symptoms have resolved and the uterus is smaller in size. Various patterns of problematic bleeding include:

Persistently heavy bleeding which is bleeding like a heavy menstrual period that has been continuous since taking misoprostol.

Erratic bleeding. Some women have days of very little or no bleeding followed irregularly by heavy, gushing bleeding. If she is symptomatic of anemia, consider performing vacuum aspiration. Fluid intake (oral hydration) and iron-rich foods or iron supplements should be strongly encouraged

Delayed bleeding. Treat the woman according to the severity of clinical presentation.

Haemorrage. The management of severe bleeding is discussed in chapter 12.

Problematic bleeding may be a sign that MA may not have been successful, although it may also be bleeding that is different to what the woman expected and may not be clinically significant.

If the woman has clinical symptoms of low blood volume due to bleeding (fatigue, weakness especially upon standing, racing pulse, feeling faint), vacuum aspiration should be performed.

If her bleeding is currently not heavy but is somewhat prolonged or erratic and she is clinically stable and feels well reassure her that all is well. If the woman is experiencing problematic, but not severe bleeding, discuss treatment options with her including:

1. waiting and watching for several weeks;
2. repeating the dose of misoprostol to encourage uterine contractility (as discussed above); and

[95] Davis, A, Westhoff C, & De Nonno L.(2000) Bleeding patterns after early abortion with mifepristone and misoprostol or manual vacuum aspiration. Journal of the American Medical Women's Association, 55 (3): 141–4.

3. vacuum aspiration. Sometimes a woman is tired of persistent bleeding and requests vacuum aspiration even though it may not be clinically necessary; this option should be available to her if possible.

9.5.2 Confirming completion of abortion

A 2 week follow-up visit enables the clinician to confirm the abortion is complete. Confirmation is possible by reviewing a symptom history and conducting a pelvic examination, or by ultrasound in cases of uncertainty. During this visit the clinician ensures contraception is provided if desired, addresses problems, and answers remaining questions.

Steps to assess completion

1) Assess the amount and timing of vaginal bleeding and cramping and the passage of clots.
2) Review what pregnancy symptoms she experienced prior to and after the abortion. For example, if the woman had morning sickness and breast tenderness beforehand, has that resolved?
3) Review adherence to the medical drug protocol. For example, ask "Tell me how you took the pills?"
4) Perform a pelvic exam. Compare it to the exam documented prior to the MA:
   - If the woman was up to 7 weeks at the clinical assessment, the uterus should feel non-pregnant at a 2 week follow-up.
   - If the woman was 8 weeks or more, the uterus should be smaller at the 2 week follow-up.
5) The abortion is most likely complete if her pregnancy symptoms have stopped, her bleeding pattern is normal, and her uterine size is non-pregnant or smaller than before.
6) If still in doubt, conduct an ultrasound to look for a viable pregnancy.

9.6 Possible failure of MA, complications and problems

Medication abortion results in few serious complications. Those that do occasionally occur are persistent gestational sac, continuing pregnancy, hemorrhage, infection and undiagnosed ectopic pregnancy.

Failure of MA is defined as situations requiring a uterine intervention (vacuum aspiration) for a continuing pregnancy or for unacceptable symptoms such as hemorrhage[96]. Ongoing pregnancy is not a true complication but rather a treatment failure. Others major complications are outlined here, but management details are provided in Chapter 12.

- ***Continuing pregnancy:*** The continuation of a pregnancy is uncommon in women using mifepristone and misoprostol up to 63 days (9 weeks) since the last menstrual period (LMP). Continuing pregnancy is more likely in women who use misoprostol alone.

  A continuing pregnancy is suggested by a lack of vaginal bleeding, persistent pregnancy symptoms and/or increasing uterine size. The standard treatment for ongoing pregnancy is vacuum aspiration. However, if no other safe abortion method is available, repeating misoprostol is recommended during follow up visit.

- ***Persistent Gestational Sac:*** If the woman has not expelled the pregnancy by the time of her follow-up visit and the pregnancy is nonviable, she can be offered expectant management.

[96] Winikoff (1996) *Ibid.*

This means that she will wait for the pregnancy to be expelled naturally; with time, this usually occurs without further intervention. To choose expectant management, the woman must be willing to return to the clinic in approximately one week to ensure that the process is complete. Alternatively, some clinicians prefer to administer an additional dose of misoprostol to women who have persistent nonviable gestational sacs. Proper pre-procedure counselling can help prepare a woman for the potential need for follow-up visits to monitor her progress, if intervention is to be avoided. If the woman prefers not to make return visits or is experiencing uncomfortable symptoms, such as heavy bleeding, she may prefer vacuum aspiration to remove the POC.

- ***Allergic reactions:*** Allergic reactions to mifepristone and misoprostol are rare, but have been reported occasionally. These reactions have been accompanied by swelling of the hands or feet, rashes or wheezing. Allergic reactions can be managed conventionally, for example with an antihistamine.

  If a woman experiences a severe allergic reaction with shortness of breath or swelling of the airway should receive emergency treatment.

- ***Infection:*** MA is rarely associated with infection and those that occur are usually mild enough to be treated with oral medicines in the outpatient setting; the actual incidence of severe infections is much lower.

  After administration of misoprostol, a woman may develop a low-grade fever. If fever is 38°C (100.4°F) or higher for 24 hours beyond, or fever begins any day after misoprostol use, the woman should be evaluated by a clinician. If the woman has signs and symptoms of a uterine infection, broad-spectrum antibiotic treatment should be given. In the case of severe infection or sepsis, the woman should be hospitalised.

  If a woman has abdominal pain, nausea or vomiting—regardless of whether she has a fever or not—provide or refer for further investigation.

- ***Haemorrhage:*** Acute haemorrhage associated with MA is rare[97]. With mifepristone and misoprostol regimens, less than 2% of women will requiring intervention (transfusion and/or aspiration)[98, 99]. Indications that bleeding requires immediate attention are:

  - Very heavy bleeding
  - Bleeding like a heavy period that persists for weeks leading to significant anaemia and hypovolaemia
  - Pale appearance accompanied by weakness, agitation or disorientation
  - Blood pressure drop or woman feels faint when she stands up
  - Rapid pulse especially when associated with low blood pressure
  - Other signs and symptoms include paleness around the inner eyelids, mouth, palms or fingertips; dizziness and fainting; and decreased urine output.

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[97] World Health Organization. (2000a) *Managing the complications of pregnancy and childbirth: a guide for midwives and doctors. Geneva*, World Health Organization. (WHO/RHR/00.7)

[98] Ashok PW, Penney GC, Flett GMM and Templeton A. (1998a) An effective regimen for early medical abortion: a report of 2000 consecutive cases. *Human Reproduction* 13:2962-2965.

[99] Schaff EA, Stadalius LS, Eisinger SH and Franks P. (1997) Vaginal misoprostol administered at home after mifepristone (RU486) for abortion. *Journal of Family Practice* 44:353-360.

- ***Ectopic Pregnancy:*** An ectopic pregnancy occurs when a fertilised egg attaches itself outside of the uterus, most often in a fallopian tube. Ectopic pregnancy is a pre-existing condition rather than a complication. It may be suspected in women during clinical assessment for MA or in the course of follow-up care. Uterine evacuation methods, whether vacuum aspiration or MA using misoprostol with or without mifepristone, cannot terminate an ectopic pregnancy.

  A woman with an early ectopic pregnancy may not have any symptoms. If she does have signs or symptoms, they might include:

  - Uterine size that is smaller than expected
  - Sudden, intense and persistent lower abdominal pain or cramping, initially one-sided then generalised, that may be accompanied by:
    - irregular vaginal bleeding or spotting
    - palpable adnexal mass
  - Fainting, shoulder pain, rapid heartbeat or light-headedness (from internal bleeding). Internal bleeding is not necessarily accompanied by vaginal bleeding.

  An ectopic pregnancy can be life-threatening; the woman should be treated or transferred as soon as possible to a facility that can confirm diagnosis and begin treatment. Early diagnosis and treatment of ectopic pregnancy saves women's lives and helps preserve their future fertility.

- ***Persistent Pain :*** If a woman has intense pain that persists for longer than 4-6 hours after taking misoprostol, or if she reports intense pain unrelieved with ibuprofen and mild narcotics, consider the possibilities of:

  - Pregnancy tissue trapped in the os. If this is the case, it can sometimes be grasped with an instrument such as ring forceps and gently removed.
  - Ectopic pregnancy
  - Upper reproductive tract infection
  - Poor pain tolerance.

  Pain that is intractable, prolonged or unrelieved with pain medicines warrants examination. The secomplications and how to manage them are discussed further in Chapter12.

9.7 If the woman does not return for follow-up

Despite the recommendation to follow up at the clinic, some women do not return. If the woman does not return, telephone follow-up (where available) facilitates assessment. Each site should decide how it will handle phone follow-up, should it be needed, and obtain a phone number where the woman can be reached.

Steps to assess completion by telephone or by outreach workers

- Follow steps 1) to 3) as described in section 9.5.2, pertaining to assessing completion at the in-clinic follow-up (1- assess bleeding and cramping; 2 – assess whether pregnancy symptoms have stopped; 3 – review adherence to medication protocol).
- The woman should be assessed in person if:
  - symptom review or protocol adherence suggests problems
  - the clinician, outreach worker or the woman is in doubt regarding ongoing pregnancy.

Chapter

10 Performing a Manual Vacuum Aspiration (MVA)

Vacuum aspiration involves the evacuation of the contents of the uterus through a plastic cannula (or metal, if plastic is not available), attached to the vacuum source. With manual vacuum aspiration the vacuum is created using a hand-held, hand-activated plastic aspirator or syringe.

Vacuum aspiration is the preferred surgical method for up to 12 weeks of completed pregnancy, and its efficacy has been shown in several randomised control trials, with completion rates of between 95-100%[100]. MVA use is associated with an overall complication rate of about 2% due to incomplete abortion or perforation. This method is faster, safer, more comfortable and associated with shorter hospital stay for induced abortion than sharp curettage (D&C). Bleeding is lighter and shorter in duration than for medication abortion[101]. Furthermore, this method can be used safely and effectively by mid-level health service providers[102].

This chapter describes in detail the features of the commonly used MVA syringe and cannulae used for uterine evacuation in Cambodia. The care and use of these instruments is presented and the steps of how to perform a manual vacuum aspiration procedure using these instruments is described.

10.1 MVA Instrument features

MVA instruments consist of: i) a manual vacuum aspirator that produces suction and holds tissue and blood removed in uterine evacuation procedures, and ii) cannulae that are attached to the aspirator and used to apply suction to aspirate tissue from the uterus.

i. The manual vacuum syringe or aspirator: the MVA syringe commonly used in Cambodia is designed for multiple use, and usually has:

   - a hinged valve with a cap
   - a removable liner
   - a pair of buttons that control the vacuum
   - a plunger with a handle
   - a collar stop with a retaining clip
   - an O-ring and a 60cc cylinder.

   The MVA Plus® can be used with the EasyGrip® cannulae, flexible Karman cannulae and cannulae from other manufacturers.

   Aspirators are clean when shipped and must be high-level disinfected (HLD) or steriliseised before

[100] World Health Organization. 2003. Safe abortion: Technical and policy guidance for health systems. Geneva, WHO; Hemlin J, Moller B. Manual vacuum aspiration, a safe and effective alternative in early pregnancy termination. Acta Obstet Gynecol Scand. 2000;80:563-67.

[101] Say L, Brahmi D, Kulier R, Campana A, Gülmezoglu AM. Medical versus surgical methods for first trimester termination of pregnancy. Cochrane Database of Systematic Reviews 2002, Issue 4. Art. No.: CD003037. DOI: 10.1002/14651858.CD003037.pub2.

[102] Goldberg AB, Dean G, Kang MS, Youssof S, Darney PD. Manual versus electric vacuum aspiration for early first-trimester abortion: a controlled study of complication rates. Obstet Gynecol. 2004;103:101–7

using and between patients. However, like a speculum, aspirators do not have to be HLD or sterile at the time of use.

ii. The cannula: cannulae have either one aperture (9, 10 and 12mm sizes) or two apertures (4, 5, 6, 7 and 8mm sizes). The size of cannula used for an MVA depends upon the gestational age and size of the uterus- the longer the duration of the pregnancy, the larger the cannula needs to be.

    The winged base makes it easy to attach and remove a cannula to the aspirator. The Ipas EasyGrip® cannulae are interchangeable and do not need adaptors.

    The shelf life for packaged cannulae is three years - each cannula is pre-sterilised with ethylene oxide (ETO). In Cambodia, the cannulae commonly used are reusable after undergoing sterilisation or high-level disinfection (HLD between patients. Cannulae must be HLD or sterile when inserted into the uterus. Not all MVA syringes can be boiled or autoclaved only the MVA Plus® aspirators and EasyGrip cannulae can be steam-autoclaved. Other MVA cannulae can be processed with chemical sterilisation or high-level disinfection.

10.2 Uses and contraindications of the MVA syringe and cannulae

All syringes and cannulae up to 12mm are intended for uterine evacuation for treatment of incomplete abortion for uterine sizes up to 12 weeks since the LMP and for first-trimester abortions. It is also possible to use the cannulae for endometrial biopsy when indicated, but this should not be performed in cases of suspected pregnancy.

There are no known contraindications for other clinical indications.

As with any uterine-evacuation procedure, one or more of the following may occur during or after an MVA procedure:

1. vagal reaction
2. incomplete evacuation
3. uterine or cervical injury or perforation
4. pelvic infection or acute haematometra

Rarely, some of these conditions can lead to secondary infertility, serious injury or death.

MVA can be used in post-abortion care complications, such as those conditions often seen with incomplete abortion or with clandestine abortion. These include: shock, haemorrhage, cervical or pelvic infection, sepsis, perforation or abdominal injury. Any life-threatening conditions that are present when a woman seeks care should be addressed immediately. Once the woman's condition is stabilised, the MVA procedure should not be delayed.

The provider should not perform uterine evacuation until the size and position of the uterus and cervix have been determined. Large fibroids, uterine anomalies and blood dyscrasia may make it difficult to perform the MVA procedure.

It is important to match cannula size to the size of the uterus and the cervical dilation. Using a cannula that is too small may not remove all tissue and can reduce the aspirator's suction.

Suggested cannula size range relative to uterine size:

- Uterine size 4–6 weeks since the LMP: 4–7mm cannula
- Uterine size 7–9 weeks since the LMP: 5–10mm cannula
- Uterine size 9–12 weeks since the LMP: 8–12mm cannula

10.3 Processing MVA Instruments

With the worldwide increase of infectious agents such as HIV and hepatitis B (HBV) health-care providers must always use universal or standard precautions to protect themselves and their clients (see chapter 4 for more information).

MVA instruments must be properly cleaned and processed to prevent transmission of infections. The methods described here are consistent with the forthcoming National Infection Control Guidelines (2010)[103]. Care must be taken in sterilising or disinfecting equipment as the use of inappropriate methods may damage the instruments and render them unusable[104].

a. Decontamination soaking

After a procedure, all the surgical instruments should be soaked immediately after use to make them easier to clean. This includes the MVA syringe and cannula, and other items that have been in contact with blood or other body fluids. Note that the MVA syringe and cannula should be completely dismantled before soaking and cleaning.

The instruments should not be allowed to dry before cleaning as this may make it difficult to completely remove all contaminants.

Steps in soaking:

- Immediately after the MVA procedure, place all instruments in water or soapy water.
- Soak for at least 10 minutes and rinse.
- It is essential to wear utility gloves and face protection when cleaning instruments in case of splashes.
- Use gloves also when removing instruments from the soaking solution.

b. Cleaning

Cleaning is a crucial step to improve the quality of instrument processing. A thorough cleaning is necessary to remove blood and other organic materials in order to reduce the number of microorganisms and endospores on the soiled instruments and other equipment. Neither high-level disinfection nor sterilisation is effective without prior cleaning. Hot water should not be used because it can coagulate protein such as blood and making it difficult to remove.

Steps in cleaning

Metal instruments should be scrubbed using a brush in soap and lukewarm water to completely remove all blood, tissues and other residue particularly in the hinges, joints and grasping surfaces.

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[103] NOTE: the new Infection Prevention guidelines drafted in 2010 will follow WHO advice that paracetic acid should be used in high-level disinfection in place of chlorine. Chlorine should be used when paracetic acid is not available.

[104] NOTE: The Ipas MVA Plus® aspirators and Ipas EasyGrip® cannulae can be steriliseised by autoclaving.

MVA syringe should be:

- completely disassembled carefully by removing the collar stop and pulling the plunger out of the barrel gradually with a rocking motion, as because forcing and quickly pulling out of the plunger may result in cracking the barrel.
- The black O-ring should be removed from the plunger. For the double-valve syringe, the O-ring would be removed from inside the valve. The valve set should be removed to open it.

Caution: Do not use any pointed or sharp objects to clean the valve or to move the O-ring. This could damage the valve liner or the O-ring and prevent the device from maintaining vacuum.

- All the parts of the syringe should be washed in lukewarm detergent water, taking care to remove all traces of blood or tissues.
- The MVA syringe should be scrubbed with a soft toothbrush or cloth under the water to prevent spraying of organic material.

Cannula - during washing:

- detergent water should be drawn repeatedly into the cannula with the syringe to flush it out. Otherwise, smooth forceps or cotton tipped swab can be used to remove the remaining materials after flushing.
- Brushes or other small objects should not be used to remove these materials, as they can scratch the inside of the cannula, creating crevices where organic materials can become trapped.

c. Sterilisation or high-level disinfection (HLD)

Sterilisation is the safest and effective method for those instruments that come in contact with the blood stream or the tissues beneath the skin such as reusable needle, syringe and surgical instruments. Sterilisation eliminates all micro-organisms including bacterial endospores, especially the bacteria that cause tetanus and gas gangrene.

Sterilisation can be achieved by autoclaving, dry heat or chemical sterilisation. Effective sterilisation must be preceded by decontamination, careful cleaning, thorough rinsing and complete air-dry. Sterilisation or HLD can further inactivate organisms from the equipment. High-level disinfection can be used for more delicate instruments that cannot withstand sterilisation. For all MVA cannulae, sterilisation or HLD are the only acceptable methods of processing.

For sterilisation or HLD to be effective, all equipment must be physically cleaned first. The following methods are described in this chapter:

i. Steam sterilising (autoclaving)
ii. Chemical sterilisation
iii. HLD by chemical disinfection

i. Steam sterilising by autoclave

This is the method of choice for reusable surgical instruments. There are two types of steam sterilisers recommended for Cambodia – the small portable pressure cooker steriliser and the larger autoclave (electricity or gas). The process described here is for the smaller pressure cookers, but the process Is similar for larger autoclaves. Please refer to the National Infection Control guidelines and the operating manual for the autoclave for more details as the correct procedure will ensure sterilisation to be achieved.

- Put water in the bottom of the autoclave - up to the ridge located on the inner wall.
- Make sure all equipment is double wrapped. Unwrapped items or single wrapping are not allowed.
- Place items in the autoclave and arrange them loosely, so steam can circulate around them.
- Steam must reach all surfaces to ensure sterilisation is achieved. Instruments must be left open and/or disassembled. Gauze drums must have their vent holes left open to allow steam to pass into the drum; boxes must be left open so that steam can reach all surfaces (unless they have vented holes like gauze drums).
- Sterilisation tape is required both inside the pack (to ensure sterilisation of contents) and outside.
- Do not overload the steriliser otherwise the items will not be sterilised.
- Place the autoclave over the heat source (e.g. electric stove, gas, kerosene burner, wood or charcoal) and turn to high heat. Once steam is emitted from the pressure valve, begin timing the sterilization cycle. The heat can be reduced, but steam must continue to be emitted for the sterilisation to be taking place. If it stops, the temperature and pressure must be reached and timing restarted.
- The pressure must reach 121 °C (250 °F) and 106 kP/15 lbs/inch2 (psi) and be maintained for 30 minutes.
- Once the time has been reached, turn off the heat or remove from the fire, open the pressure valve to release all steam and allow the autoclave to cool before opening it. The heat within the autoclave will allow items to completely dry.
- Leave instrument packs in the pressure cooker for about 30 minutes so they can dry completely
- Remove items, record sterilisation date on the autoclave tape and store them in a cupboard with doors.

Figure 10.1 showing correct wrapping technique for instrument autoclaving

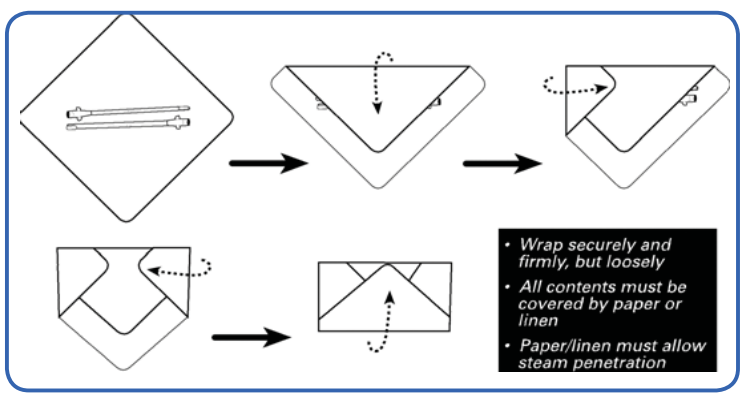


Figure 10.2 showing organisation of instruments for sterilisation

ii. HLD by boiling

Boiling is a simple method of HLD that can be performed in any location that has access to clean water and a heat source. Using this method, instruments and other items are placed in a pot or boiler and the water is heated to boiling for 20 minutes.

The two recommended chemical HLD are Gluraldehyde and Peracetic Acid (or chlorine if paracetic acid is not available).

- Place items in 2% Glutaraldehyde solution for 45 minutes at 20 oC or 0.2% Peracetic acid (or chlorine) solution for 10 minutes
- Rinse with boiled water.
- Transfer with sterile or HLD pick up forceps.
- Drain water and air dry before storing in HLD container.
- Use within 24 hours unless contaminated.
- Soak all the instruments to be disinfected and completely immerse them in water so that there is at least 2.5cm of water above the instruments.
- Close the lid of the pan and bring the water to the boil, but not too vigorously. A time should be used to boil instruments for 20 minutes from when the water reached boiling point.
- Nothing should be added or removed from the pan once boiling has started.
- Instruments should be removed from the water with sheatle forceps which have been autoclaved or HLD. Never leave boiled instruments in water that has stopped boiling as this can lead to contamination.
- If the items are not used immediately, they should be air-dried and stored in a covered, high-level disinfected container for up 24 hours only. Instruments that have been boiled more than 24 hours ago have to be boiled again. The boiling pan should be cleaned each time more water is added and water replaced at least daily or more often if required.

iii. HLD by chemical disinfection

The two recommended chemical HLD are gluraldehyde and peracetic acid (or chlorine if not available).

- Place items in 0.2% peracetic acid solution for 10 minutes or chlorine for 20 minutes.
- Rinse with boiled water.

- Transfer with sterile or HLD pick up forceps.
- Drain water and air dry before storing in HLD container.
- Use within 24 hours unless contaminated, and re-process if contamination occurs of if more than 24 hours passes since last HLD.

d. Storage and Reassembly of the MVA equipment

Items should be stored in a dry, covered, high-level disinfected or sterile container with tight fitting lids. Instrument should be removed from the container with a sterile or high-level disinfected lifter forceps. Particular care is required in the storage of the MVA equipment as described below.

Storing the sterile cannula:

- Cannulae that are sterilised in chemical solution should be removed with sterile lifter forceps by holding the non-aperture end of the cannula that usually connects to the syringe and rinsed well with sterile water.
- Air-dry and wrap in sterile cloth without touching the instrument.
- Sterile package should be dated and used within one week.
- If not used within one week, the items should be re-cleaned and re-sterilised.
- If the cannula packages become wet, then the cannula loses sterility and would therefore need to be reprocessed.
- Store sterile package in areas with enclosed shelves off the floor to protect them from dust and debris. Alternatively, sterile cannula may be stored in a sterile, covered tray for up to a week as long as sterile technique is maintained. Otherwise, they have to re-sterilised.
- Store small numbers of cannula in each container to minimise the risk of contamination.

Reassembling the MVA syringe

- The O-ring should be replaced on the plunger and can lubricated using one drop of silicone or glycerol spread around the ring with a gloved fingertip.
- The MVA syringe should be reassembled by holding the plunger arms together and inserting the plunger into the barrel.
- Reattach the collar stop.
- Push the plunger in and out several times to distribute the lubricant in the barrel.
- The syringe should be checked for vacuum. This should be done after cleaning and again immediately before use by closing the pinch valve and pulling out the plunger until the locking arms catch. The syringe should be left in this position for 2-3 minutes, and then the pinch valve(s) released. A rush of air into the syringe should be heard indicating that the syringe maintains a vacuum.
- If the sound of rush of air does not occur, then remove the plunger and check the O-ring for foreign particles, cracks or wear and check the syringe barrel for cracks.
- If the parts of the syringe appear undamaged, reassemble, then repeat the test.
- If the syringe still loses vacuum when tested, replace the valve and nozzle and repeat the test.
- If there is still a problem, the syringe should be discarded.

Storing the MVA syringes

- The syringe should be stored in covered containers that will protect them from dust or other contaminants.
- It is not necessary to reprocess the syringes unless they become contaminated or used within one week. If not used within 1 week of sterilisation, the syringe should be cleaned and re-sterilised.

e. Disposal and replacement of the MVA equipment

Dispose of contaminated aspirators and cannulae as infectious waste. If any of the following have occurred, the instruments should be discarded and replaced:

Aspirators / syringes:

- Cylinder has become cracked or brittle
- Valve parts have become cracked, bent or broken
- Buttons have broken
- Plunger arms no longer lock
- Aspirator no longer holds a vacuum
- Mineral deposits inhibit the plunger movement.

Cannulae:

- Cannula has become brittle
- Cannula has become cracked, twisted or bent, particularly around the aperture
- Tissue cannot be removed during the cleaning process.

Table 10.1 summarising options for processing instruments

Instrument	How supplied	Minimum level of processing required for use	Processing:	STERILISATION	HIGH-LEVEL DISINFECTION	
				Steam autoclave[a]	Chlorine / paracetic acid[b,c]	Boiling
MVA Plus® aspirator	Clean aspirators must be high- level disinfected or sterilized before first use	Sterilisation or high level disinfection	All instruments that are reused should be kept wet until cleaning. 0.2% peracetic acetic solution can be used. CAUTION: Letting instruments dry before cleaning makes it difficult to remove all contaminates. To clean instruments, wash all surfaces thoroughly in warm water and detergent. Detergent is preferable to soap, which leaves a residue.	✓	✓	✓
Single-Valve aspirator	Clean aspirators must be high- level disinfected or sterilised before first use	Sterilisation or high level disinfection		✗	✓	✗
EasyGrip® cannula	Sterilise	Sterilization or high-level disinfection		✓	✓	✓
flexible Karman cannula	Sterilise	Sterilization or high-level disinfection		✗	✓	✓

[a] Steam autoclaving requires careful maintenance of the correct temperature. In Cambodia, autoclave equipment is not always well maintained so in Natiomal CAC Training course, HLD is taught.

[b] Pericetic acid is a hazardous substance. If processing instruments or for cleaning procedure room surfaces, take necessary precautions such as using personal protective equipment. Refer to the manufacturer's safety instructions to establish safe use.

[c] Paracetic Acid is preferred to chlorine. The forthcoming National Infection Control Guidelines (2010) will suggest using paracetic acid, but chlorine should continue to be used until paracetic acid is available.

10.4 Pain management

Pain and its management during abortion procedures is detailed in chapter 7. The purpose of pain management is to help the woman remain as comfortable as possible, while minimising risks and side effects.

The provider should explain to the woman that an MVA procedure is usually brief, lasting less than 10 minutes. However, during that time she probably will experience at least some discomfort. Together, the provider and the woman should decide on a pain-management plan that meets her needs and gives her control over which options are chosen. An example of a common pain-management plan for MVA includes:

- verbal reassurance and gentle clinical technique
- oral analgesics 60 minutes prior to the procedure
- paracervical block.

Health-care workers should never withhold pain medication or treat women roughly, particularly as punitive measures. They should strive to provide the woman with respectful care and appropriate information, which can help her relax and reduce her perception of pain.

10.5 Performing a uterine evacuation procedure

10.5.1 Precautions prior to performing an MVA procedure

Before beginning, the provider should confirm the uterine size and position (see the chapter 3 for more information).

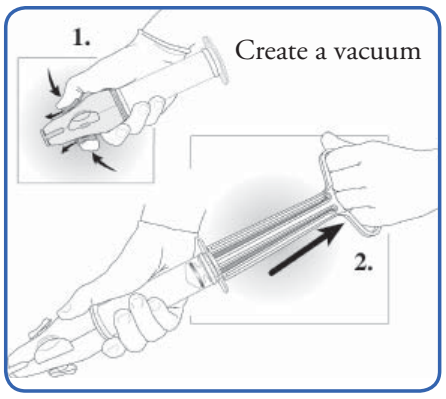
10.5.2 Steps for Performing MVA

The ten steps for performing a MVA are described in this section below, and guide providers through the details in performing a procedure.

Step 1: Prepare instruments

With the MVA syringe a vacuum should be prepared in the aspirator and checked before beginning the procedure. To prepare a vacuum in the aspirator, follow these steps:

- Begin with valve buttons open, plunger all the way in and the collar stop locked in place.
- Close valve by pushing buttons down and forward until they lock.
- Pull plunger back until plunger arms catch on the wide sides of cylinder. Both plunger arms must be fully extended and secured over the edge of cylinder. Incorrect positioning of arms can allow them to slip inside the cylinder, possibly injecting contents of the aspirator back into the uterus.
- The vacuum-charged aspirator should never be grasped by the plunger arms.
- Next, push the buttons to release the vacuum. A rush



of air indicates vacuum was retained.

- If the rush of air is not heard, displace the collar stop, withdraw the plunger and check the following:
  - that instrument is properly assembled
  - inspect O-ring for proper positioning and lubrication
  - if damaged, replace O-ring
  - check syringe is firmly in the valve
- Next, create a vacuum and test it again. If the vacuum is still not retained, use another aspirator. Have more than one MVA ready for use.

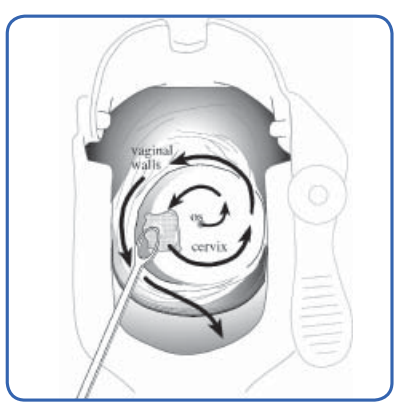
Step 2: Prepare the woman

Appropriate client preparation, counselling and informed consent should be done before the MVA procedure.

- Ensure pain medication was given at the appropriate time.
- Ask the woman to empty her bladder.
- Help the woman onto the procedure table and ensure that she is securely positioned.
- Ask the woman for permission to start.
- Wash hands and put on appropriate barriers, including gloves.
- Perform a bimanual examination to confirm or update findings of the earlier clinical assessment. If there is doubt about the uterine size but the provider must continue with the procedure, the pregnancy should be treated as if it is further advanced than was initially suspected.
- Insert the speculum.

Step 3: Perform cervical antiseptic prep

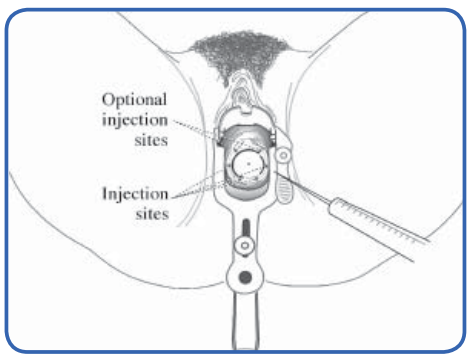
- Follow the no-touch technique throughout.
- Use sponges soaked in antiseptic to clean the cervical opening or os and, if desired, the vaginal walls:
  - With each new sponge, start at the os and spiral outward
  - Continue until the os has been completely covered by antiseptic



Step 4: Perform paracervical block

To minimise adverse events, use the lowest anaesthetic dose possible, usually 10-20mL of 1% lidocaine solution. Always use less than 200mg per person, as toxicity occurs at that level.

- Inject 1 - 2mL of anaesthetic where the tenaculum will be placed (usually at the 12 o'clock position on the face of the cervix).
- Place the tenaculum at the anaesthetised site.



- Use slight traction to move the cervix and define the transition of smooth cervical epithelium to vaginal tissue. This transition marks the site of further injections around the cervix. Compared to cervical tissue, vaginal mucosa is more elastic and appears folded.
- Slowly inject 2 - 5mL of lidocaine into each injection site at 4 o'clock and 8 o'clock positions. Inject to a depth of 2.5 - 3.8cm (1 - 1.5 inches), taking care to draw back and check for blood each time before injecting to a new site. Injecting slowly reduces the discomfort to the woman.

Step 5: Dilate cervix

Cervical dilatation is required in most, but not all, cases. Cervical dilatation is an essential step if the cervix is closed or is not yet sufficiently dilated.

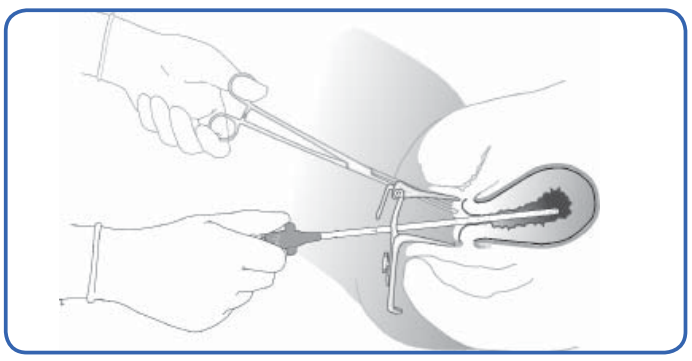
- Carefully examine the position of the uterus and cervix and to use gentle operative technique.
- Dilate the cervix until it is possible to allow a cannula approximate to the uterine size to fit snugly through the os. Use mechanical dilators or progressively larger cannulae, being careful not to tear the cervix or create a false opening. The provider should dilate gently and should never use force.

Uterine tears or perforation can occur, particularly if the provider miscalculates the position, size and depth of the cervix and uterus or uses force to insert instruments.

Dilatation or cervical preparation may also be accomplished by administering misoprostol, where available. For more information, see Appendix 7.

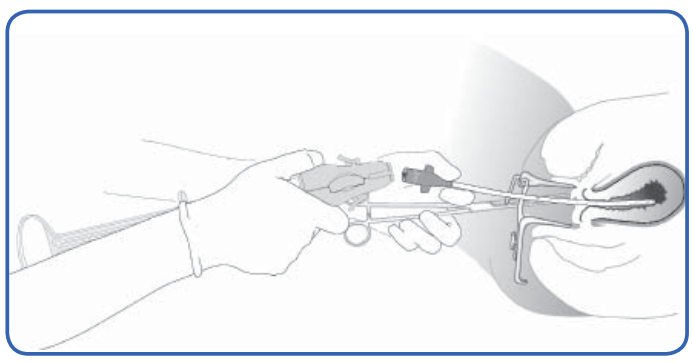
Step 6: Insert cannula

- Gently apply traction to the cervix.
- Insert cannula just past internal os. rotating the cannula while gently applying pressure often helps insertion.
- Insert the cannula slowly until it touches the fundus, then draw it back.
- Remain alert to signs that may indicate perforation throughout the procedure (such as pain or bleeding) , and stop suction immediately if they appear.

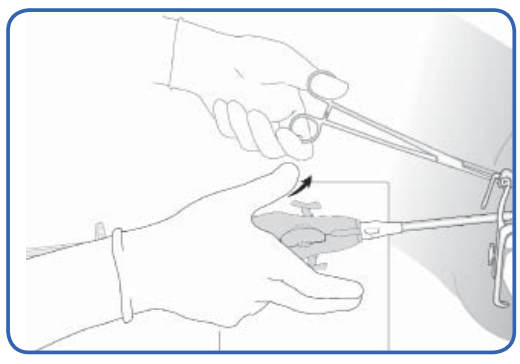


Step 7: Suction uterine contents

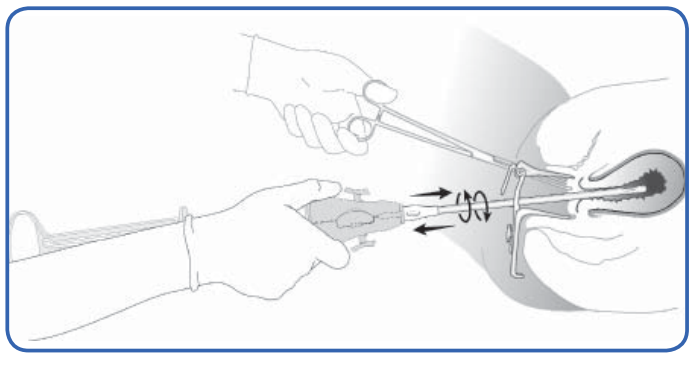
- Attach the prepared MVA aspirator to the cannula whilst holding the holding the tenaculum and the end of the cannula in one hand and the aspirator in the other hand.



- Suction is started by pressing the buttons in; suction will start immediately.



- Evacuate the uterine contents by gently and slowly rotate the cannula 180 degrees in each direction, using an in-and-out motion.



- Blood and tissue will be visible entering the cylinder through the cannula.
- It is important not to withdraw the opening of the cannula beyond the cervical os, as this will cause the vacuum to be lost. If this happens, or if the aspirator is full, detach cannula from aspirator and re-establish the vacuum.

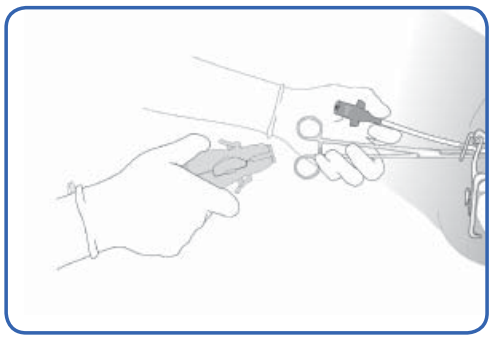
  The following signs indicate that the uterus is empty:

  - red or pink foam appears and no more tissue is seen passing through the cannula
  - a gritty sensation is felt over the surface of the evacuated uterus
  - the uterus contracts around (grips) the cannula

- increased uterine cramping or pain (a sign that the uterus is contracting).

When the procedure is finished:

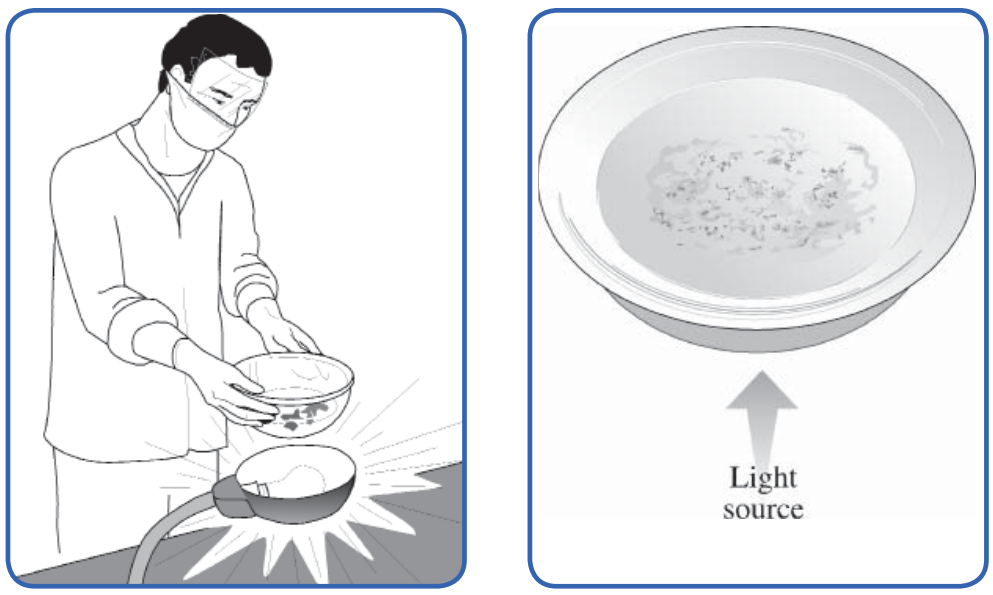
- Push buttons down and forward to close valve.
- Disconnect the cannula from the aspirator OR withdraw the cannula and aspirator together without depressing the buttons.
- Keep the instruments available in case re-aspiration is required.



Step 8: Inspect tissue

- Empty the contents of the aspirator into container by removing the cannula.
- Do not push aspirated contents through the cannula, as it will become contaminated.
- The tissue should be strained, immersed in water and viewed with light from beneath.
- Inspect the tissue for these signs:
  - The quantity and presence of products of conception (POC); villi and decidua
  - Complete evacuation (amount of tissue should correspond to uterine size). The absence of villi or any POC in a patient with symptom of pregnancy raises strong possibility of etopic pregnancy.
  - Molar pregnancy (grape-like chorionic villi seen).
- If indicated, tissue specimen may also be sent to a pathology laboratory.
- If no POC or less tissue than expected are visible, this could indicate:
  - incomplete abortion and the uterus is still likely to contain POC. This may result from using a cannula that is too small or stopping the procedure prematurely.
  - a spontaneous abortion that has already completed itself
  - a failed abortion or incorrect estimation of length of pregnancy
  - suspected ectopic pregnancy : When no villi or decidua are seen, ectopic pregnancy is a possibility and should be followed up on immediately.
  - anatomical anomaly: For example, in a bicornuate (two branches) uterus, the cannula may have been inserted into the side of the uterus that did not contain the pregnancy.
- If it appears after inspection that tissue may still be present in the uterus, re-evacuate the uterus.
- Wipe the cervix clear with a clean swab to assess the amount of blood still coming from the uterus or any other source before removing the speculum.
- If significant bleeding continues or other issues are identified, intervene as needed. (See chapter 11 for more information.) Use clinical judgment to determine if a bimanual exam is necessary

to check the size and firmness of the uterus.



Step 9: Perform any concurrent procedures

When the MVA procedure is completed without any complications, proceed with any contraceptive or other concurrent procedures to be conducted, such as inserting an IUD, performing female sterilisation or repairing a cervical tear.

Step 10: Take immediate post-procedure steps, including instrument processing

- Immediately process or discard all instruments, including the aspirator and cannula, according to instrument-processing procedures as described in section 10.3, above.
- Remove barriers such as gloves, and wash hands.
- Reassure the woman that the procedure is finished.
- Help her into a comfortable resting position on the table.
- Ensure she is escorted to the recovery area.
- Record information about the procedure in her medical chart and the Client Record register.

10.6 Solving instrument technical problems

In most MVA procedures, the aspirator vacuum remains constant until the aspirator is approximately 80%, or 50mL, full. However, if there is a decrease in the vacuum, this may be because the aspirator is full, the cannula is withdrawn past the os prematurely, the cannula is clogged or there is a loss of vacuum due to incorrect assembly. How to tackle these problems is outlined below.

a) Aspirator is full If the cylinder fills up too much, the suction can stop. If this occurs:

- Close or depress the valve buttons and detach the cannula, leaving the cannula in place in the os.
- Release the buttons, then empty the aspirator into a container by squeezing the plunger arms, And pushing the plunger forward
- Re-establish a vacuum and reconnect the aspirator to the cannula, release the buttons and

resume the aspiration. Some providers prefer to keep a second aspirator available during the MVA procedure in case the first one fills up.

b) Cannula is withdrawn prematurely

- Remove the cannula and aspirator without touching vaginal walls.
- Detach and empty it and then re-establish a vacuum.
- Reconnect aspirator to cannula if it has not been contaminated (if contaminated, use another sterile or HLD cannula instead).
- Continue evacuation.

c) Cannula is clogged

- Ease cannula back toward, but not through, the external os.
- Depress buttons and withdraw aspirator and cannula out of uterus.
- Alternately, remove the cannula without depressing the buttons.
- Remove the tissue with sterile or HLD forceps.
- If necessary, reinsert the cannula reattach the aspirator and continue the procedure.
- Never try to unclog the cannula by pushing the plunger back into the cylinder while the cannula is in the uterus.

d) Aspirator loses vacuum

This may occur because of incorrect assembly of the equipment.

- Check O-ring for damage.
- Reassemble and test the vacuum of the instrument.

The next chapter describes the aftercare and follow up for a client who has had a MVA.

Chapter

11 Recovery & Follow Up Care After an Aspiration Abortion

This section describes the recovery and follow-up care required for an aspiration abortion. The process is similar for surgical abortions conducted in the first or second trimester, and for medication induction abortion in the second trimester.

11.1 Recovery

After an uncomplicated abortion, the woman should remain in the health-care facility for at least 30 minutes after a first-trimester abortion (and for at least one hour after a second-trimester abortion) so that the health care team can ensure that she is in a stable condition. The length of the recovery period will vary depending on the woman's condition, the ease of the procedure, the types of pain medication administered and any other procedures performed.

The woman should lie down or recline in a position that is comfortable for her. The recovery period also presents an opportunity in which to provide women with information and educational materials, including follow-up instructions and information on birth spacing and contraception.

11.1.1 Observation

The woman should be observed until:

1. she has a stable pulse and blood pressure,
2. is able to walk comfortably on her own, and
3. is able drink fluids without vomiting.

The health-care provider should take the woman's pulse and blood pressure, when she first arrives in the recovery room, again after approximately 30 minutes. The provider should evaluate the woman's bleeding at least twice before she is discharged to confirm that bleeding and cramping have decreased.

11.1.2 Possible complications in facility

It is possible that the woman may have a reaction to local anaesthesia or other drugs used before or during the procedure. The health-care provider supervising the recovery room should be trained in cardiopulmonary resuscitation (CPR) and must also be skilled in administration of antagonists for drugs used.

The most serious complication is uterine perforation or haemorrhage, although as previously discussed, this is rare among well-trained and skilled providers. The provider who carried out the procedure must be notified if the woman develops any of the following signs of perforation or hypovolaemic shock:

- Severe abdominal pain or cramps
- Irregular pulse or change in pulse rate of more than 20 beats / minute
- Decrease in blood pressure of more than 20 mm Hg
- Pallor, increased perspiration or clammy skin
- Heavy vaginal bleeding that soaks a sanitary pad/towel in 15 minutes

If there is a suspected complication, the provider must assess the woman and determine the appropriate treatment without delay, referring if necessary. See chapter 12 for more details.

11.2 Providing after-care information

When the woman has sufficiently recovered, the staff must provide her with information about what to normally expect post-recovery, what the possible side effects are and how to recognise warning signs that could indicate complications. The recovery period also presents an important opportunity to provide women with contraceptive services, including counselling, follow-up instructions, and other pertinent information and education.

Signs of a normal recovery

In order to identify warning signs, women need to be informed of what to expect in a normal recovery, including:

- She will experience some vaginal bleeding: bleeding may be as heavy as a period for the first week. If her bleeding increases rather than decreases in the following week, she should contact the facility.
- She may have some cramping, and this is normal. If her cramping increases rather than decreases or if she has a fever or severe abdominal pain, she should contact the facility.
- Short-term feelings of depression are common, but most women overcome their sadness.

Possible warning signs

The provider should explain that although not common, it is possible for some women to develop severe infections or show signs of heavy blood loss. The provider should describe warning signs of possible complications and tell the woman that if any of the symptoms occur, she should return to the facility immediately. These warning signs include:

- fever or chills for more than 24 hours
- Bleeding heavily enough to cause weakness or dizziness, or bleeding that gets heavier
- Foul-smelling discharge from the vagina
- Strong abdominal pains
- Fainting, dizziness or weakness
- Inability to eat or drink; vomiting or feeling nauseous.

Fertility and contraception

Women who have had an abortion should be made aware of the possibility that she can become pregnant again very soon after an abortion, and that she can delay or prevent another pregnancy by using modern birth spacing methods. These are discussed further in chapter 13.

After care instructions

To avoid or identify possible complications, women should be provided with the following advice:

- not to place or insert anything in the vagina, as that could cause an infection and to use sanitary pads or clean rags can be used until the bleeding stops.
- Return for a follow-up appointment within 2 weeks – provide a time and location.
- If appropriate, referrals should be made for any other reproductive health issues required.

11.3 Discharge from the facility

The woman may be discharged once she has recovered, is tolerating food or liquids and has stable vital signs. This is usually around 30-60 minutes after the procedure has ended, but may be longer for some.

Women should receive a written and illustrated instruction sheet, with the names of the nearest referral hospital and health centre that are qualified to manage any complications. She should leave with a plan for a follow-up examination, and this may be at a convenient facility if one is closer to her home.
After first-trimester abortions, most women can return to their usual activities and responsibilities within several hours after the procedure, although they should avoid strenuous lifting or difficult activities for a few days.

11.4 Follow-up visit and care

The woman should be scheduled for a follow-up visit approximately one to two weeks after the abortion procedure, or anytime sooner if she has a problem. There are two main reasons for the follow-up visit:

- To address any concerns, unresolved physical complications, birth spacing services (including emergency contraception if required), or emotional issues.
- To provide preventive care and referrals for other services not provided at the follow-up facility.

Some women will have experienced complications during or after the abortion procedure. At the follow-up visit, providers should ensure that any existing complications have been resolved and that no new complications have developed. Women who do present at their follow-up visit with acute medical problems should be assessed, stabilised immediately and then treated. If adequate care cannot be provided at the facility, women should be referred or transferred without delay.

In most cases, however, the woman will not be experiencing serious complications, and the visit will allow the provider to spend time with her when she may be less anxious than at the time of her initial visit. The follow-up visit is also an ideal time for the woman to receive individualised attention and care from a counsellor, and to learn about or access contraceptive services and other resources that can improve her overall health and well-being.

Routine follow-up care may include some or all of the following clinical elements:

- Reviewing any available medical records and referral documents with the woman
- Assessing the general physical status of woman:
  - Vital signs including temperature
  - Any bleeding experienced
  - Current pain or cramps
  - Pain medication taken, both past and present
  - Current contraceptive use
  - Signs of physical abuse
- Conducting a pelvic examination to assess uterus size and tenderness and rule out retained

tissue or infection. During the pelvic exam, evaluate for Chlamydia, gonorrhoea or other STIs in cases where women experience unusual discomfort, cervical motion tenderness, pus-like or foul-smelling discharge, or other indication of STIs.

- Determining whether symptoms of pregnancy (such as nausea and breast tenderness), have ceased, in order to rule out continuing pregnancy.
- Consider re-evacuation of the uterus if there are signs that the tissue was not entirely removed.
- Following up on any diagnostic tests administered before or during abortion care, such as screening for cervical cancer or STIs or other tests.
- Identifying and managing and physical conditions that require medical attention, including any complication that occurred.

The follow-up visit is an ideal opportunity to further discuss the woman's birth spacing needs. She is likely to be more relaxed and able to consider birth spacing options without having the pending abortion procedure to worry about. This is discussed further in chapter 13.

Chapter

12 Managing Major Abortion Complications & Emergencies

When performed by a trained provider, abortion procedures rarely result complications. If and when complications do occur, it is important to be prepared to diagnose and treat the complication quickly and safely, or refer the woman to an appropriate facility at any hour of the day. Serious complications are uncommon and can usually be treated by general emergency medical and surgical care. Facilities and skills required to manage abortion complications are similar to those needed to care for women who have had a miscarriage.

Complications can occur up to several weeks after the abortion. Many of the same complications can occur at different times; the problems may look different depending upon when they occur. In addition to the guidelines, it is important to rely on your professional clinical judgment and general gynaecology training.

This chapter provides an overview of managing complications. It starts by providing an overview of possible complications by abortion method. Section 12.2 then goes on to detail the treatment of possible acute complications as recognised by main symptoms, and explains the clinical assessment required. Section 12.3 covers the possible complications following an MA that can be detected at the follow up visit.

12.1 Overview of possible complications

Table 12.1 provides an overview of the possible complications and their associated signs, symptoms and treatment.

Table 12.1 showing possible complications associated with medical and surgical abortions, signs, symptoms and treatment

Complication	Cause	Signs & Symptoms	Treatment
MEDICAL ABORTION			
Persistent Gestational Sac	Occasionally, the pregnancy is not expelled and is not viable.	Heavy bleeding.	Usually occurs without further intervention.
Continuing Pregnancy	Unlikely if gestation is less than 9 weeks. More likely when misoprostol has been used alone.		Uterine-evacuation, preferably with vacuum aspiration.
Haemorrhage	Rare, assuming there is no physical trauma to the pelvic organs.	Heavy bleeding.	vacuum aspiration along with fluid replacement and, in some instances, transfusion.
Infection	Rare, but due to retained products of conception	Fever, pain, possibly bleeding.	broad-spectrum antibiotic treatment followed by uterine evacuation with vacuum aspiration.
Undiagnosed Ectopic Pregnancy	Pre-existing – not a complication of MA, but may be undiagnosed prior to procedure.	• Uterine size that is smaller than expected • Sudden, intense and persistent lower abdominal pain orcramping, initially one-sided then generalized, that may beaccompanied by: - irregular vaginal bleeding or spotting - palpable adnexal mass • Fainting, shoulder pain, rapid heartbeat or light-headedness (from internal bleeding). Internal bleeding is not necessarily accompanied by vaginal bleeding.	Referral for surgical treatment urgently– MVA and MA cannot terminate an ectopic pregnancy and this is a life threatening condition.
Rarer Complication: Disseminated Intravascular Coagulopathy (DIC)	blood fails to clot and normal bleeding progresses into serosanguineous flow.	Signs of venous thromboembolism, petechiae (red or purple spot on the body, caused by a minor haemorrahge)on the soft palate and legs from thrombocytopenia.	Requires aggressive treatment in an emergency-care setting. Therapy involves eliminating the precipitating cause, administering a clotting factor and replacing the blood volume lost.
MANUAL VACUUM ASPIRATION			
Retained POC	Retained POC are decidua and foetal tissue that have remained in the uterus after a spontaneous or induced abortion.	Immediate: • Heavy vaginal bleeding • Less tissue than expected • Sharp or cramping lower abdominal pain Delayed: • Enlarged and softened uterus & Uterine tenderness • Fever • Elevated white blood cell count	Obtain cervical cultures, if possible, and then treat the woman with a full course of broad-spectrum antibiotics.

Complication	Cause	Signs & Symptoms	Treatment
Continuing Pregnancy (or failed abortion)	Failure to evacuate the gestational sac, passage of instruments into the uterine wall without entering the uterine cavity, severe uterine anteversion or retroversion, uterine anomalies such as bicornuate uterus, extrauterine pregnancy, and aspiration of only one sac of a multiple pregnancy	• Positive pregnancy test • Increasing pregnancy symptoms, such as breast tenderness and fatigue • Less vaginal bleeding than expected • Enlarged & softened uterus, larger than prior to uterine evacuation • Inadequate amount of POC based on estimated duration of pregnancy	Uterine-evacuation, preferably with vacuum aspiration.
Uterine Atony	The uterus loses muscle tone and does not stop bleeding. Common in multiparous women and those with later pregnancies.	• Copious vaginal bleeding • Large, soft, boggy uterus	Uterine massage and uterotonics
Cervical, Uterine and Abdominal Injuries	Cervical lacerations can occur, for example, from movement of the tenaculum or dilatation. Uterine perforations occur are usually very small.	During the procedure • Excessive vaginal bleeding • Sudden, excessive pain • Instruments pass further than expected • Aspirator vacuum decreases • Fat or bowel in aspirate postprocedure • Rapid heart rate • Falling blood pressure • Pelvic tenderness • Fever and/or elevated white blood cell count	Small uterine perforations may possibly resolve without the need for surgical intervention. Where available, laparoscopy can be used to investigate the perforation, diagnose any associated abdominal injuries and perform a laparotomy to repair injuries, if needed.
Cervical, Uterine and Abdominal Injuries Medication-Related Complications	Rare, but can be due to overdosage, intravascular injections or a hypersensitivity reaction.	• Dizziness • Muscular twitching or seizures • Loss of consciousness • Drop in blood pressure and/or pulse • Respiratory depression	Use of reversal agents, treating respiratory and cardiac depression and stabilizing convulsions.
Haematometra	Accumulation of blood clots in the uterine cavity when the uterus cannot properly contract.	• Enlarged, firm, tender uterus • Pelvic pressure • Intense cramps and pain • Lightheadedness • Mild fever • Scant vaginal bleeding	Re-evacuation with vacuum aspiration.
Vasovagal Reaction	Vagal-nerve stimulation during a vacuum-aspiration procedure.	• Fainting/loss of consciousness • Cold or damp skin, drop in pulse rate • Dizziness, Nausea • Moderate drop in blood pressure	In most cases, women will recover within 60 seconds and will not require further treatment. In very rare cases, atropine injection will be necessary.

Note: Ectopic Pregnancy must be considered a possible diagnosis when women present with bleeding in the first trimester of pregnancy, especially at earlier stages of gestation. Clinically, a woman presenting with ectopic pregnancy can appear very similar to one presenting with threatened abortion.

12.2 Clinical assessment

Several life-threatening conditions requiring immediate treatment may be present at the same time. A complete clinical assessment or reassessment will be is necessary to determine which conditions are present in order to decide the order in which to treat them. Table 12.2 describes the clinical assessment to be conducted when a client presents for follow up.

Table 12.2 showing clinical assessment procedure for women presenting with abortion-related complications

History	• Amenorrhea (how long ago did she have her LMP? • Bleeding (duration and amount) • Cramping (duration and severity) • Abdominal or shoulder pain • Drug allergies • Any possible interference with a pregnancy
General physical examination	• Check and record vital signs (pulse, temperature, respirations and blood pressure). • Note general health and nutritional status (malnourished, anemia). • Examine lungs, heart, abdomen and extremities (in examining the abdomen, first check for bowel sound, then check abdominal distension and rigidity (tense and hard); rebound tenderness, abdominal masses and pain (presence, location and severity).
Pelvic examination	• Remove any visible products of conception from the vaginal canal or cervical os. • Note if there is a foul-smelling discharge. • Note the amount of bleeding and whether the cervix is open or closed. • Check for cervical or vaginal lacerations. • Perform a bimanual exam: Estimate the size of the uterus, check for any pelvic masses and pelvic pain (severity, location and what causes the pain at rest, with touch and pressure and with movement of the cervix).
Laboratory Investigation	• If there is evidence of shock: complete blood count, Hb %, Blood groups and cross matching. • Others depending on initial assessment. • Patient's Rh status should be done during the clinical assessment if Rhogam is available for treatment.

12.3 Management of complications by symptom

The most serious potential complications are related to haemorrhage and sepsis. This section therefore starts with a description of complications that can lead to shock and how to manage this as an emergency situation. The following sections then go on to describe the clinical assessment for women presenting with complications (this may be after stabilisation of a woman who attends in shock). How to manage each of the complications is detailed.

12.3.1 Shock

Shock with abortion most often results from haemorrhage or sepsis and is life-threatening.

Figure 12.1 showing causes of shock related to abortion procedures

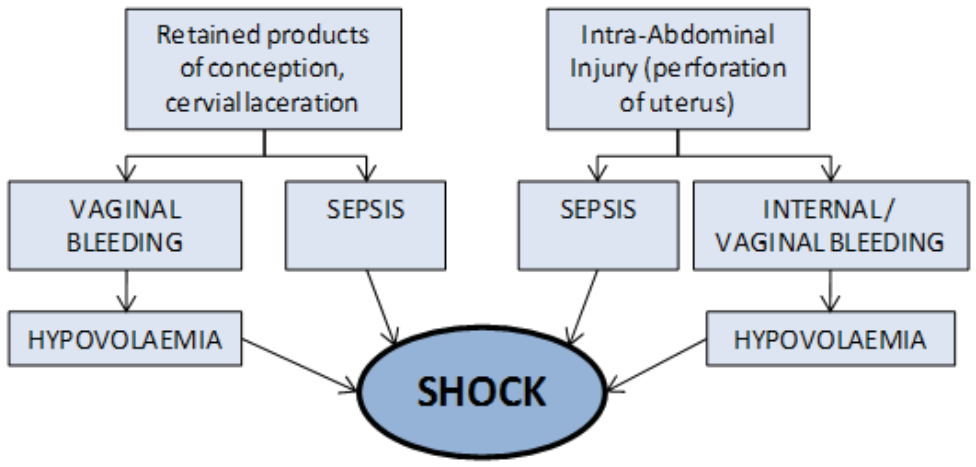


Table 12.3 showing early and late signs of shock

Early shock	Late shock
1. Awake, aware, anxious 2. Slightly fast pulse (110 per minute or more) 3. Slightly fast breathing (30 per minute or more) 4. Pale 5. Low blood pressure (systolic less than 90 mm Hg) 6. Lungs clear 7. Uterine output (30mls per hour or more)	1. Confused, semiconscious or unconscious 2. Very fast and weak pulse 3. Extremely fast and shallow breathing 4. Pale and cold 5. Very low blood pressure and possible heart failure 6. Pulmonary oedema (fluid in lungs) 7. Uterine output (less than 30mls per hour or complete anuria or total lack of urine)

Management of shock

Immediate treatment is required to save the woman's life and once she is stable the cause of shock can be treated. The initial steps to take in stabilising a shocked client is described in box 12.1 that follows.

Box 12.1 outlining the universal life-saving measures for the management of shock and stabilisation of most underlying complications

1. Keep the patient warm
2. Raise the legs and lower the head (if the patient can tolerate)
3. Make sure that the airway is open and clear: protect the airway by turning the head to either side for avoiding aspiration of vomitus
4. Allow nothing by mouth
5. Administer oxygen (6-8 L/min) by mask or nasal cannula
6. Restore fluid volume with Ringer's Lactate, Isotonic Saline or Dextrose - at a rate of 1 litre in 15 -20 minutes (if required, 3 litre of fluid can run in quickly to stabilise)
7. Monitor closely for the signs of improvement or deterioration.

12.3.2 Haemorrhage

Prolonged or excessive bleeding related to abortion is usually caused by either:

- retained products of conception (incomplete abortion)
- trauma to the cervix (cervical trauma or laceration)
- trauma to the uterus including perforation of the uterus.

For clinical descriptions, it is useful to be able to define the quantity of bleeding as mild, moderate or severe. This helps with diagnosis and treatment.

Mild bleeding is when:

- it takes longer than five minutes to soak a clean pad or cloth in blood
- there is fresh blood without clots
- blood is mixed with mucus.

Moderate to severe bleeding is when there is:

- heavy, bright red vaginal bleeding with or without clots
- blood-soaked pads, towels or cloth are soaked with blood in less than five minutes

- inner eyelids, palms or face (around the mouth) may be pale.

Internal bleeding may not be evident for many hours after it begins symptoms occur when there is significant blood loss or if a blood clot is large enough to compress an organ and causes pain. Symptoms include:

- racing heart rate, weak thready pulse
- patient is cold and clammy
- severe abdominal pain.

Management of haemorrhage

- Begin treatment immediately to replace fluid loss, and later evaluate the cause and control bleeding.
- Address the cause of the bleeding directly. Evacuate uterus immediately if case is incomplete abortion; repair cervical or vaginal lacerations; stabilise or refer for surgery if laparotomy is indicated or treatment is beyond the capability if the centre where the woman is being treated.
- Minor lacerations can occur during cervical dilatation and are usually easy to suture. If untreated, they may cause future problems with cervical incompetence. The health-care provider can help reduce the occurrence of lacerations through careful and gentle clinical technique and properly preparing of the cervix with misoprostol or laminaria when indicated.

Box 12.2 describing management of vaginal bleeding

In addition to the treatments listed above, treatment for severe vaginal bleeding should include the following when necessary to prevent shock:

- Control the woman's bleeding (treat the cause).
- Make sure the woman's airway is open.
- Administer oxygen at 6-8 liters/ minute.
- Replace fluid or blood volume with IV fluids (Ringer's lactate or isotonic solution at 1 litre in 15-20 minutes if:
- haemoglobin is less than/equal to 5g/100ml, or if haematocrit is less than/equal to 15%, or blood transfusion is required
- there is clinical evidence of severe blood loss such as tachycardia or hypotension when sitting or standing or >500mls estimated blood loss
- Monitor the amount of fluid/blood given and urine output.
- Consider exploring the uterus under general anaesthetic, if needed.
- Administer oxytocin, misoprostol or ergometrine.

12.3.3 Severe pain

Clinical judgement and assessment are required to assess pain. The procedure can be experienced as more painful by some women than others. However, severe pain can be due to:

- Infection
- Intra-abdominal injury
- Ectopic pregnancy.

If in your clinical judgment, the pain is within normal parameters, observe and provide pain medications. If the woman is experiencing is more severe pain than normal and she has no other symptoms, consider laparotomy / laporoscopy for the diagnosis and treatment for a uterine perforation. Descriptions of

any unusual, sudden or severe pain will assist you in providing them with the best possible treatment. (Refer to chapter 7 on Pain Management)

If the woman experiences cramping that worsen during the days after the procedure, as well as fever, fundal tenderness, or cervical motion tenderness, this suggests infection, retained tissue or both. Antibiotics are necessary, and re-evacuation should be considered.

If the woman complains of severe pain, a diagnosis of perforation and intra-abdominal injury should be considered, especially in conjunction with other symptoms including nausea, vomiting, dizziness, shoulder pain, tense abdomen, decreased bowel sounds, tachycardia, and increased blood pressure.

12.4 Management of complications by cause

This section describes the signs and symptoms and management for infection including septic abortion and intra-abodominal injuries. A section also addresses ectopic pregnancy –although this is not a complication arising from abortions, ectopic pregnancies may be discovered during the process of abortion and are life threatening.

12.4.1 Infection

Infection of the uterus is rarely associated with medication abortion, and retained POC is rare with surgical abortion. However, If large amounts of POC are retained, or if there is mechanical injury to the reproductive tract or uterus, this can result in heavy bleeding and / or infection. Infection may also occur after surgical abortion if there was a pre-existing STI that is exacerbated by the surgery.

Unsafe abortion has a high risk of complications due to infection. Pathogens introduced into the uterus or retained products of conception pave the way for infection. Localised infection from induced or spontaneous abortion can quickly lead to more generalised sepsis and septic shock, which can be fatal.

If the patient has either uterine or generalised infection and/or she has any of the following:

Symptoms

- lower abdominal pain
- general discomfort (flu-like symptoms)
- prolonged bleeding of greater than 8 days, or heavy bleeding before this
- fever with chills or sweats

Signs

- abnormal temperature (fever or hypothermia)
- foul smelling vaginal discharge
- lower abdominal tenderness (with or without rebound tenderness)
- mucus secretions from the cervical os
- cervical motion tenderness on bimanual examination enlarged and soft uterus.
- Elevated white cell count

Assessment of severity of infection

A quick assessment of the severity of the infection and the risk for septic shock must be done with a woman who has signs and symptoms of infection.

Table 12.4 showing criteria for risk assessment of septic shock

Low risk	High risk
• First-trimester abortion • Mild to moderate fever (37.8-38.5°C or 99.5-101.5 °F • No evidence of intra- abdominal injury • Stable vital signs	• Second trimester abortion • High fever (38.5°C or 101.5 °F or more) or subnormal temperature • Any evidence of intra-abdominal injury: - distended abdomen - decreased bowel sounds - rigid abdomen - rebound tenderness - nausea and vomiting • Any evidence of shock: - low blood pressure (systolic less than 90 mm HG) - anxiety, confusion, unconsciousness - pale inner eyelids, palms and around the mouth - rapid & weak pulse (rate 110 per minute or more) - rapid Breathing (rate 30 per minute or more)

Management of infection

If a woman is suspected of having post-abortal endometritis, the provider should obtain cervical cultures, if possible.

- Begin treatment for infection with broad-spectrum antibiotics as soon as possible. Probable causes include septic abortion or bowel injury.
- If retained tissue is suspected and there are no signs of uterine perforation, uterine evacuation should be done immediately after loading doses of antibiotics because retained products of conception are most likely the source of the infection.
- Do not wait more than one-hour after giving antibiotics to evacuate the uterus, provided the patient is otherwise sufficiently stable for the procedure.
- Give tetanus toxoid.

Table 12.5 showing treatment of septic abortion

- ➤ Make sure the airway is open and monitor vital signs.
- ➤ Give IV fluids.
- ➤ Give IV antibiotics following the table below.

Diagnosis of "types and stages" of abortions		
Antibiotic	**Dosage**	**Comments**
Amoxycillin	1g IV every 6 or 8 hour or 500 mg oral ly every 8 hours	• Good broad spectrum antibiotic, inexpensive • Useful with gentamicin and metronidazole
Benzyl penicillin	10 million units IV every 4 - 6 hours	• Few serious side effects • Effectiveness limited to Gram (+) • Effective to Cocci and Gonorrhoea (if not resistant)
Gentamicin	1.5mg/kg/dose IV or IM every 8 hours	• Effectiveness against Gram (-) organisms such as E.coli • Increase effectiveness with amoxycillin and metronidazole
Doxycycline	100mg orally every 12 hours	• Do not take with milk products or antacids. • Adequate for both Gram (+) and Gram (-) organisms including chlamydia • Can replace or be used along with amoxycillin • Good in combination with metronidazole
Tetracycline	500mg orally every 6 hours	• Do not take with milk products or antacids. • Adequate for both Gram (+) and Gram (-) organisms including chlamydia • Can replace or be used along with amoxycillin • Good in combination with metronidazole
Metronidazole	500mg IV every 8 hours or 500 mg orally every 8 hours	• Good for Gram (-) and anaerobic coverage • Can be used in combination with amoxycillin and doxycycline • Inexpensive and generally available • Oral administration achieves serum levels equivalent to IV administration

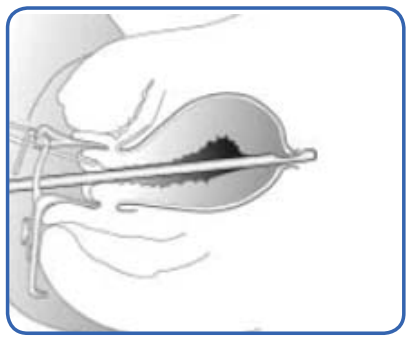
NOTES:

- Penicillin, amoxycillin, gentamicin and metronidazole are most commonly used together as the broad spectrum treatment of patients with severe sepsis of pelvic origin.
- Once started, intravenous therapy should be continued until the patient is not feverish at least for 24 hours, preferably 48 hours. If there is no response in 48 hours, antibiotic regimen should be changed.
- When recovery is under way, intravenous therapy should be followed by oral therapy. Generally, oral medication of tetracycline (500 mg by mouth 4 times daily) or doxycycline (100 mg by mouth 2 times daily) for 10-14 days is advisable. Allergic reactions to Tetracycline re very rare. Some patients may develop a rash when their skin is exposed to the sun.

12.4.2 Intra-abdominal injury

Uterine perforation is rare and is an uncommon cause of post-abortal bleeding; however, the likelihood of it occurring increases with more advanced gestational ages. A uterine perforation may be diagnosed at the time it occurs or during recovery.

Figure showing uterine perforation



Intra-abdominal injury should be suspected during the procedure, if:

- the woman has rapid pulse
- she has low blood pressure
- she bleeds excessively
- the instrument penetrates beyond the expected size of the uterus
- fat or bowel is found in the tissue removed from the uterus

If a perforation occurs during the procedure, the abortion should be stopped and the woman given prophylactic antibiotics and transferred to a surgical setting. perforations are small and un-detectable, and serious perforations are a very rare occurrence.

It can be difficult to distinguish between an intra-abodominal injury and ectopic pregnancy. Table 12.6 shows how clinical assessment can discriminate between these two differential diagnoses.

Table 12.5 showing assessment to identify risk of uterine/bowel injury and ectopic pregnancy

UTERINE OR BOWEL INJURY	ECTOPIC PREGNANCY
History • Mechanical abortion **Symptoms** • Nausea/ vomiting • Shoulder pain • Abdominal pain, cramping **Signs** • Distended abdomen • Decreased bowel sounds • Rigid (tense and hard) abdomen • Rebound tenderness • Fever (temperature >38°C • Ultrasound examination showing an increased amount of fluid in the cul-de-sac • Abdominal x-ray showing air in the abdomen.	**History** • Short history of amenorrhea followed by severe lower abdominal pain, particularly on the affected side • Fainting **Symptoms** • Gradually increasing lower abdominal pain, particularly on the affected side • Slight to moderate vaginal bleeding • Shoulder pain • Syncope **Signs** • Tense and tender lower abdomen, particularly on the affected side • Extreme cervical tenderness • Slight to moderate vaginal bleeding

Treatment of uterine perforation during a procedure

- begin IV fluids and antibiotics
- check haematocrit
- arrange for blood transfusion or plasma volume expander if indicated
- monitor the patient for several hours
- If there is excessive vaginal or possible internal bleeding, complete evacuation under visual control and perform any necessary repairs to prevent further damage.
- Repair damage as necessary.
- Ensure that bowel is intact and that there is no injury to other abdominal organs.
- After surgery, the woman must receive uterotonic agents. If she becomes stable and bleeding slows, she should receive ergometrine (0.5mg IM; repeat as necessary) and be observed overnight.
- If her condition worsens, she must be transferred to a higher level of care.

Treatment of uterine perforation after a procedure

If uterine perforation is suspected after the procedure is complete, the woman should be monitored closely. Rare cases may require laparoscopy or laparotomy to rule out any intra-abdominal injury:

- Give oral antibiotics and, if necessary, IV fluids. (Ringer's lactate or isotonic solution @ 1 litre in 15-20 minutes using a large-bore needle (16-18 gauge).
- Give ergometrine (0.5mg IM; repeat as necessary).
- Observe for 2 hours.
- Check vital signs frequently: if the woman becomes stable and bleeding slows, give additional ergotamine (0.2mg IM; repeat as necessary) continue observations overnight.
- If condition worsens, give an additional dose of oxytocin or ergotamine.
- If bleeding or abdominal pain appear to be worsening, laparoscopy or mini-laparotomy may be necessary. If this is not available at your facility, you need to prepare the woman for transport to a facility that provides this care. In order to prepare her for referral and transport, it is important to:stabilise the woman
- manage the airway and respiration.
- control bleeding.
- offer IV fluid replacement (Ringer's lactate or isotonic solution at 1 litre in 15-20 minutes using large-bore needle (16-18 gauge)
- prepare referral information (woman's information, history, assessment and initial treatment)
- alert the referral facility that the woman is on her way.

NOTE: During the transport, a trained health-care provider should accompany the woman to continue oxygen therapy, maintain IV infusion and foot elevation.

12.5 Emergency referral

Full provisions for treatment of all potential complications of induced abortion are not necessary for

all health facilities to provide abortion services. However, providers of abortion services must be able to identify complications and to make any necessary referrals in a timely manner to a facility known to provide appropriate care for complications.

Referral plans and protocols should be established at all health facilities. A written referral plan must be carefully design and should move the woman through the appropriate levels of care, from the primary level up to the highest-level site that can treat her appropriately. Sample referral forms are provided in Appendices 8 and 9.

Prompt communication and rapid transfer is essential within the facility and between facilities. Urgent referral and transport of the woman may be necessary at any time, and clinic staff should be prepared to make any needed arrangements 24 hours a day. Because a woman's life can be saved if she is immediately transported to an emergency-care facility for treatment of serious complications, it is essential to consider all available means and community resources for transportation.

During the transportation, a trained medical provider should accompany the client when the client is in a serious or unstable condition, and may need continued treatment through the transportation. During transportation, constant monitoring of the clients condition is required through by measuring vital signs and assessing comfort and well being, and administration of first aid if the condition deteriorates. Providers should also be prepared to stabilize a woman for transport by:

- Managing her airway and breathing
- Providing intravenous fluid replacement
- Controlling pain
- Ideally, controlling bleeding using uterotonics or manoeuvres such as aortic compression vaginal pack lacerations,
- IV Fluid replacement
- Pain management, if feasible, especially for transport, avoid heavy sedation and take into consideration that many referrals should be given nothing by mouth.
- Prevention of infection with parenteral antibiotics
- Maintenance of body temperature (keep covered with blankets in cases of shock).

Once stabilised, written notification for the facility where the client will be transferred to should include the following details in the referral letter:

- Name of the institution being referred to
- Institution and provider initiating referral
- Name and other identifying characteristics of patient
- Diagnosis and reason for referral
- Vital signs and condition when leaving facility
- Details of any treatment given
- Any further treatment required
- Feedback required by the referring facility
- Follow-up requested.

12.6 After Care

During after-care following abortion complications, the woman must be:

- Physically monitored and emotionally supported, with a focus on her individual medical needs determined by the nature of her complications
- Advised about her condition, including use of medications and contraceptive methods, and any follow-up care needed
- Counselled about any long-term changes resulting from the complications and their treatment, for example, post-hysterectomy or bowel-perforation repair
- Told what to expect and what to be concerned about, as well as what to do and not do in emergency situations
- Given written or illustrated materials about her condition.

Chapter

13 Birth Spacing Counselling and Services

Counselling on birth spacing is a critical aspect of abortion after-care. Women may ovulate as early as 10 days following a uterine evacuation procedure. Providers can help women prevent future unwanted pregnancies by asking about their fertility goals and offering contraceptive services at the follow-up visit.

Women who wish to avoid another pregnancy should start a method as soon as possible. Every woman should know three basic facts:

1. She can get pregnant again almost immediately, in as few as 10 days.
2. Contraceptives can prevent an unplanned pregnancy.
3. Almost all methods can be used immediately after an abortion.

Post-abortion birth spacing needs to address clients' individual needs and circumstances and help women to select an appropriate contraceptive method. A woman's clinical situation will determine her contraceptive options, and her personal preferences play an important role in post-abortion contraceptive use.

13.1 Objectives of post-abortion birth spacing counselling

The objectives of contraceptive counselling for women who undergo an abortion is to help each woman, and her partner to:

- understand the factors that led to an unwanted pregnancy
- understand that the various contraceptive methods are available
- choose an appropriate contraceptive method and to use it effectively
- know that she could become pregnant again soon after her abortion
- know that she can delay or prevent another pregnancy by using contraception
- obtain and use an appropriate contraceptive method
- know that emergency contraception can be used within 5 days of unprotected sexual intercourse to prevent pregnancy.

In facilities where contraceptive services are not offered, providers must ensure that every woman receiving abortion care knows:

- She could become pregnant again within 10 days after the abortion procedure
- Safe contraceptive methods to prevent or delay pregnancy are available
- Where and how she can obtain contraceptive services and methods, including emergency contraception (EC)
- Most contraceptive methods can be used immediately after abortion care[105]

[105] Wolf M. & Benson J. (1994) Meeting women's needs for post-abortion family planning: Report of a Bellagio technical working group. Int J Gyne & Obss, 45(Supp): S1–S34.

13.2 Women's fertility goals after an abortion

Although some women seek abortions for medical reasons and desire to become pregnant again soon, most women who seek elective, induced abortions are facing an unwanted pregnancy. Women who have recently terminated an unwanted pregnancy will often desire contraception to prevent or delay another pregnancy. These women generally seek more effective, long-term contraceptive methods and have high continuation rates with their method of choice[106].

When counselling a woman who has experienced a spontaneous abortion or an abortion that was conducted for medical reasons, a counsellor may begin by asking whether and when the woman wants to become pregnant again and if she desires contraceptive counselling. In addition to receiving information about contraception, women in these situations may benefit from a referral to specialised gynaecological care to evaluate the cause of the lost pregnancy or the medical reason for the abortion.

13.3 Contraceptive Failure

Counsellors will encounter women who have terminated unwanted pregnancies that resulted from contraceptive failure. The reasons for method failure vary: the method itself was not effective; the woman did not use the method appropriately; the woman discontinued use because of personal, family, social or cultural reasons; or the health system failed to reach the woman with appropriate and reliable services.

Failure of the contraceptive:

- No method is 100% effective. Even when a modern method of contraception is used correctly and consistently, some women will become pregnant.

Failure to use the method or failure to use it correctly:

- The woman cannot consistently afford contraceptives.
- The woman forgets to take or use her method consistently.
- The woman is influenced by popular myths about contraception, including the belief that contraception can cause infertility.
- The woman experiences unacceptable side effects and discontinues use.
- The woman's husband, mother-in-law or other family member does not approve of her using contraception.
- Religious leaders in the woman's community do not support the use of contraceptive methods.
- The woman had non-consensual sex.

Failure of the health system:

- Family-planning counsellors do not adequately explain to the woman how to use the method.
- Contraceptive methods are too expensive for the woman to purchase.
- Birth spacing clinics do not have the woman's chosen method or do not stock it reliably.
- Contraceptive services are not located in the woman's community or facilities are not open at times convenient for the woman.
- Contraceptive-service protocols limit access to a sufficient supply of methods—for example, dispensing only a one-month supply of contraceptive pills at any given time.

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[106] Johnson BR. Ndhlovu S, Farr S. & Chipato T. (2002) Reducing unplanned pregnancy and abortion in Zimbabwe through post-abortion contraception. Studies in Family Planning, 33(2): 195–202.

13.4 Importance of birth spacing availability after an abortion

Research has shown that improved access to family-planning services at the time of abortion-related care can increase contraceptive use[107]. The goal of birth spacing counselling as part of abortion services is to work with the woman to identify factors that led to the abortion. The counsellor helps the woman decide if she wants to use a contraceptive method and, if she does, assists her in choosing an appropriate method. An effective contraceptive counsellor keeps in mind the woman's personal needs, reproductive goals and clinical condition. Birth spacing is critical to women's health and well-being for several reasons. Birth spacing use can:

- Promote women's health by limiting births to the healthiest childbearing years and avoiding more births than are good for their bodies
- Allow mothers a safe means to achieve desired spacing between births and a small family size, which evidence shows improves infant health and saves infant lives[108].
- Allow women the freedom to improve their quality of life, pursue an education or establish a career.
- Reduce maternal mortality and morbidity by helping women avoid future unwanted pregnancies and the possibility of an unsafe abortion that might end in injury or death.

Ideally, the woman's chosen method should be provided before she leaves the facility on the day of her procedure, but no later than at her follow-up.

Not all clients using abortion care services will have had an unwanted pregnancy (for example, if they had an incomplete natural abortion), and some want to get pregnant again soon. If that is her choice, there is no reason to discourage her from doing so although waiting a few months before getting pregnant again may lead to a healthier outcome for her.

13.5 Medical eligibility for contraceptive use after an abortion

When providing contraception to a woman, her medical eligibility for each method must be considered. In general, all modern contraceptive methods can be used immediately following a first-trimester abortion, provided that:

- There are no severe complications requiring further treatment.
- The woman receives adequate counselling and gives voluntary informed consent.
- The provider screens for any precautions appropriate for each birth spacing method.

However, there are some notes of caution:

- It is recommended that women not have sexual intercourse until any complications are resolved and their chosen contraceptive method becomes effective.
- Natural birth spacing, or the fertility-awareness method, can be used after a woman has had at least one post-abortion menses, provided that before this pregnancy she had normal menstrual cycles[109]

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[107] Solo J, Billings DL, Aloo-Obunga C, Ominde A & Makumi M. (1999) Creating linkages between incomplete abortion treatment and family planning services in Kenya. Studies in Family Planning, 30(1): 17–27.

[108] Upadhyay UD. & Robey B. (1999) Why family planning matters. Population Reports, Series J, No. 49.

[109] World Health Organization (WHO). 2004. Medical eligibility criteria for contraceptive use, third edition. Geneva, WHO.

- Some medical conditions require a delay in the use of certain methods. For example, if a diaphragm or cervical cap is the woman's choice and her uterine size is larger than 12 weeks from lingering effects of pregnancy (not from fibroids), provision of these methods should be delayed since the fitting may not be accurate. It is advisable to delay the fitting until the uterus has returned to pre-pregnancy size, which usually takes six weeks. Another contraceptive method should be offered to the woman for use in the interim.

Women should also understand that, except for female sterilisation, which is considered permanent, they can switch to another temporary method in the future. Based on WHO data, the following section discusses which methods are appropriate or inappropriate for various clinical conditions.

The birth spacing methods referred to include:

Barrier methods such as male and female condoms, spermicides, diaphragms and cervical caps.

Hormonal methods such as combined oral contraceptives, progestin-only oral contraceptives, combined injectables, progestin-only injectables, implants, skin patches and vaginal rings.

Intrauterine methods such as IUDs and intrauterine systems (IUS).

Fertility awareness-based methods such as basal body temperature and calendar methods.

EC, which must be used within five days after unprotected intercourse and includes insertion of an IUD or a specific regimen of contraceptive pills .

Surgical methods such as male and female sterilisation.

13.6 Uncomplicated Abortion

All modern contraceptive methods can be used immediately, except for those cases that are described in section 13.5.

13.6.1 Abortion with complications: Infection

In cases where an infection is evident or presumed, the provider should advise the woman to avoid intercourse until the infection is resolved or ruled out. When complete abstinence is not realistic, condoms should be advised, but certain methods are not recommended. Female sterilization is not appropriate until infection is either ruled out or resolved, as the presence of infection may increase the risk of postsurgical infection. Intrauterine methods are not appropriate until infection is resolved because insertion may substantially worsen the condition.

13.6.2 Abortion with complications: Genital Injury

Genital injury includes uterine perforations, cervical tears, vaginal trauma and lacerations. These injuries may require a delay in the use of certain contraceptive methods depending on the location and severity of the injury. Methods that may be temporarily restricted include female sterilization, IUD, IUS, spermicides and barrier methods other than the male condom. In these cases, the provider must make a clinical judgment about which methods to recommend for interim use.

13.6.3 Abortion with complications: Excessive Blood Loss

Excessive blood loss may require a delay in the use of female sterilization and IUDs, depending on the severity of the loss. For sterilization, delay is recommended if laboratory tests or clinical signs indicate anaemia.

Table 13.1 outlining guidance for selection of birth spacing methods *(Taken from Ipas, 2005)*

Method	Timing after abortion	Advantages	Remarks
Male/female condoms	May be used immediately after abortion	• No method-related health risks • Inexpensive • Good interim method if initiation of anothermethod must be postponed • No medical supervision required • Latex and vinyl condoms provide protectionagainst RTIs and STIs (HBV and HIV/AIDS) • Easily discontinued • Effective immediately	In typical use, less effective than IUD or hormonal methods • Requires use with each incident of intercourse • Requires continued motivation • Resupply must be available • May interfere with intercourse
Oral Contracep-tives (combined & progesterone-only)	May be used immediately after abortion	• Highly effective • Can be started immediately, even if infection is present. • Can be provided by non-physician. • does not interfere with intercourse	• Requires continued motivation & daily use. • Re-supply must be Available. • No protection against STIs/HIV. • Effectiveness may be lowered with long-term use of certain medications, including rifampin, dilantin & griseofulvin
Emergency Contraceptive Pills (EC)	May be used immediately after abortion	• Important back-up method when contraception fails (for example, condom breaks), when no method is used or when sex is forced	• Providing EC in advance as a back-up method may help prevent future unwanted pregnancies • No protection against STIs/HIV. • Generally less effective than other contraceptive methods. • May have side effects such as nausea & vomiting
Progestin-Only Injectables (DMPA)	May be used immediately after abortion May be appropriate for use If the woman wants to delay choice of a longer-term method	• Highly effective • Can be started immediately, even if infection is present. • Can be provided by non-physician. • does not interfere with Intercourse • Not user- dependent, except for remembering to get the injection every two or three months • No supplies needed by user	• May cause irregular bleeding, especially amenorrhea, excessive bleeding may occur in rare instances • Delayed return to fertility after stopping use • Must receive injections every two or three months
Combined Inject-ables	May be used immediately after abortion	• Highly effective • Can be started immediately, even if infection is present. • Can be provided by non- physician. • does not interfere with Intercourse • Not user- dependent, except for remembering to get the injection every two or three months • No supplies needed by user	• May cause heavy and/ or irregular bleeding initially, especially for the first few months, then regular monthly bleeding usu-ally resumes • Delayed return to fertility • Must receive injections every two or three months

Table 13.1 outlining guidance for selection of birth spacing methods *(Taken from Ipas, 2005)*

Method	Timing after abortion	Advantages	Remarks
Progestin-Only Implants	May be used immediately after abortion	• Highly effective • Long- term contraception • Immediate return to fertility on removal • Does not interfere with Intercourse • No supplies needed by user	• May cause irregular bleeding, especially spotting or amenorrhea, • Trained provider required to insert and remove • Cost-effectiveness depends on how long used
IUD	IUD/IUSs can be inserted after abortion, provided the risk or presence of infection can be ruled out	• Highly effective • Long-term contraception, effective for 5 to 10yeas, depending on the type • Immediate return to fertility following removal • does not interfere with Intercourse • Requires only monthly checking for strings by user • Only one follow-up visit needed unless there are problems	• May increase menstrual bleeding and cramping during the first few months • Complications can include uterine perforation during insertion, which is rare and expulsion • May increase risk of pelvic inflammatory disease (PID) and subsequent infertility for women at risk for RTIs and STIs (HBV and HIV/AIDS) • Trained provider required to insert and remove
Female Voluntary Sterilization (VS)	Technically, VS procedures Usually can be performed Immediately after an abortion unless infection or Severe blood loss is present If infection is present, do not perform until fully resolved	• Permanent method • Highly effective • Once completed, no further action required • Does not interfere with Intercourse • No change in sexual function • No long-term side effects • Immediately effective	• Adequate counselling and fully informed consent are required before VS procedures • Slight possibility of surgical complications • Requires trained staff and appropriate equipment

13.7 Emergency Contraception (EC)

Emergency contraception is a particularly important option for preventing pregnancy after unprotected intercourse or contraceptive failure. For woman receiving abortion service providing EC pills in advance as a back-up method may help prevent future unwanted pregnancies, however, the use of EC will not terminate or interfere with a pregnancy once it is established.

There are two types of EC:

- ***Intrauterine contraceptive device (IUD):*** when inserted within five to seven days after unprotected intercourse, a copper IUCD is 99% effective in prevent pregnancy[110]
- ***Emergency contraception pills (ECPs):*** 75 to 95% effective when use within five days after unprotected intercourse[111, 112, 113].

To be most effective ECPs should be started as soon as possible after unprotected intercourse.

Although either progestin-only pills (POPs) or combined oestrogen-progestin oral pills (COCs) may be used, POPs are more effective and produce fewer side-effects.

When taken within 24 hour of unprotected intercourse, progestin-only ECPs have been found to reduce the risk of pregnancy by 95%.

When taken within 72 hour of unprotected intercourse, ECPs that contain progestin-only reduce the risk of pregnancy by 89%, while ECPs that contain both oestrogen and progestin reduce the risk of pregnancy by 75%.

Box 13.1 showing Dosage of EC pills*

In some setting, pill specifically packaged for EC are available. Where EC pills packaged are not available, taking a specific dose of commonly packaged oral contraceptives is acceptable. Recommended dosage depends on the formulation of the pills used. Women should be advised that the progestin-only regimen has highest effective and fewest side-effects. The following are examples of ECP regimens:

1. **POPs:** Single dose of 1.5mg of levonorgestrel taking within five days of unprotected intercourse[114].

   Where pills combined of 1.5mg of levonorgestrel are not available two pills 0.75mg can be taken together.

   Other POPs with of levonorgestrel can also be used but, depending on the pill composition women will need to takes the number of pills equal to 1.5mg of levonorgestrel.

2. **COCs:** Two doses of 0.1mg(100mcg) of ethinyl estradiol plus either 0.5mg of levonorgestrel; or 1.0mg of norgestrel taken 12 hours apart but within 120 hours (or 5 days) after unprotected intercourse[115].

*See appendix 10 for flowchart showing protocol for EC administration.

[110] Dunn, S. et al. (2003) Emergency contraception. *Journal of Obstetrics and Gynaecology Canada*, 25(8): 673–9.

[111] Ellertson C, et al. (2003) Extending the time limit for starting the Yuzpe regimen ofemergency contraception to 120 hours. *Obstetrics & Gynecology,* 101(6): 1,168–71.

[112] Petitti, DB, Piaggio G, Mehta S,Cravioto MC Meirik O. (2000) Steroid hormone contraception and bone mineral density: A cross-sectional study in an international population. The WHO study of hormonal contraception and bone health. *Obstetrics & Gynecology*, 95(5): 736–44.

[113] Task Force on Postovulatory Methods of Fertility Regulation (TFPMFR). (1998) Randomised controlled trial of levonorgestrel versus the Yuzpe regimen of combined oral contraceptives for emergency contraception. *The Lancet*, 352(9126): 428–433.

[114] Von Hertzen H, et al. (2002) Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: A WHO multicentre randomised trial. The Lancet, 360:1,803–10.

[115] Ellertson C et al.. (2003) Modifying the Yuzpe regimen of emergency contraception: A multicentre randomized controlled trial. Obstetrics & Gynecology, 101(6): 1,160–7.

13.8 Essential elements of birth spacing counselling

13.8.1 Effective counsellors

An effective counsellor (usually the abortion provider) does more than describe the various birth spacing methods available; he or she establishes mutual trust with the woman, comes to understand her personal needs and tailors the counselling session to meet those needs. The following steps are critical to effective contraceptive counselling[116].

Step 1: Establish rapport. If possible, the counsellor should secure a private space to talk, greet the woman in a friendly way, speak directly to her and demonstrate interest and concern. The counsellor should ask if it is an appropriate time to discuss contraception, assure her that the conversation will be kept confidential and ask the woman if she wants her partner present.

Step 2: Assess the woman's needs. The counsellor should use open-ended questions, discuss the factors that led to the need for an abortion and determine if the pregnancy was unplanned. If the woman was using contraception to prevent pregnancy, the counsellor should help assess whether there were particular reasons the method failed.

Step 3: Explain human reproduction, if necessary. Some women who seek an abortion may not fully understand the basics of how they became pregnant or how contraception prevents pregnancy.

Step 4: Ask if the woman desires to delay or prevent future pregnancy. Although most women choosing an abortion will want to delay or prevent pregnancy, counsellors must not make that assumption and should ask the woman about her desires and circumstances. Some women who have experienced a miscarriage or had an abortion for medical reasons are not interested in delaying pregnancy. Contraceptive counselling and information on the benefits of spacing children may still be useful for these women for future reference, or if a delay in pregnancy is medically recommended.

Step 5: Assess the woman's individual situation. The counsellor should consider both the woman's clinical condition and her personal situation and discuss in a sensitive manner any potential barriers to the successful use of contraception. The counsellor and the woman can then find ways to resolve or work around those barriers.

Step 6: Explain characteristics of available methods. It is important to determine which contraceptive methods are available and accessible to a woman, both at the facility and within her community. The counsellor should explain the characteristics, use, side effects and effectiveness of the methods available, and let her know where she can obtain them.

Step 7: Help the woman choose her method. Counsellors should support the woman in selecting the contraceptive method that best suits her and her partner's situation. It is important to help the woman make her own informed choice. This may involve asking follow-up questions, explaining the characteristics of different methods and exploring resupply issues, taking community resources into account.

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[116] Hyman, AG. & Castleman L. (2005) Woman-centred abortion care: Reference manual. Chapel Hill, NC, Ipas.

Step 8: Ensure that the woman understands how the method she selected works. The woman should understand the effectiveness, side effects and contraindications of the method she has chosen. The counsellor can help her develop a plan for continued use and encourage her to return if the first method becomes unacceptable to her, if she wants to change to a new method or if she wishes to stop using contraception for any reason.

Step 9: Refer the woman to related community resources as needed. Discussions about contraception may reveal other factors affecting a woman's sexual and reproductive health, such as violence or commercial sex work. Counsellors should have resource lists available to make any appropriate referrals.

13.8.2 Involvement of partners

With the woman's permission, her partner can be included in the counselling process. The partner's support increases the chances that a woman will use a method[117]. Also, counselling of male partners may increase their awareness and use of male contraceptive methods, such as vasectomy and condoms. If woman has an unwilling partner but still wants to use contraception, the counsellor should help the woman select a method that does not require her partner's co-operation.

Box 13.2 outlining attributes of an effective birth spacing counsellor[118]:

- Are aware of their own attitudes and keep interactions with clients free of personal judgments.
- Extend compassion to every woman regardless of her reproductive behaviours and decisions.
- Honour every woman's right to confidentiality and privacy.
- Encourage the woman to speak openly about the circumstances surrounding her pregnancy, her fertility history and goals, her contraceptive needs and any related health concerns.
- Respond directly and honestly to information the woman provides about her situation and concerns and ask appropriate, clarifying questions.
- Acknowledge and reassure clients with both verbal and nonverbal cues that are appropriate for the cultural setting. Nonverbal cues may include facing the woman, leaning forward slightly, nodding and making appropriate eye contact.
- Give accurate, relevant information about how soon the woman can again become pregnant, her contraceptive options, instructions for use and re-supply, and any other needed information.
- Assist with other health needs, including referrals for services not available at the facility.
- Are honest about gaps in their knowledge and make every attempt to refer the woman to appropriate sources of information.

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[117] Abdel-Tawah, N, Huntington D, Hassan EO, Youssef H, & Nawar L.(1999) Effects of husband involvement on post-abortion patients' recovery and use of contraception in Egypt. In Huntington, Dale Peterson D & Peterson NL, eds. *Postabortion care: Lessons from operations research*. New York, the Population Council.

[118] Ipas (2005) *Ibid*.

Chapter

14 Monitoring and Evaluation Services

Monitoring and evaluation are critical to improving services and ensuring that women receive high-quality care. Existing logbooks, service statistics, women's records and routine checklists can be used or changed to keep high-quality abortion services operating well.

Quality assessment is an important component of monitoring services and comprehensive abortion care services should fall under the Ministry of Health's Quality Improvement Plan, and should be included in routine Quality Assessment processes as described in the Quality Improvement Plan.

14.1 Monitoring to improve the quality of services

Monitoring, or tracking of services, is a way of using information to identify strengths and weaknesses of health services. This provides feedback to improve quality. determines the strengths and weaknesses of services on a continuous basis and provides feedback that can lead to ongoing quality improvements. Monitoring includes supervision, coaching and support visits, self-assessments, and appraisals of the quality of care provided. Monitoring relies on a set of standardised, objective tools that are used repeatedly, allowing for direct comparisons and measurements of change.

Monitoring is not a one-time event; it is an ongoing process that should be continued whenever and wherever services are provided. It uses simple tools to measure the same services at several points over time. Monitoring should be conducted at both public-sector and private-sector health facilities.

Monitoring is most effective when the effort:

- is continuous and ongoing
- uses simple indicators
- is measured by performance standards
- includes self-assessment by staff rather than just an inspection by an outsider
- uses a supportive, rather than a judgmental approach
- uses local resources as much as possible
- is an integral part of the service-delivery system
- includes a reporting system
- emphasises recommendations for improving services, and
- is not punitive.

14.1.1 Implementing a system

To implement a simple monitoring system:

- ***first*** decide what routine or basic information is needed to assess the quality of services and/or to make management decisions for the improvement of services.

- ***Second*** determine a way to collect this information. Tools may include self- assessment guide, list of services to be reviewed or checklists for various services offered. The types of forms used should be determined by what type of services you provide, the experience of the monitors, and the frequency of monitoring planned.

- ***Third*** involve all staff members by sharing the information obtained from monitoring and evaluation activities.

It is important to consider the people who are being monitored. Gather the input of everyone involved to decide what should be monitored and how it should be monitored.

This inclusion also helps the people involved to focus on the goal of assurance or improvement, diffusing some fears that people have of being evaluated or reviewed.

Monitors should periodically review all facets of abortion services, including administrative procedures, women's records, counselling, clinical procedures, training and women's satisfaction.

14.1.2 Using indicators

The following indicators are suggested as a minimum to be useful in monitoring abortion care services:

- Number and ages of women who attend for abortion services
- Number and type of abortion procedures performed
- Gestational age of pregnancies among women attending for abortion services
- Number and type of complications
- Number and percentage of women desiring contraception who receive a contraceptive method
- Number and type of contraceptive methods dispensed, availability of contraceptive methods
- Number and type of complications arising after the procedure
- Number of women attending for post-abortion complications and type of complication
- Number of referrals made to other facilities or services

Other indicators that are useful include:

- Number and percentage of women screened for STIs, include HIV
- Number and percentage of women screened for exposure to violence

Sometimes monitors look only at particular aspects of a programme. A monitor might examine a site's ability to offer training, medical safety or how your facility manages abortion services.

Consider the periodic examination of resource use; the cost/benefit ratio of services is an important element in determining the effectiveness of services. Periodic monitoring makes it easier to identify conclusively the impact of various factors on the use and cost of services.

An example of a collection form is provided in appendix 11. This is similar to the Client Register that is provided to all trainees after they complete the CAC training course.

14.2 Evaluation of services

Evaluation refers to assessment of the effects of ongoing services. Evaluation techniques measure whether changes in service delivery have met their objectives. Examples of evaluations are the Facility

Assessment Tools designed by the Ministry of Health's Quality Improvement Working Group. These tools are designed to be conducted periodically at each facility, for example, every year or two years, and they assess various aspects of the provision of care and standard of facilities.

Evaluation can be conducted by people inside or outside the health system. Evaluations are often helpful in obtaining support and funding for continuing and expanding a service. Their main purpose, however, is to help health-care personnel and managers to improve the services, thereby enhancing the quality of care women receive.

Evaluations answer specific questions:

- Are women satisfied with the services?
- Has providers' knowledge increased?
- Are performance standards being met?
- Are services more accessible?

Examples of tools that will help health service managers assess and maintain and improve the quality of abortion care services to adequate standards are provided in appendices, 12 (observation checklist for performing an MVA), 13 (observation checklist for providing MA) and 14 (client satisfaction assessment). The evaluation process follows a series of steps, shown in the box below.

Box 14.1 showing steps in evaluation:	
Plan	When conducting needs assessments, plan for both monitoring and evaluation needs.
Review	Look back over your objectives and the results of the needs assessment.
Gather information	Consider what types of data are available to measure change.
Analyse	Information can be tabulated or analyzed. Analysis must include interpreting the data.
Recommend	Make recommendations based on interpretation of the data. It is useful to schedule feedback sessions for all the staff involved in abortion care so that they can share in the achievements and make suggestions for improving weak points.

The evaluation strategies you use will depend on the experience, understanding, and objectives of those conducting the evaluation.

Keep in mind that evaluating abortion services may at times be different than evaluating other health services. Because abortion is a sensitive subject, techniques may need to be modified: in-depth interviews with key personnel or selected women may be more effective than random household surveys to obtain women's perspectives; and indicators of confidentiality may include subtle measures, such as the security of logbooks.

Addendum: Second Trimester Abortion

This chapter provides information about surgical procedures for 13 to 18 weeks of pregnancy and medical induction methods for pregnancies from 13 through 24 weeks of pregnancy. This addendum is provided for completeness only.

Only health care providers who have been officially trained in second trimester abortions can perform these procedures.

Second-trimester abortion services should be available and accessible as a critical component of comprehensive reproductive health care. Both medical and surgical procedures to perform abortion in the second trimester are recommended by the World Health Organisation,

1) Introduction

Provision of safe second-trimester abortion care ensures women's rights to make decisions about their reproductive health needs. Ideally, a woman needing a second-trimester abortion should have the option to decide between a dilatation and evacuation and a medical abortion also known as an induction procedure on the basis of her own individual needs and clinical appropriateness. Women may prefer one procedure over the other for various reasons; for example, some women will prefer D&E because it is a relatively quick procedure, whereas others may choose MA because it is less physically invasive. Providers should allow the woman to make the decision about what method she feels is best for her, presuming she is eligible for both procedures, there are facilities and trained providers and they are both safely available.

This addendum includes protocols for both D&E and MA procedures, including guidance on clinical assessment, pain management, treatment of complications and monitoring recovery.

The attitudes of the health-care team and other staff in a clinical setting can substantially affect second-trimester–abortion services. Conducting sessions with staff that help clarify their values and change attitudes before starting clinical training and establishing services is highly beneficial.

2) Prerequisites for providers

In providing high-quality second trimester abortion services, the main priorities are the procedure's safety and effectiveness. This addendum is for clinicians with previous experience providing high-quality, first-trimester abortion services, including proficiency in infection prevention, pain management and counselling. This module assumes such prerequisite knowledge, skills and experience. Before beginning to learn to provide second-trimester abortion, clinicians should already know the following:

- principles and practice of first-trimester abortion techniques
- risks associated with use of analgesia, sedation and anaesthesia
- effectiveness, advantages, disadvantages, contraindications, risks and benefits of all locally available methods of contraception

In addition, clinicians must already have the skills to do the following:

- take a medical history and perform a physical examination, including a thorough pelvic examination
- determine the duration of pregnancy on the basis of client history, clinical examination and ultrasonography
- provide abortion and contraceptive counselling
- perform first-trimester abortion
- for D&E procedures,
  - administer a local anaesthetic through paracervical block
  - perform abortions up to 12 weeks since the woman's last menstrual period with vacuum aspiration (with particular proficiency in the 10-12 weeks range)

Moreover, when offering second-trimester abortion services clinicians must have the ability to manage gynaecologic emergencies or to quickly transfer clients to a surgical ward for management of complications requiring gynaecologic surgery.

3) Women's perspectives

Health-care providers should approach any woman seeking a second-trimester abortion with the understanding that she may face deeply personal issues with physical, emotional, social and cultural consequences. Some of these women may have complex, perhaps conflicting, emotions about their situation. These emotions are often influenced by external and personal factors, such as:

- her feelings about being pregnant
- if this was a wanted pregnancy but with serious medical problems
- her familiarity or lack of familiarity with the hospital setting
- the amount of time she has waited to obtain care
- if she is in an abusive personal situation
- whether she has made other attempts to end the pregnancy.

Providers should also recognise that women who are aborting a wanted pregnancy for medical reasons, need to be treated very sensitivity.

4) Informed consent

Informed consent involves an important discussion between the provider and the client in which the client must understand her clinical condition, understand the risks and benefits of the clinical options, and decide freely what she wants to do. The abortion procedure should be explained to the woman so that she knows what will happen and what she will feel. Providers should speak using terms the woman can understand so she will understand the information.

Women choosing medical abortion should also understand and consent to surgical back-up, should an emergency complication arise. If the woman feels in any way coerced or pressured into a decision, then she is not consenting freely.

5) Clinical assessment

History

A clinical history should cover:

- length of amenorrhea,
- allergies
- contraceptive use
- relevant medical and surgical history

It is important to note that in women with certain medical conditions, abortion care may trigger or worsen particular complications

Table i. showing Pre-existing conditions that may affect provision of second-trimester abortion

Condition	Clinical Relevance
Asthma	For post-abortal atony, use some prostaglandins (e.g., PGF2α [Haemabate]) with caution Misoprostol can be used safely.
Fibroids and other uterine anomalies	Only experienced providers should perform D&E, and with caution. Depending on the anomaly, extra caution may be unnecessary for medical abortion.
Hypertension	For post-abortal atony, use methylergonovine (Methergine), with caution; avoid use in women with blood pressure >160/100 mm Hg.
Epilepsy	Procedure may require intensive medical support.
Previous uterine surgery	With MA procedures, consider lowering initial dose after 18 weeks gestation.

General physical examination

Before conducting the examination, clinicians should explain to the woman what will be done and what she may feel. The examination should then include:

- checking and recording vital signs
- Recording the woman's general health on her clinical record
- screening for sexually transmitted infections.

Confirming length of pregnancy

The abortion procedure should not begin until the gestational age has been confidently confirmed. When in doubt about dating, it is better to be prepared by assuming the pregnancy is further along (and thus bigger) rather than earlier (and smaller).

Clinicians should perform a pelvic examination to check the size of the uterus, consistency and position of the cervix. Compare these findings with the woman's reported last menstrual period.

Ultrasonography (ultrasound) should be used to confirm the duration of the pregnancy when in doubt.

Clinicians should confirm gestational age by comparing actual foetal measurements against what was expected from the bimanual examination and dating according to the woman's last menstrual period. This comparison allows clinicians to assess the accuracy of their pre-procedure dating estimates. This step is important, as it can validate that gestation is being accurately estimated before the procedure.

Table ii. showing foetal foot length based on regression model using "best estimates" records

Gestational Duration (wk)	Foot Length (mm)	Foot Length Range (mm)	Foot Length Range ± 1 Standard Deviation, SD (mm)
10 to < 11	4	2 – 5	0 - 6
11 to < 12	7	5 – 8	4 - 10
12 to < 13	10	8 – 11	7 - 13
13 to < 14	13	12 -14	10 - 16
14 to < 15	16	15 – 17	13 - 19
15 to < 16	20	18 – 21	16 - 23
16 to < 17	23	21 – 24	19 - 26
17 to < 18	26	24 – 27	0 - 29
18 to < 19	29	27 – 30	25 - 32
19 to < 20	32	31 – 33	29 - 36
20 to < 21	35	34 – 37	32 - 39
21 to < 22	39	37 – 40	35 - 42
22 to < 23	42	40 – 43	38 - 45
23 to < 24	45	43 – 46	41 - 49
24 to < 25	48	47 – 49	44 - 52

6) Safe D&E procedures

With good pain control, skilled operative techniques and good recovery care, D&E procedures can be safely provided by properly trained clinicians. This section describes the key elements of providing safe D&E procedures.

6.1) Pain management for D&E

Providing adequate pain medications during second-trimester abortion procedures is critical. Because the woman is awake during the abortion procedure, it is important to manage her pain through supportive interactions in addition to proper medication use. A staff member with appropriate medical training should be the person responsible for monitoring the woman's condition and attending to her pain-medication needs. Special training may be required to administer intravenous medications, such as light sedation.

The purpose of pain management is to minimise any feelings of anxiety and discomfort in a way that poses the least-possible risk to the woman's health. Appropriate selection of pain medications allows the woman to be awake and responsive and minimises her fear and discomfort.

Types of pain-management medications appropriate for D&E abortion and their uses are: *Nonnarcotic analgesics (nonsteroidal anti-inflammatory drugs),* such as ibuprofen, can be used to help control pain during and after the procedure. Analgesics should be administered orally at least 30 minutes before the procedure.

Analgesics: *Narcotic analgesics,* such as pethidine and fentanyl, are stronger analgesics that work well together with *nonsteroidal anti-inflammatory* medication to control. For example, pethidine can be given intramuscularly 30 minutes before the procedure or orally 30-60 minutes before the procedure.

Anxiolytics, such as diazepam, reduce anxiety and relax muscles. Anxiolytics are useful when the woman is anxious but in stable physical condition.

It is important to be aware that respiratory depression is more likely when narcotics and anxiolytics are given together than when either is given alone. The woman's respiratory status should be carefully monitored whenever these agents are administered.

Local anaesthetics, such as lidocaine (in a paracervical block), numb sensations at the site where given and therefore decrease the discomfort associated with dilatation and the use of instruments. However, such drugs do not affect the pain of uterine cramping. Verbal support, provided to the woman throughout the D&E procedure can help her stay relaxed, thereby reducing her pain and anxiety. However, verbal support cannot take the place of pain medicines and local anaesthesia.

6.2) Procedure for D&E

Ensure that before the procedure begins, the general physical and pelvic examinations have been done, the clinician is confident of the duration of the pregnancy, and the woman understands and has consented to the procedure. It is crucial that the same clinician who will do the D&E also performs a pelvic examination and sees the results of the ultrasound tests that have been performed before conducting the abortion.

Give prophylactic antibiotics, for example, IV doxyxlycline at time of procedure, and oral doxycycline, 100 mg twice daily for 5 days after procedure.

Cervical preparation

Prepare the cervix by administering vaginal misoprostol, 400 mcg, 4 hours before the procedure. Explain to the woman that she may experience some bleeding and cramping from the misoprostol.

The woman should lay down for at least 30 minutes after getting the misoprostol. Have the woman wait 4 hours for the misoprostol to soften the cervix. She may sit or lie down in the hospital or clinic; her bleeding should be monitored during this time. If a woman starts to experience heavy vaginal bleeding or pain, she is ready to undergo the evacuation, even if the standard waiting time has not elapsed. The woman should empty her bladder immediately before entering the procedure room.

Evacuation

The clinical team should communicate with the woman continually during the evacuation, telling her what to expect. The clinician should:

- Wash his or her hands and put on gloves and other protective barriers.
- Make sure that there is a drain bin or tray under the procedure-table end to catch all fluids.
- Confirm that all instruments and drugs needed are in place, including speculum, tenaculum, cannulae, dilators, forceps, sponges, local anaesthetic and MVA.
- After doing a bimanual examination, insert the speculum and clean the cervix with an antiseptic solution, such as povidone-iodine (Betadine).
- Perform a paracervical block.
- Next, place traction on the tenaculum to bring the cervix down into the vagina.
- Check the level of dilatation by attempting to pass a large dilator or a 12 or 14mm cannula through the cervix.
- The cervix must be dilated enough to fit a 12- to 14 omm cannula. If such a cannula cannot be passed or the cervix cannot easily be dilated, the misoprostol may not have worked. In this case, give 400 mcg more of misoprostol. The D&E procedure should not be done if the cervix is not softened, because of the risk of complications. Once the cervix has been adequately dilated, insert a 12 or 14 or 16 mm cannula attached to an aspirator through the cervix into the uterine cavity, and aspirate the amniotic fluid. When nothing more can be suctioned, usually after 1-2 minutes, remove the cannula from the uterus.
- Maintaining traction on the tenaculum, pass the forceps through the cervix in a vertical direction - the mouth of the forceps should open in an up-down direction. The palm of the hand holding the forceps should face the side, not the floor or ceiling. Open the forceps just inside the internal cervical os. Hold the forceps with the thumb against (but not in) the anterior ring. As soon as the forceps passes through the internal os, gently open it as wide as possible.
- Foetal parts are often in the anterior lower-uterine segment (the segment closest to the cervix). To reach this area, pull the handle of the forceps toward the floor. This brings the forceps' graspers into the lower segment of the uterus.
- To remove the tissue, clamp down on the forceps and rotate it 90 degrees before withdrawing. Be very careful not to grasp myometrium, as that would cause pain. You can avoid excessive force against the internal os by grasping the tissue to reduce its bulk.
- It is best to avoid reaching high into the uterus, where the risk of perforation would be increased.
- If tissue has moved toward the fundus, reinsert the cannula just inside the os and use suction to bring tissue down.
- Avoid probing deep into the uterus in the horizontal position.
- If you cannot locate and begin removing the foetus within 5-7 minutes, consider using ultrasound to help locate it. In the unlikely event that the foetus (head or other foetal parts) cannot readily be removed, administer a uterotonic agent, such as:
    - misoprostol, 400-600 mcg sublingual /buccal if that does not work, or 800 mcg recally. Do not exceed dose.

- methylergonovine (Methergine), 0.2 mg orally or intramuscularly; or
- high-dose oxytocin, 200 units in 500 cc of normal saline or lactated Ringer solution run at 50 cc/h intravenously, as a last resort
- After 2-4 hours, attempt the procedure again.

- Occasionally the head can become trapped. If it cannot be grasped with the forceps, reinsert the suction tip to just inside the os cervix and apply suction. Then gently insert the forceps and open just inside of the os, which is where the head should be found. It usually is necessary to collapse the head with forceps to withdraw it easily through the cervix.
- At the end of the procedure use MVA to gently remove any remaining tissue in the uterine cavity.
- Examine the foetal tissue to ensure that evacuation is complete. Identify foetal parts (especially thorax, spine, calvarium and placenta; for procedures beyond 15-16 weeks, also identify all four extremities). If there is any doubt, use ultrasound to confirm complete evacuation.

After the procedure

- Cover the foetal tissue to keep it out of the woman's sight.
- Put all instruments into a soaking solution, and dispose of needles in an appropriate container.
- Discard gloves, or remove gloves and put them into the soaking solution; then wash hands.
- The woman should be helped into the recovery area.

7) Safe MA (Induction) procedures

As abortion technologies have improved during the past decade, medications used for termination of second-trimester pregnancies have become, safer, more effective and accessible. This section describes the key elements of providing safe medical abortion procedures.

7.1) Pain management for MA

Every woman should be given ibuprofen with the first dose of misoprostol and again every 8 hours. Many women will also need narcotics. Some women may also like to have hot-water bottles or a massage. All pain measures normally used during labor at term could be applied.

Finally, verbal support provided to the woman throughout the MA can help her stay relaxed, thereby reducing her pain and anxiety. However, verbal support cannot take the place of pain medicines, and should be provided in addition to other drugs.

7.2) Procedure for MA

Ensure that before starting the MA, the general physical and pelvic examinations have been done, the clinician is confident of the duration of the pregnancy, and the woman understands and has consented to the procedure.

- The woman should be settled into a bed or cot in a private area, separate from women experiencing labour. Record the woman's vital signs, and then recheck them every 4 hours until she starts feeling strong uterine contractions, at which point vital signs should be checked every 2 hours.

Mifepristone plus misoprostol (preferred regimen)

The following can be used up to 24 weeks:

- Day 1 oral mifepristone, 200 mg, for cervical preparation followed 1 day later by:
- Vaginal misoprostol 800 mcg followed by:
- Vaginal, misoprostol, 400 mcg every 4 hours, up to 5 total doses.

Misoprostol alone (if Mifepristone is not available)

- Vaginal misoprostol, 400 mcg, repeated every 4 hours, up to 5 total doses.
- For vaginal insertion, clinician wear clean gloves and place the pills between two fingers and insert them deep into the vagina behind the cervix.
- During this time the woman will have cramps. Help her manage her pain through appropriate medication use, starting with non-narcotic analgesics and offering narcotics if stronger medications are desired.
- Sometimes a woman using misoprostol will develop a fever during the induction process. If she has a temperature higher than 38 °C (100.4 °F), give acetaminophen, 650 mg orally every four hours, as needed.
- As the cervix dilates, a bulging bag of membranes may be palpable in the vagina. The woman may experience discomfort from the pressure. Rupturing the membrane with a gloved hand or clamp can decrease this discomfort, and often foetal expulsion will occur 1-2 hours after rupture.
- If foetal parts are palpable in the vagina, the woman can try pushing, but this effort will probably be useful only late in the second trimester. Unlike during term labor, the woman will not become fully diluted. An obstetric nurse, midwife or physician should assist the woman through this part of the abortion.
- Place a drape over the woman's legs, and provide verbal support.
- If the head becomes entrapped, help expulsion by placing a hand in the vagina and manually stretching the cervix.
- Hold onto the foetus so that the woman does not feel movement of foetal extremities in the vagina.
- After the foetus is expelled, the maternal side of the cord should be clamped and the foetus should be wrapped in a cloth or paper sheet.
- Occasionally the foetus may exhibit some movement as it passes through the vagina. However, the foetus is not viable, and it will quickly stop moving if the foetal side of the cord is not clamped.
- After foetal expulsion, give the woman a uterotonic agent to help the uterus contract. Options include the following:
  - misoprostol, or 600mcg orally or 400mcg sub-lingually[119] if that does not work
  - methylergonovine (Methergine), 0.2 mg intramuscularly
  - oxytocin, 30 units, in 500-1000 mL D5RL, administered intravenously at 100 mL / h - but this should be reserved as a last line approach.

[119] Blum J, et al. (2009) Misoprostol for treatment of incomplete abortion: an introductory guide. Gunyit Health Projects; NY.

If the foetus does not expel within 24 hours :

- Do an abdominal examination and possibly ultrasound to rule out the rare event of uterine rupture. This should be considered when the cervix remains closed despite prolonged uterine contractions, if the woman complains of extreme abdominal pain or if acute hemodynamic changes occur at any time during the abortion process.
- If uterine contraction and foetal expulsion has not occurred, do the following:
  - *Repeat the original regimen.* The dose of misoprostol should be lowered if the woman has a scarred uterus.
  - *Rupture the membranes.* Continue the same dose and interval of misoprostol administration.
- If there is minimal uterine activity, increase the dose of misoprostol or shorten the interval between doses.
- If that does not work try one of the following at a time for 24 hours, in either order: (Use caution when administering sequentially different prostaglandin agents and oxytocin, as overstimulation may result, leading to rupture.)
  - *High-dose oxytocin.* Administer 200 units of oxytocin in 500 cc of normal saline or lactated Ringer solution at 50 cc/h intravenously until expulsion or for a maximum of 24 hours.(or)
  - *PgE2.* Insert PgE2, 20 mg, into the vagina every four hours until expulsion or for a maximum of 24 hours. Common side effects include high fever, diarrhoea, and nausea and vomiting, which can be managed symptomatically (or)
  - *D&E.* If the clinicians are experienced with performing D&E at the gestational age of the pregnancy, offer D&E, as an alternative to a prolonged induction procedure.

Placenta Expulsion:

- The placenta should be expelled into the vagina within 2 hours of foetal expulsion. If it does not expel, use high-dose oxytocin for 2 hours: 200 units in 500 cc of normal saline run at 50 cc/h intravenously to give 20 units/h.
- While awaiting placental expulsion, periodically use the forceps to grasp the base of the cord and apply slight tension on the cord, as long as it does not appear thin. Avoid tearing the cord from the placenta.
- If the placenta remains in the uterus, there are a few options:
  - Use buccal, oral or rectal misoprostol, 800 mcg.
  - Attempt a sponge-stick expulsion. Place a speculum in the vagina so the cord comes out the middle of the speculum. Use two ring forceps to move up the cord, gently placing traction on the placenta to help work it down. Be careful to avoid tearing the cord.
  - If the cord is torn or the placenta cannot be expelled, vacuum aspiration should be performed to evacuate the placenta, similar to the treatment for retained postpartum placenta.

After expulsion

After expulsion of the foetus and placenta:

- Examine the cervix for lacerations.
- Insert a speculum and gently wipe blood clots from the cervix.
- Visually confirm that there are no lacerations.
- Examine the foetus and placenta to confirm that expulsion was complete.
- If the placenta is not intact, confirm that all of it appears to have been delivered.
- Cover the foetal tissue so it is out of the sight of the woman.
- Follow standard precautions for protocols for disposal.

8) Recovery and Follow-up

The following section describesprotocols for the recovery period after D&E or MA. Recovery and follow-up represent important opportunities to ensure the health of women who have just undergone a second-trimester abortion.

8.1) Observation

- After an uncomplicated second-trimester abortion, a woman should remain in the health-care facility for at least 1 hour so the health-care team can ensure that she is well enough to return home.
- A health-care worker capable of providing basic CPR and related emergency care must monitor the woman during her stay.
- Measure the woman's pulse and blood pressure on her arrival in the recovery room and again shortly thereafter, and once again before discharge. Results should be recorded in the clinical record.
- Once the woman has normal vital signs, is ambulatory and can tolerate oral intake, she may be discharged.
- The woman should be observed until she has stable vital signs, can walk comfortably on her own and can drink fluids. For most women, this should all be true within an hour after the procedure.

8.2) Possible complications during recovery

Rarely, a woman may have a reaction while in the recovery room to anaesthesia or other drugs used before or during the procedure. The clinician must be notified if she reports unusual or severe pain, has a significant change in her pulse rate, experiences heavy bleeding or faints. In such situations, do the following:

- Place the woman in a bed or recliner.
- Ask about severe abdominal pain or cramps.
- Regularly check her vital signs and amount of vaginal bleeding.
    - Look for irregular pulse or change in pulse rate of more than 120 beats/min.

- Monitor for decrease in blood pressure of more than 20 mm Hg.
- Look for pallor, increased perspiration or clammy skin.
- Watch for heavy vaginal bleeding that soaks a pad within 15 minutes.

• If a complication is suspected, the clinician must assess the woman and determine appropriate treatment.

8.3) Post procedure information

The recovery period also presents an important opportunity to provide women with contraceptive services, including counselling, follow-up instructions, and other information. When the woman has sufficiently recovered but before she is discharged, recovery-room staff must provide her with post-abortion instructions. This should include:

- information on what to expect in terms of bleeding and cramping
- what medications she can take to relieve cramping.
- instructions on when and how to contact medical staff
- when to return to the hospital or clinic in the event of heavy bleeding, severe cramping or other issues.
- If the woman had a D&E procedure and did not already get an antibiotic, then, provide an oral antibiotic at this time. Explain how many times a day the prescribed antibiotic needs to be taken and for how many days. A suggested regimen is Oral doxycycline, 100 mg twice daily for 5 days.

Each woman should be given written and illustrated information and instructions on how to recognise complications and obtain medical care. It is especially important that women who have traveled a long distance for services receive this information. If possible, such women should be given the names and locations of local health-care providers or facilities that are qualified to manage post-abortion complications. If a woman from another place indicates that she cannot, or will not, return to the hospital or clinic for follow-up care, make sure she leaves with a plan for a follow-up examination close to her facility.

8.4) Birth spacing counselling and services

It is important to remind the woman that fertility returns very soon after abortion and that she can become pregnant again almost immediately. Preferably on-site, the woman should be offered contraceptive counselling and the method of her choice. Women can safely use almost any modern contraceptive, after second-trimester abortion.

- Hormonal methods may be started immediately after an uncomplicated second-trimester abortion.
- Providers with skills and experience in IUD insertion after full-term deliveries may insert IUDs at this time.
- Minilap can perform immediately
- If a woman chooses sterilization by laparoscopy, she should wait until her uterus returns to its normal, non pregnant size (about 6 weeks) and use a temporary method until the sterilization can be performed.

- If a woman chooses to use fertility-awareness–based methods, also known as "natural birth spacing", she should wait until a regular menstrual cycle has resumed.

If a woman has a complication during or after a second-trimester abortion, health-care providers should take this into consideration when communicating about contraception.

Birth spacing counselling and services must be considered a priority and be integrated into second-trimester abortion service delivery. All women who want to avert pregnancy should receive contraceptive counselling and be able to leave the facility with their chosen method or an interim method.

8.5) Follow-up visit

Schedule a follow-up appointment for sometime within two weeks after the procedure. A follow-up visit after a second-trimester abortion is essentially the same as that after a first-trimester abortion:

- Review the woman's medical record from the procedure
- Inquire about how she feels
- Perform a physical examination,
- Review her contraceptive decisions,
- Provide any related services indicated or desired by the woman;
- Make sure to answer her questions.
- Record results of the follow-up visit in her medical chart.

9) Complications

When performed by a trained provider, complications of second-trimester abortion are rare. This section describes the presenting symptoms, potential diagnoses and recommended treatment for various complications associated with second-trimester abortion.

9.1) Heavy bleeding

The most common complication of second-trimester D&E abortion is heavy bleeding, which may occur during or at the end of the procedure, during the recovery period or after the woman has been discharged. The following are signs of heavy bleeding:

- heavy, bright-red vaginal bleeding with or without clots
- blood-soaked pads, towels or clothing
- pallor

The priority in treating heavy bleeding is to identify and treat the cause of the bleeding while the woman is being stabiliseised or resuscitated. Before pursuing a diagnosis, however, make sure the woman is stable and not in shock.

The cause of bleeding, as in the following examples, is often apparent.

Retained products of conception (POC) — a common cause of heavy bleeding — may be suggested if the woman appears otherwise fine but bleeding is not subsiding.

Uterine atony: if a boggy uterus is palpable, the uterus cannot contract enough to stop the bleeding.

Uterine perforation is suggested by report of extreme abdominal pain during the procedure or the clinician's ability to extend an intra-uterine instrument well beyond the expected length of the uterus.

Disseminated intravascular coagulation (DIC) should be considered when haemorrhage occurs after procedures performed for foetal death. With DIC, the woman's blood will not clot. In addition to the treatment methods mentioned below, administer, misoprostol, 800 mcg, rectally.

Evaluation of a woman bleeding more than normal after an abortion should include:

- a bimanual examination to assess uterine bogginess and palpate for laceration of the internal cervical os
- a speculum examination after expulsion of the foetus and placenta to observe bleeding and make sure the cervix is intact
- assessment of vital signs
- assessment of the woman's mental status (a change may indicate bleeding; sometimes confusion, severe drowsiness or anxiety can result from blood loss)
- Ultrasonography, if available, may be useful for further assessment.

9.2) Delayed vaginal bleeding

Within 24 hours after a second-trimester abortion, vaginal bleeding should decrease to levels similar to regular menstrual flow. Women with increased bleeding the day after the abortion should have a thorough physical examination to check for causes of bleeding.

Table iii. showing treatment of increased vaginal bleeding within 24 hours of second-trimester abortion, according to cause of bleeding

Cause of Bleeding	Treatment
Uterine atony	Bimanual uterine massage: hold uterus between abdominal hand on fundus and hand in vagina to create counter-pressure; vigorous massage often causes uterine muscles to contract. Note: uterine massage should be administered while medications are being prepared and given. Administer a uterotonic agent – in order of preference, these include: 1. intramuscular oxytocin, 10 units, or intravenous oxytocin, 10-30 units mixed with crystalloid; or 2. oral methylergonovine (Methergine), is 0.2 mg every 4-8 hours for 1-2 days 3. Oral / sub-lingual misoprostol, 800 mcg (do not exceed 800 mcg) May be given rectally as a last resort.
Retained products	Uterine evacuation (suction)
Cervical laceration	Pressure alone usually stops the bleeding — e.g., by clamping a ring forceps over bleeding site for several minutes; otherwise, laceration can be repaired by suturing or applying silver nitrate to bleeding site.
Uterine rupture	Surgical exploration

In addition to the treatments listed in table iii., treatment for severe vaginal bleeding (haemorrhage) should include the following (see also the section on shock):

- Control the bleeding (treat cause of bleeding — often by suction evacuation, if retained products are suspected).
- Make sure the woman's airway is open.
- Give oxygen at 6-8 L/min.
- Replace fluid or blood volume with intravenous fluids if:
  - there is clinical evidence of severe blood loss, such as tachycardia or hypotension when sitting or standing or estimated blood loss >500 cc;
  - haematocrit ≤ 15% or blood transfusion is required;
  - hemoglobin ≤ 5 g/100 mL (For example, if the patient is bleeding heavily, has an elevated pulse rate (≥120 beats/min) or has a decreasing blood pressure, she will soon need transfusion.)
- Monitor the amount of fluid and blood given, and urine output.

9.3) Retained products of conception (POC)

Women who present after second-trimester abortion with increased pain, smelly discharge bleeding, and signs of infection may have retained POC. Large amounts of retained POC can result in heavy bleeding and infection if untreated.

- Treatment involves evacuation of the uterus, preferably by first giving the woman antibiotics and then using MVA.
- Forceps may need to be used as well, depending on the specific part retained.
- If the uterus is infected, evacuation should be done cautiously by an experienced clinician, because perforation risk increases in such circumstances.

Note that some women with retained POC may be asymptomatic. Even in the absence of retained POC, uterine infection or endometritis may result.

If a woman is suspected of having postabortal endometritis, the provider should obtain cervical cultures, if possible, and then begin treatment with a full course of broad-spectrum antibiotics.

9.4) Lacerations and Perforation

Minor lacerations

With D&E abortions, minor lacerations can occur during cervical dilatation. Cervical injury can occur during foetal passage in a medication induction abortion. Occasionally, these lacerations can lead to infection. Proper preparation of the cervix can reduce the risk of laceration.

Uterine perforation

Uterine perforation is rare but potentially serious. It is an uncommon cause of postabortal bleeding, although it becomes more likely with increasing gestational age. Perforation is more likely to occur with less-experienced providers.

Small perforations may occur at the end of the procedure with no adverse signs; many of these heal without special treatment. Uterine perforation should be considered if any of the following signs or symptoms occurs during the procedure or recovery:

- excessive abdominal pain
- excessive bleeding
- instruments pass further than the estimated size of uterus
- tachycardia
- hypotension
- abdominal rigidity and distension
- shoulder pain
- nausea and vomiting
- air under the diaphragm in an erect abdominal x-ray, implying that free gas is in the abdomen
- bowel or omentum in the products of conception

Treatment of perforation

During the procedure:

If a perforation occurs during the procedure, the procedure should be stopped and the woman should be given prophylactic antibiotics and transferred to a setting where the procedure can be completed under laparoscopic guidance or by laparotomy.

Treatment of uterine perforation that occurs during a procedure includes:

- beginning intravenous fluids and antibiotics
- checking haematocrit
- arranging for blood transfusion, if indicated
- complete evacuation under direct visual control (laparoscopy or minilaparotomy) to assess damage to pelvic organs and prevent further damage

Referral to a higher level of care may be needed to repair damage by coagulating bleeding or by using sutures to close the defect and to confirm that the bowel is intact and no other abdominal organs are injured.

After surgery to repair the perforation, the woman should receive uterotonic agents and be monitored and treated according to the site's protocol.

After the procedure:

If uterine perforation is suspected after the procedure is complete, the woman should be monitored closely. Uterotonic agents, such as methylergonovine or oxytocin, may help contract the uterus and decrease bleeding in an otherwise stable woman. Rare cases may require laparoscopy or laparotomy to rule out any intra-abdominal injury. Visible fat or bowel in expelled or evacuated products confirms perforation and is associated with bowel injury; this requires surgical exploration.

To treat uterine perforation diagnosed after the procedure:

- Administer intravenous fluids and antibiotics.
- Give methylergonovine (Methergine), 0.2 mg intramuscularly, and repeat as necessary.
- Observe for 2 hours.
- Check vital signs frequently
    - If the woman stabiliseises and bleeding slows, give additional methylergonovine (Methergine, 0.2 mg intramuscularly; repeat as necessary) and continue observation overnight.
    - If bleeding and abdominal pain appear to be worsening, give the woman an additional dose of a uterotonic agent.
    - Laparoscopy or minilaparotomy may be necessary in rare cases to resolve bleeding, with referral as necessary.
    - If laparoscopy or minilaparotomy are unavailable, prepare the woman for transport. During transport, a trained health-care provider should accompany the woman to continue oxygen, intravenous therapy, keep her warm and, if she is experiencing shock or haemorrhage, to keep her feet elevated.

9.5) Infection and Sepsis

A woman can present with postabortal infection any time from several days to several weeks after an abortion. Infection in women who have had an abortion can be caused by microorganisms introduced into the cervix and uterus, or by bacteria growing in retained foetal or placental products. Infection may be limited to the uterus or cervix or may become generalised sepsis. In all cases, immediate treatment is required.

Signs and symptoms of infection or sepsis include:

- chills, fever and sweats (influenza-like symptoms)
- foul-smelling vaginal discharge
- abdominal pain or cramps
- distended abdomen
- rebound tenderness
- mildly low blood pressure
- prolonged bleeding
- overall malaise
- cervical os' remaining open

A diagnosis of uterine perforation should also be considered. A woman with a uterine perforation may have chills, fever, sweats, a distended abdomen and bleeding.

Treatment of infection

- If retained products are suspected with infection, perform MVA immediately. Uterine evacuation performed on an infected uterus may more easily result in perforation, so caution

should be used. (In such a situation, performing the evacuation under ultrasound guidance helps to avoid perforation.) If perforation is suspected, the evacuation should be performed during laparoscopy or laparotomy.

- Administer broad-spectrum antibiotics.
- Give intravenous fluid support.

Initial treatment for sepsis is determined by risk category. If risk of shock is low:

- make sure the airway is open
- monitor vital signs
- give intravenous fluid
- give intravenous antibiotics

If risk of shock is high, take the steps above and give oxygen. Whatever the level of risk, the underlying cause of infection must be treated while the clinician watches for signs of the following:

- shock
- disseminated intravascular coagulation (DIC)
- intra-abdominal injury.

See chapter 12 on the management of major complications.

9.7) Severe Pain

Cramping that worsens in the days following the procedure — especially if associated with fever, fundal tenderness or cervical motion tenderness — suggests retained products, infection or both. Increased cramping may also be associated with haematometra (uterine over distention with blood). A diagnosis of intra-abdominal injury should be considered if a woman complains of severe pain, especially in conjunction with symptoms such as nausea, vomiting, dizziness, shoulder pain, tense abdomen, decreased bowel sounds, tachycardia and decreased blood pressure. In the rare event that the pain a woman is experiencing is more severe than normal and she has other symptoms of injury, laparotomy or laparoscopy for diagnosis and treatment of intra-abdominal injury should be considered. Helping women to manage normal levels of pain and to describe any unusual, sudden or severe pain will assist in providing them with the best possible treatment.

9.8) Shock

Shock may occur if the woman has experienced haemorrhage and has low blood volume or sepsis; either case is an emergency situation requiring immediate treatment. If the shock is from sepsis, she will also need hospital services as soon as possible. With second-trimester abortion, shock most often results from haemorrhage or sepsis. Immediate treatment is required to save the woman's life. Once she is stable, it is vital to treat the cause of the shock (for example, whatever caused the heavy bleeding that led to the woman's going into shock).

Signs of shock include:

- rapid, weak pulse (≥110 beats/min)
- low blood pressure (diastolic < 60 mm Hg, systolic < 90 mm Hg)

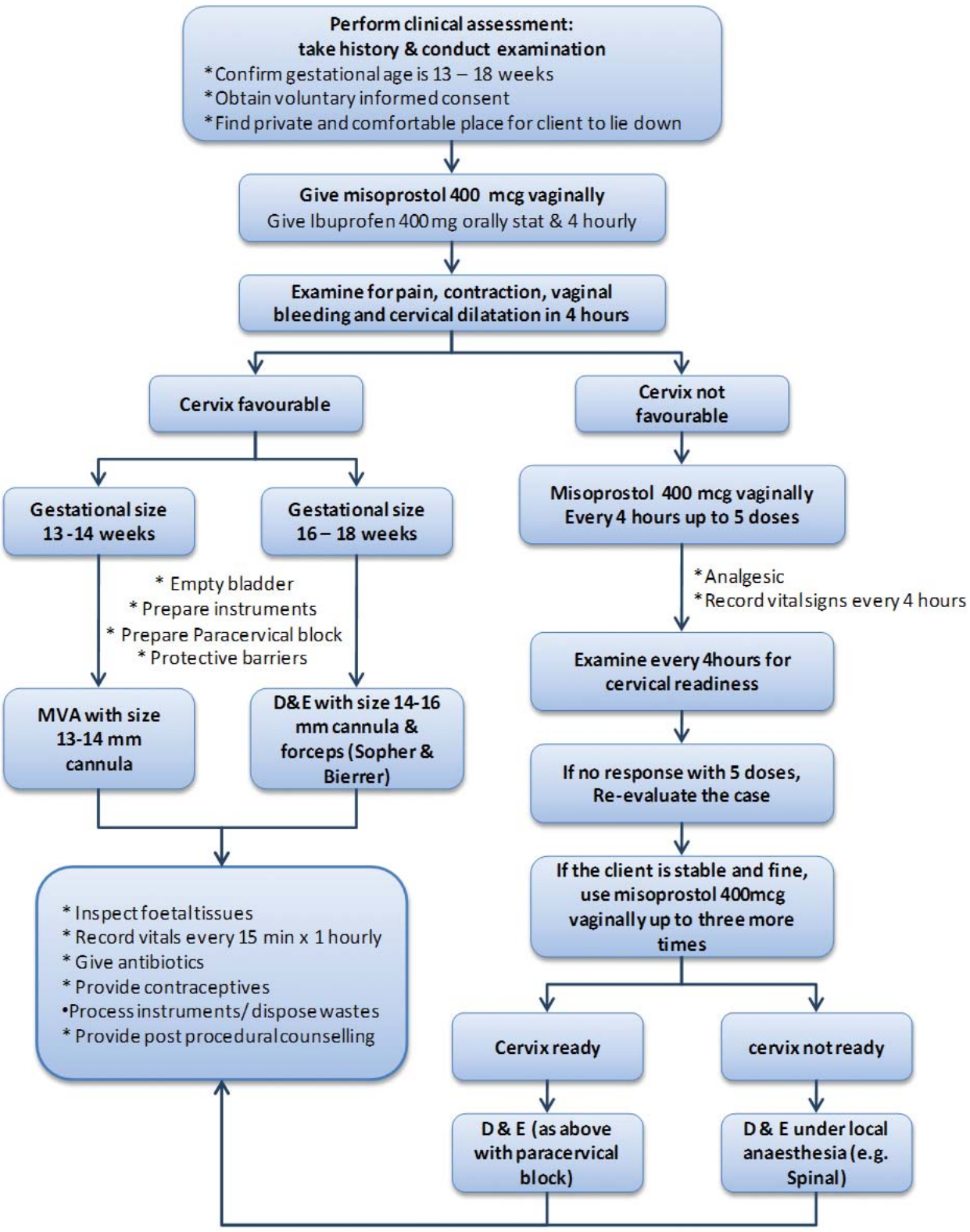
- pallor (especially of inner eyelid, around mouth or of palms)
- rapid breathing (≥30 breaths/min)
- anxious, confused or unconscious mental state and
- Profuse sweating or perspiration.

Initial treatment for shock involves:

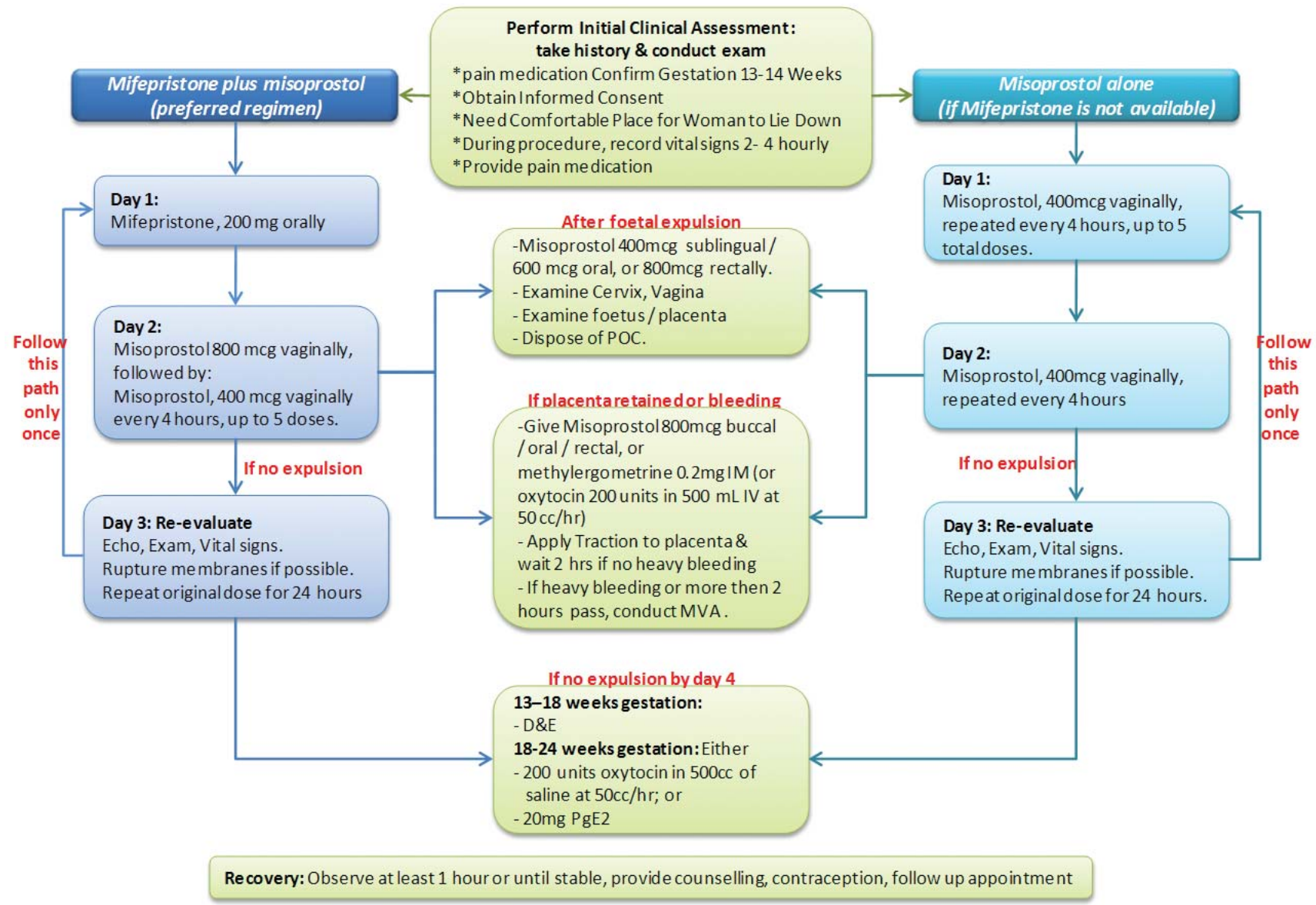
- making sure the airway is open
- giving oxygen (through a mask or nasal cannula) at 6-8 L/min
- giving intravenous fluids (Ringer lactate or isotonic solution at 1 L in 15-20 minutes by using large-bore needle (16-18 gauge)
- keeping the woman warm

After initial treatment, carefully monitor the woman for signs of improvement. If necessary, additional treatment measures may include use of intravenous antibiotics (if sepsis exists) or blood transfusion. Signs of stabilisation and improvement include increase in blood pressure, reduction and stabilisation of heart rate, and decrease in the level of confusion or anxiety.

Protocol for D & E Procedure for 2nd trimester abortion (13 – 18 weeks gestation)



Protocol for medical abortion for 2nd trimester (13-24 weeks gestational age)



Appendix

Appendix 1: Glossary of terms

Adverse Event (AE)- An adverse event is any adverse or serious change in health that occurs in a patient receiving treatment (medication, application of a medical device, etc.) related to the treatment or within a pre-specified period of time after their treatment has been completed. Adverse events must be reported following the established protocol.

Amenorrhoea - A lack of menstruation.

Bimanual Examination - Physical (two-handed) examination of the size, shape and position of the uterus. Used to compare the size of the uterus with the history of amenorrhea.

Bronchodilation – Expansion of the air passages leading to and in the lungs.

Cervix - A small canal which forms the opening to the cavity of the uterus.

Combined Regimens - Combined regimens for medical abortion include mifepristone and misoprostol used together; this combined regimen is more effective than single agents (one drug used alone).

Complete Abortion - Products of conception (POC) are completely expelled or removed. In medical abortion, the gestational sac, or embryo, may expel soon after misoprostol is used; it is normal for decidua and remaining endometrial tissue to slough over time.

Comprehensive Abortion Care (CAC) - Comprehensive abortion services - including treatment of incomplete abortion - that include a range of abortion options covering a wide span of gestational ages, as well as pre- and post-abortion information and counselling, follow-up care, and referral services, including for contraception.

Conception - The moment when the pre-embryo attaches to the lining of the uterus and pregnancy begins. Also used to describe the fertilization of the egg.

Contraception / Contraceptive - Any behaviour, device, medication or procedure used to prevent pregnancy.

Contractions - The muscle layers of the uterus tighten in a synchronous, rhythmic pattern. Contractions occur during medical abortion, after vacuum aspiration, miscarriage and childbirth. These contractions aid in expulsion of the uterine contents, cause the uterus to shrink to pre-pregnant size, and also clamp tightly around interwoven blood vessels, thereby preventing haemorrhage.

Contraindications - A condition or factor that increases the risks involved in using a particular drug, carrying out a medical procedure, or engaging in a particular activity. Some contraindications are absolute, meaning that there are no reasonable circumstances for undertaking a particular treatment. Other contraindications are relative, meaning that the patient has some risk of complications, but that these risks may be outweighed by other considerations or mitigated by other measures.

Ectopic Pregnancy - An ectopic pregnancy occurs when a fertilised egg attaches itself outside of the uterus, most often in a fallopian tube.

Emergency Contraception (EC) - Hormonal birth control pills used to prevent pregnancy after unprotected vaginal intercourse. Must be started within 120 hours (five days) of intercourse, but is

most effective if used as early as possible after unprotected intercourse. IUDs can also be used as EC, inserted within five days of unprotected intercourse to prevent pregnancy.

Foetus - Beyond 10 weeks after a woman's last menstrual period, the pregnancy is called a foetus; before 10 weeks, it is referred to as an embryo.

First Trimester - The first 3 months of pregnancy.

Follow-up - The visit, phone call, or other mechanism through which a health-care provider confirms that the woman's abortion was successful, and her progress is checked and any needs are met.

Gestational Age - This is the duration of pregnancy and is calculated from the first day of last menstrual cycle. It is usually measured in weeks.

Gestational Sac - A structure that develops in the uterus early in pregnancy; the first formation of an embryonic structure. In an ultrasound, the gestational sac should be visible by five weeks of pregnancy. In early pregnancy, the gestational sac is the first indication of an intrauterine pregnancy visible by ultrasound. A yolk sac within the gestational sac confirms intrauterine pregnancy.

Gestational Trophoblastic Neoplasm / Molar Pregnancy - A non-viable mass of proliferating cells that occurs when a foetus is not able to fully form in the uterus. Treatment includes removal and pathology review for definitive diagnosis. Follow-up is required to determine that choriocarcinoma does not develop.

HCG – A hormone normally produced during pregnancy. Can be tested for in urine or blood (serum hCG). In Cambodia only urine hCG test available.

Haemorrhage - Bleeding or the abnormal flow of blood, typically defined as loss of >500 cc of blood. In the context of post-abortion care, heavy bleeding can occur when incomplete abortion is left untreated.

Incomplete Abortion - An abortion – whether spontaneous or induced – in which some pregnancy tissue passes out of the uterus but some remains.

Induced Abortion - The intentional termination of pregnancy.

Intra-uterine Device (IUD) - A small device made of plastic, which may contain copper or a hormone, that is inserted into the uterus by a health care provider to prevent pregnancy. A reversible method of birth control available only by prescription.

LMP - Last Menstrual Period; duration of pregnancy is calculated from the first day of last menstrual period.

Maternal Morbidity - Serious disease, disability or physical damage to women caused by pregnancy-related complications.

Maternal Mortality - Deaths of women while they are pregnant or within 42 days of the end of a pregnancy (either an abortion or birth) caused by or related to the pregnancy or its management.

Missed Abortion - A kind of miscarriage; the pregnancy ends, but the tissue remains in the uterus.

Multiple Pregnancies - A multiple pregnancy is a pregnancy involving more than one foetus.

Ovulation - The release of the ripe egg from the ovary.

Policy - Includes statements, plans, practices, and regulations adopted by a government or other organization that are designed to guide or control institutional and community behaviour.

Post-abortion Care (PAC) - Post-abortion care refers to a specific set of services for women experiencing complications of abortion, including retained tissue, haemorrhage, and infection.

Precaution – a condition which necessitates a more careful evaluation of risks and benefits, and the individual clinical situation before starting a healthcare treatment.

Progesterone - A hormone produced in the ovaries of women that is important in the regulation of puberty, menstruation, and pregnancy.

Prostaglandin - One of a number of hormone-like substances that participates in a wide range of bodily functions such as the contraction and relaxation of smooth muscle, the dilation and constriction of blood vessels, control of blood pressure, and modulation of inflammation.

Regimen - A plan or regulated course of medication designed to give a particular result.

Reproductive Health - A state of complete physical, mental and social wellbeing in all matters relating to the reproductive system and to its functions and processes.

RU-486 - Name given to mifepristone during product development and sometimes still used to refer to the drug. (see "Mifepristone")

Safe Abortion - Termination of pregnancy by a skilled person at a place having all the required medical equipment.

Sanitary Pad - An absorbent "napkin" made of cotton or similar fibres that is worn against the vulva to absorb menstrual flow.

Side Effects - The most common side effects of medical abortion are caused by misoprostol. In addition to cramps and bleeding (which are expected effects), early side effects may include: headache, nausea, vomiting, diarrhoea, fever, chills, or fatigue.

Spontaneous Abortion - A miscarriage; the unintentional termination of any pregnancy that is not viable (the foetus cannot survive).

Teratogenicity - Having the ability to cause defects in a developing foetus

Termination of Pregnancy (TOP) - The intentional ending of a pregnancy before the foetus has grown enough to live outside the womb. Synonymous with the term "abortion."

Trimester - The nine months of pregnancy are traditionally divided into three trimesters: distinct periods of roughly three months each in which different phases of foetal development take place.

Ultrasound - A medical technology that creates an image by bouncing sound waves off the internal organs.

Unsafe Abortion - The termination of a pregnancy carried out by someone without the skills or training to perform the procedure safely or in a place that does not meet minimal medical standards, or both.

Uterine Contractility - The innate ability of a woman's uterus to contract; varies from woman to woman. During pregnancy prior to delivery, uterine contractility is suppressed by progesterone. The progesterone receptor inhibitor, mifepristone, increases uterine contractility and sensitises the myometrium to prostaglandins.

Uterine Perforation - When the wall of the uterus is punctured by a medical instrument during a procedure.

Uterus - The pear-shaped, muscular reproductive organ from which women menstruate and where normal pregnancy develops. Also called the "womb."

Viable - A foetus is said to be viable when it is able to survive outside the uterus.

Appendix 2: Equipment, Instruments and Minimum Operating Standards required for Comprehensive Abortion Care

Appendix 2a: Sample form for assessing Minimum Operating Standards Required for facilities to provide safe comprehensive abortion care

Name of Lead QA Officer after review:.....Sign & Date:.....

Name of facility..... ☐BAC; ☐CAC

..... Facility ID No.:.....

Province..... OD .....

Type of facility: ☐ Hospital; ☐ Health Centre; ☐ Other

Date of previous MOS assessment (or inclusion to RMMP): Date of this assessment:

....

Form completed by (name, title): .....
Other assessors present (name, title): .....

Ensure previous 'Minimum Operating standards Form' is reviewed before completing this assessment.

Ensure 'comments' column is completed for any items the facility does not have or is requested.

a Provided by government in MoH hospitals graded CPA2/3.

Item	Does have	Does NOT have	Not sure	Item requested	Comments
SECTION 1) CONDITION OF BUILDING Is CAC room fully renovated? ☐ YES, ☐ No. If YES go to 2. If 'No', identify missing items					
Comment on overall appearance of CAC room (space available, ventilation, conditions of walls, floor, ceiling, note any problems with lighting, water supply, electricity, etc).	Mark ✓ in next column if you need to alert the Manager to missing items				Record here if any item could potentially be harmful to client care, or infection prevention.
SECTION 2) FURNITURE Is CAC room fully supplied? ☐ YES, ☐ No. f YES go to 3), If 'No', identify missing items					
Cupboard					
Table for consultation					
2 chairs for consultation					
Folding screen (for privacy)					
Electric extension cable					
Fan					

Item	Does have	Does NOT have	Not sure	Item requested	Comments
SECTION 3) GENERAL EQUIPMENT Is CAC room fully equipped? ☐ YES, ☐ No. If YES go to section 4), If 'No', identify missing items					
Electric pot / gas stove + cylinder for sterilizing					
If no electricity, is gas cylinder filled? *					
Gynecological bed					
Trolley					
Mayos trolley					
Recovery bed					
Blood pressure apparatus					
Stethoscope					
MVA Set (includes aspirator & correct number of cannulae)					
Strainer					
Plastic Bowl					
Sterilise gloves *					
Non-sterile gloves*					
Utility gloves *					
Laparotomy Set *a					
SECTION 4) ITEMS FOR 1ST TRIMESTER SAC: Is CAC room fully equipped? ☐ YES, ☐ No. If YES go to section 5), If 'No', identify missing items					
Examination lamp					
Plastic apron					
Plastic boots					
Plastic goggles					
Chittel forceps					
Long dressing forceps					
Ring forceps					
Speculum (Bi valve)					
Bowl					
Box					
Kidney tray					
Galli pot					
MVA Syringe					
Cannula Nº (4-12) Kit					
Ambu bag *					
Emergency resus. drugs* (adrenaline, hydrocortisone) *					

Item	Does have	Does NOT have	Not sure	Item requested	Comments
Sedative (e.g. diazepam) *					
Local anaesthetics *					
Analgesics *					
Antibiotics *					
Oxytocin *					
Chlorine / paracetic acid solution*					
Chlorexidine *					
Oxygen *					
SECTION 5) ITEMS for 2nd Trimester SAC (If facility has been trained in this), or circle N/A Is CAC room fully equipped? ☐ YES, ☐ No. If YES go to section 4), If 'No', identify missing items					
Needle holder					
Curette Nº 0 & Curette Nº 9					
Instrument Box					
Tenaculum Forcep					
Bierer Ovum Forcep 19mm					
Sopher Ovum Forcep 14mm					
MVA (includes aspirator & appropriate number of cannulae)					
Cannulae Nº 10,12,13,14					
Mifepristone tablets 200mg					
Misoprostol tablets 200mcg					
Ibuprofen 400mg					

SECTION 6) Renovation & Supply Status	
Are any additional urgent supplies or renovations requested (i.e. without them, there is a risk for harm to client care)	☐ YES, ☐ No. If 'YES', inform Section Manager to arrange renovations & re-supply

Any further comments/suggestions for obtaining supplies: .....

.....

7) Date of referring to Manager : (QA Officer to date & sign.....

.....

8) Any comments / feedback from Manager?

.....

Appendix 2b showing instruments and equipment required for first-trimester surgical uterine evacuation

1) Electric vacuum aspiration
• Personal protective barriers such as: gowns, aprons, glove, face protection • Examination table • Light • MVA aspirator (syringe) • Lubricant for aspirator (syringe) • EasyGrip cannulae • Speculum • Tenaculum • Small cup • Tapered mechanical dilators (Pratt or Denniston) • 10 cc syringe with # 23 gauge spinal or hypodermic needle • Sponge holder • Kidney tray • Smooth forceps (Non tooth) • Strainer • Bowl • Betadine or other non-alcohol based antiseptic • Xylocaine 1 % without epinephrine (for paracervical block)
2) Electric vacuum aspiration
Uterine evacuation instruments plus: • Vacuum pump with extra glass bottles • Connecting tubing • Cannulae (any of the following): - flexible: 5, 6, 7, 8, 9, 10, 12 mm - curved rigid: 7, 8, 9, 10, 11, 12, 14 mm - straight rigid: 7, 8, 9, 10, 11, 12 mm
3) Manual vacuum aspiration
• Uterine evacuation instruments plus: • Vacuum aspirators • Cannulae, size 4 to 12 mm • Silicone lubricant
4) Beyond 10 weeks LMP
• Uterine evacuation instruments plus: • Pratt or Denniston dilators: sises 29 - 43
5) Additional should be available wherever uterine evacuation is performed in case of uterine prolapsed or cervical tears - not necessarily present on every tray.
Special specula: • Small Pederson type • Large Graves type • Sims • VU-Moore type • Extra dilator packs • Extra cotton balls and/or 2“gauze sponges • Needle holder • Tissue forceps

Appendix 2c: Instruments and equipment for second-trimester dilatation and evacuation

1) Instruments for each second trimester abortion tray:
• Personal protective barriers such as: gowns, aprons, glove, mask, glasses or eyewear and footwear • Short, wide, open sided vaginal speculum (e.g., Klopfer or Sims) • Atraumatic tenaculum forceps, 25 cm, angled • Pratt dilators, sises 29 – 55 • Vacuum aspirator with 12-, 13- or 14-mm cannulae and adaptors • Sponge forceps • Sopher forceps, small • Bierer ovum forceps, large, 19mm jaws • Long postpartum flexible curette (optional) • Single tooth tenaculum forceps(optional) • Instrument tray for instrument storage • Bowl for tissue collection • Container (200 ml) for antiseptic solution • Lidocaine 1% • Syringe, 10ml with control grip for paracervical block through 25 gauge needle or 22 gauge • Gauze sponge 4x4 • Cotton balls
2) Equipment for intravenous infusion of oxytocic drugs
• Sets for intravenous infusion, including needles • IV fluids
3) **Additional -** should be available wherever second-trimester uterine evacuation is performed in case of uterine prolapse or cervical tears - not necessarily present on every tray
• Vaginal retractors, 1 pair (medium) • Sponge forceps, 25 cm curved • Needle holder, long • Tissue forceps, 25cm • Scissors, large, curved

Appendix 2d: Equipment and drugs required for emergency resuscitation

Management of the airway and respiration	Self-inflating (Ambu) bag Oral airway Oxygen supply Suction apparatus
Control of bleeding / haemorrhage	Oxytocic drugs (ergometrine, oxytocin) IV fluids
Intravenous fluid replacement	IV set up
Control of pain	Anxiety: • Verbal support • Diazepam (Valium): - PO: 10mg 1hour prior to procedure - IV: 2-5mg IV 20mn prior to procedure Cervical Dilatation : • Xylocaine (Lidocaine, Lignocaine) : - 15-20ml of 1% solution in paracervical block - Not to exceed 4.5 mg/kg Uterine Manipulation: • Ibuprofen (Naproxen, Advil) : - PO: 400-800mg 1 hour before procedure • Acetaminophen (Tylenol, Paracetamol): - PO: 500-1000mg 30-60 min before procedure

Appendix 3: A summary of the female reproductive health anatomy

This appendix provides a summary of the female reproductive organs as an *aide memoir*. A summary of the features and functions of the expernal and internal organs is outlined.

The external female reproductive organs

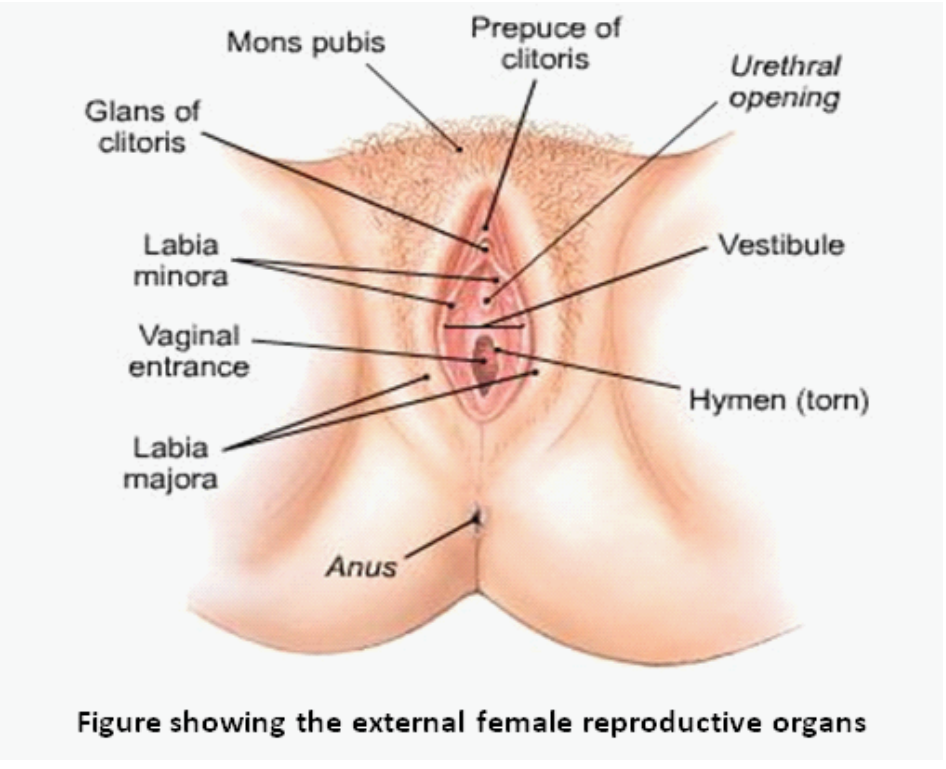


Figure showing the external female reproductive organs

There are three openings visible in the perineum:

- The **urethra** through which urine passes from the bladder,
- The **vagina** is the external opening for the female reproductive organs. The **vulval vestibule** is the anatomical name for the entrance to the vagina.
- The **anus** as the opening of the rectum.

The **hymen**, is a fold of mucous membrane that surrounds or partially covers the external vaginal opening. It forms part of the vulva, or external genitalia. It may or may not be completely absent after childbirth.The **labia majora**(outer) and **minora**(inner) are thelips that enclose and protect the other external reproductive organs. The **clitoris** is where the two labia minora meet, and is a small, sensitive protrusion that is comparable to the penis in males. The clitoris is covered by a fold of skin, called the **prepuce**, which is similar to the foreskin at the end of the penis. The head or **glans of the clitoris** is highly sensitive, containing as many nerve endings as the analogous organ in males, the glans penis, making it particularly well-suited for sexual stimulation. During arousal, the glans becomes engorged with blood and protrudes from the clitoral hood.

The internal female reproductive organs

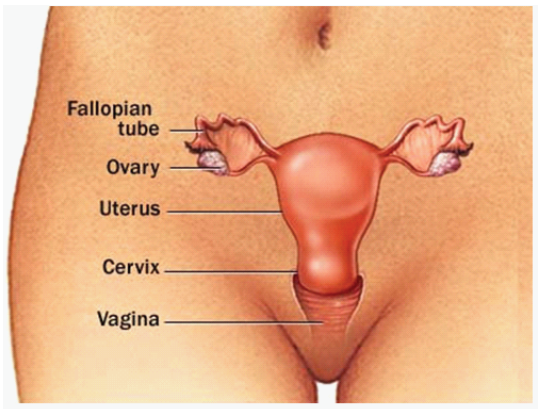


Figure showing the internal female reproductive organs

- The **vagina** is a hollow tube. This is where the man puts his penis during sexual intercourse. It is also where the menstrual blood flows from the woman's body and where the baby comes out.
- The **Cervix** is at the end of the vagina. It is also the opening to the uterus.
- The **Uterus** is an organ about the size of a fist and is shaped like a small upside down papaya. The uterus is closed so if an IUD is inserted it cannot move up or downwards. This is also where a baby grows.
- The **Fallopian tubes** are two tubes which lead out from either side of the top of the uterus to the ovaries. The eggs travels along this tube to reach the uterus.
- The **Ovaries** – have two functions:
  - They produce the two hormones, oestrogen and progesterone which cause changes in a women's body through out her life.
  - They store and release the eggs on a regular basis from puberty until menopause.

Appendix 4: Client Consent Form [Khmer]

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

មជ្ឈមណ្ឌលជាតិគាំពារមាតា និងទារក

កិច្ចព្រមព្រៀងព្យាបាល

ខ្ញុំបាទ-នាងខ្ញុំឈ្មោះ..... ភេទ..... អាយុ.....ឆ្នាំ សញ្ជាតិ.....
មុខរបរនិងទីកន្លែងធ្វើការ.....អសយ័ដ្ឋានបច្ចុប្បន្ន.....
ត្រូវជា.....អ្នកជម្ងឺឈ្មោះ..... លេខ ID.....អាយុ.....ឆ្នាំ សញ្ជាតិ.....

ក្រោយពីបានស្តាប់ការណែនាំរបស់គ្រូពេទ្យ ស្តីអំពី :

- ☐ ដំណើរវិវត្តន៏និងគ្រោះថ្នាក់ផ្សេងៗដែលអាចនិងកើតមានជាយថាហេតុនៃជម្ងឺដែលនឹងត្រូវទទួលការ ព្យាបាលនេះ
- ☐ ជោគវាសនាភ្លាមៗនិងទៅអនាគតរបស់អ្នកជម្ងឺនិងផលប្រយោជន៏នៃការសំរេចចិត្តទទួលយកការព្យាបាលនេះ
- ☐ ផលវិបាកដែលអាចនឹងកើតមានក្នុងការព្យាបាលដោយវះកាត់
- ☐ ផលវិបាកដែលអាចនឹងកើតមានក្នុងការព្យាបាលដោយប្រើប្រាស់សំភារៈ បរិក្ខាផ្សេងៗ
- ☐ ប្រតិកម្ម ឥទ្ធិពលបន្ទាប់បន្សំ និង ផលវិបាកដែលអាចនឹងកើតមានក្នុងការដាក់ថ្នាំសណ្តំ ថ្នាំស្តឹក
- ☐ ប្រតិកម្ម ឥទ្ធិពលបន្ទាប់បន្សំ និង ផលវិបាកដែលអាចនឹងកើតមានក្នុងការប្រើប្រាស់ថ្នាំជុំវិញការសំរាលកូន
- ☐ ប្រតិកម្ម ឥទ្ធិពលបន្ទាប់បន្សំ និង ផលវិបាកដែលអាចនឹងកើតមានក្នុងការបញ្ចូលឈាម

បានសុខចិត្តព្រមព្រៀងក្នុងការជូនលទ្ធភាពព្យាបាលតាមបច្ចេកទេសដោយ :

1.....
2.....
3.....
4.....

ដោយខ្ញុំបាទ-នាងខ្ញុំសុខចិត្តទទួលខុសត្រូវទាំងស្រុងចំពោះមុខច្បាប់លើគ្រប់គ្រោះថ្នាក់ ដែលអាចនឹងកើតមាន ជាយថាហេតុដល់អ្នកជម្ងឺនេះនៅក្រោមកិច្ចព្យាបាលខាងលើ ។

ភ្នំពេញ, ថ្ងៃទី ខែ ឆ្នាំ ២00
ស្នាមមេដៃស្តាំ

គ្រូពេទ្យព្យាបាល	អ្នកជម្ងឺ	អ្នកធ្វើកិច្ចព្រមព្រៀង
ហត្ថលេខា		
ឈ្មោះ_____	ឈ្មោះ_____	ឈ្មោះ_____

Appendix 5: Client Record Form [English]

Kingdom of Cambodia
Nation Religion King

[Name of Hospital]

Miscarriage/ Abortion Record (MVA)

I. General Information

- Name and Sure Name :.....Date of Birth.....
- Occupancy :.....
- Address : #.....Road No.....Village.....Commune.....
  District.....Province.....
- Family Status : ☐ Married ☐ Unmarried ☐ Divorce ☐ Others
- Owned TV : ☐ Yes ☐ No
- Literate : ☐ Yes ☐ No
- Contact person in case of emergency
  - Telephone No:.....Relationship.....
  Address:.....

II. Reason of Entry

- Come in to abortion ward: (H).....:.....minutes / Date...../...../.....
- Admission Diagnosis:.....
- ☐ Come alone ☐ Come with husband ☐ Come with relative

III. Medical History

A. Woman history

1. Obstetrics Description
   - No of pregnancy:.....No of delivery:.....
   - No of alive child:.....Female:.....Male:.....
   - Date of Birth of last child : (Year).....
   - Complication during delivery :.....
   - Caesarean section history :.....No of C section:.....Year:.....

- Drugs reaction : ☐ Yes ☐ No
- Abortion history : ☐ Yes (Date of last abortion:.....) ☐ No
  - No of abortion in first trimester :.....
  - No of abortion in second trimester :.....
- No of abortion in [*Name of hospital*]l ☐ Yes ☐ No
- Birth spacing used before this pregnancy: ☐ Used ☐ Not used

☐ IUD ☐ Pill ☐ Injection
☐ Implant ☐ Condom ☐ Natural method

2. Surgery history : ☐ Yes ☐ No

.....

3. Other medical history

☐ Hypertension ☐ Diabetes ☐ Asthma ☐ Convulsion
☐ Server heart disease ☐ HIV ☐ Others:.....

B. Abortion History in Family

.....

.....

IV. Examination

- General Examination
  - General Condition: ☐ Anemia ☐ Yellow ☐ Nervous

    BP:.....Pulse:.....Temperature:.....Weight:.....
  - Examine heart vein system:.....
  - Examine respiratory system :.....
- Antenatal and Gynecologic Examination
  - Reason of terminating pregnancy:.....
  - Date of LMP :.....
- Examine :
  - Vaginal :.....
  - Vaginal Discharge:.....
  - Vaginal os:.....
  - Cervix:.....
  - Uterus : (size, tenderness, position).....
  - Fallopian tube:.....

- Paraclinic
  - Pregnancy test:.....
  - Ultrasound:.....
  - Blood test : Group age.....TS.....TC.....HT.....)
  - Others test :.....

V. Diagnosis:.....

VI. Pain Management:.....

VII. Abortion Methods

☐ MA
☐ MVA
☐ EVA
☐ D&E
☐ D&C
☐ End of procedure check up by curettage
☐ Kovacs

VIII. Medication Pre Procedure, During Procedure and Post Procedure

- Pre procedure:.....
- During procedure:.....
- Postprocedure:.....

IX. Tissue Inspection

- Amount :.....ml
- Components:..... ☐ vili ☐ placenta ☐ embryo
- Determine of pregnancy : ☐ Yes ☐ No

X. Complication During Procedure and Management :.....
.....
.....
.....

XI. Follow Up After Procedure

- General Condition:.....
- BP:.....Pulse:.....Temperature:.....Breath:.....
- Pain:.....Vaginal bleeding:.....

XII. Care and Advice Before Discharge

- BP:.....Pulse:.....Temperature:.....Breath:.....
- Abdomen : ☐ Tension ☐ Not Tension
- Bleeding pattern :.....No of pad soaked :.....
- Advice for birth spacing:.....

.....

- Birth spacing given : ☐ Yes ☐ Referred:.....

☐ IUD ☐ Pill ☐ Injection

☐ Implant ☐ Condom ☐ Natural method

XIII. Follow up Appointment:...../...../.....

.....

.....

.....

.....

.....

.....

XIV. Continue of Care:.....

.....

.....

.....

.....

.....

Date:...../...../.....

Provider:.....

(Signature and Name)

Appendix 6: Frequently asked questions with answers on medical abortion[120]

General Information

- ***How does medical abortion (MA) differ from emergency contraception (EC)?***

MA stops an implanted pregnancy from growing and causes expulsion of the pregnancy, but EC prevents a pregnancy from occurring in the first place. EC must be taken within 120 hours (5 days) of unprotected sex (but the sooner, the better), whereas MA can be used to abort a pregnancy in the first and second trimester (using different regimens depending on gestational age). In summary, EC is not abortion and it must be taken within a few days of unprotected sex to prevent a pregnancy, whereas MA is an abortion of an existing pregnancy.

- ***Who can provide MA?***

Any trained clinician can provide MA as long as s/he can estimate gestational age and provide follow-up. MA providers do not have to provide vacuum aspiration services, but must be able to manage or refer in the unusual case of an MA failure and must be able to manage or refer in the rare case that a complication occurs.

Eligibility

- ***Is MA safe and effective for adolescents?***

Yes, MA is safe and effective in adolescents[121] and has been found to be even more effective in women who have never given birth (see below).

- ***Is MA less effective for women who have never had children (nulliparous women)?***

MA is effective in women of any parity, especially in nulliparous women. In a retrospective study of MA up to 49 days, it was found that the success rate was higher for nulliparous women than for those women who have previously given birth (parous women)[122],[123].

- ***Are there any precautions for women who have had prior cesarean-sections when using MA before 13 weeks?***

No. Women with prior cesarean-sections (c-sections) are eligible for MA. One study of MA up to 56 days since LMP found that women who had previous c-sections had higher failure rates[124]. This study was conducted using the less effective oral route of 400 µg of misoprostol. There is little data on safety of MA for women with prior c-sections from 9-13 weeks, but a recent review of second-trimester abortion (up to 26 weeks) with misoprostol found the risk of uterine rupture to be less than 0.3 %

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120 Adapted from: Ipas. 2009. Medical Abortion Study Guide. Chapel Hill, N.C.: Ipas and

121 Phelps, Rachael, Eric A. Schaff, and Stephen L. Fielding. (2001) Mifepristone abortion in minors.Contraception, 64: 339-43.

122 Chien, Li-Wei, Wei-Min Liu, Chii-Ruey Tzeng, and Heng-Kien Au. (2009) Effect of previous live birth and prior route of delivery on the outcome of early medical abortion. Obstetrics and Gynecology, 113 (3): 669-74.

123 Lefebvre, Phillipe, Martine Cotte, Nicole Monniez, and Gerard Norel. (2008) The role of parityin medical abortion up to 49 days of amenorrhoea. European Journal of Contraception and Reproductive Health Care, 113 (4): 404-11.

124 Chien (2009), Ibid.

(similar to vaginal delivery after c-section)[125], so one can assume that the risk of uterine rupture is far lower in abortions from 9-13 weeks. MA can be recommended for women with prior c-sections at this gestational age.

- ***If a woman has had a MA before, will subsequent MA be less effective?***

There is no reason to think that MA medications change the way they work during repeat uses. Some medicines, but not those used with MA, build up resistance or tolerance but this usually is not relevant with occasional use, such as with repeated mifepristone abortion. There is no published evidence to prove that the effectiveness of MA does not change with repeat use, but there is no reason to think that it would. In other words, there is no biological reason to think that the efficacy would change for a woman over time.

In addition, it is known that high-volume clinics have provided five or six medical abortions to an individual woman over several years, and each MA has been successful.

- ***Do women need to have access to a telephone in order to use MA?***

No. MA has been provided for women in communities where there are no phones at all; in these cases, a woman would be taken by vehicle to a medical facility if a serious problem arose.

Practical Advice

- ***Does the mifepristone dose need to be repeated if a woman vomits?***

If the woman has kept down the mifepristone for 30 minutes, she doesn't need a repeat dose of mifepristone. If she vomits within 30 minutes, she should be given a repeat mifepristone 200 mg pill. If a woman is known to have a problem with frequent vomiting with pregnancy, to prevent her from vomiting the mifepristone, it may be helpful to give an anti-emetic or a light snack to settle her stomach prior to giving mifepristone.

- ***What practical advice can help women preparing to have MA?***

Providers report that women who are well-hydrated feel better and endure the side effects of misoprostol better. Encourage women who are having MA to drink plenty of non-alcoholic beverages throughout the entire process.

- ***Is it necessary for a woman to have an adult stay with her on the day she takes misoprostol?***

Having a friend, spouse, or family member in the home or close by on the day the woman takes misoprostol is ideal. However, some women prefer to be alone and do not want others with them after they take misoprostol or go through the process of expelling the pregnancy. If a woman is alone, it is highly recommended that she has access to a telephone if she needs help — or at least has someone checking in on her throughout the day.

- ***Can women undergoing MA use tampons?***

Once the heavier bleeding has subsided a day or two after using misoprostol, she may use tampons. Basically, she can use tampons when she's comfortable doing so, but during the day she uses misoprostol, it's easier to assess the amount of bleeding if she does not use tampons.

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[125] Goyal V. (2009). Uterine rupture in second-trimester misoprostol-induced abortion after cesarean delivery: A systematic review. Obstetrics and Gynecology, 113 (5): 1117-23.

- ***Can women undergoing MA take a bath?***

Women can bathe during the MA, but should not insert the misoprostol vaginally while in the bath tub.

- ***Should certain foods be avoided while using MA?***

Any foods that the woman is comfortable eating and do not cause nausea or vomiting are safe to eat while using MA and will not interfere with the medications.

- ***Is there a right or wrong place to insert the misoprostol vaginally?***

The medication in misoprostol will be absorbed if it is placed anywhere in the vagina. After placing the pills in the vagina it is recommended that the woman lie down for 30 minutes so the pills do not fall out.

- ***What if the woman inserts misoprostol vaginally, the pills don't dissolve?***

If the woman inserted the misoprostol vaginally, as long as the misoprostol has been in the vagina for 30 minutes, the active medicine has absorbed. If she gets up and urinates, for example, and the pill casings come out, she doesn't need to put them back in the vagina. Similarly, if she places the misoprostol in the cheek (buccal) or under the tongue (sublingual), even if the pills haven't dissolved, the active medicine has absorbed, and she should swallow the remaining pill fragments 30 minutes later.

- ***How much time does the woman need to rest after using misoprostol?***

This will depend on the woman and her other responsibilities and any underlying medical conditions (such as anaemia). Typically, women can resume normal activities as early as the day after using misoprostol, although she will likely be bleeding for several days or weeks. She should not engage in heavy physical activity (such as heavy lifting or vigorous exercise) for about a week after MA.

- ***Some women tell their family members that they are having a miscarriage, not an abortion. Will the family members be able to tell the difference?***

MA is basically a miscarriage induced with medicines so unless a woman reveals that she's taken medicines, family members or others will not be able to tell the difference between a miscarriage and a medical abortion.

- ***Is it possible for an adolescent or woman to just tell others that she is having a heavy period (so that family members won't know she was pregnant)?***

Some young women living with their families have had MA and told their families that they're having a heavy menstrual period (if they say anything). They should be counselled, however, that their plan to keep the abortion and pregnancy secret may not work if they experience very heavy bleeding that requires emergency treatment, which is not common but can occur.

Follow-Up

- ***For those doing ultrasound at follow-up, what if an empty sac (not an ongoing pregnancy) is seen at the follow-up visit?***

If an empty gestational sac is seen on follow-up ultrasound, expectant management (waiting and watching) can be used or an additional dose of misoprostol can be offered. A small study of 800 µg of misoprostol vaginally for MA up to 63 days since LMP found that more than half of women expelled

the gestational sac 1 week after the repeat dose of misoprostol[126]. Women's wishes to avoid surgery and instrumentation should be considered. Uterine aspiration may be necessary if the woman is symptomatic for bleeding problems.

- ***If the woman is still pregnant at the follow-up visit can the dose of mifepristone and misoprostol be repeated?***

If the woman is still pregnant at the follow-up visit, this is considered a MA failure and standard practice is to refer her for uterine aspiration. A repeat dose of misoprostol 1 week after the MA for ongoing pregnancies has been studied and found to have limited success (about 30 %) but is another option that can be considered to avoid uterine aspiration[127]. Repeating the entire regimen of mifepristone and misoprostol has not been studied and is not recommended.

- ***When will menstruation return after MA?***

A study found that menses typically return about 33 days after MA[128].

- ***Will clinicians receive a lot of after-hour phone calls when providing MA?***

Clinicians receive fewer after-hours calls as they gain experience with MA. This is simply because they learn how to communicate more clearly and effectively with women about what to expect with the MA process. The amount of calls received after hours will depend on the quality of the counselling and advance guidance given to women at the initial visit for MA. Women's questions will lead providers to improve counselling by remembering to answer these concerns during subsequent clinic visits.

- ***What if a woman has an ongoing pregnancy at the follow-up visit and refuses to terminate the pregnancy?***

Clinicians cannot force women to terminate a pregnancy, but should inform women of the potential risk of birth defects should that pregnancy continue. At the initial visit, part of the counselling is to assess whether the woman is committed to the steps necessary to terminate the pregnancy, including vacuum aspiration if necessary. See "Potential Birth Defects" in Chapter 8.

- ***What are the psychological after-effects of MA?***

Several studies have looked at the psychological status of women after having an abortion. One study looked at the psychological health 2 years after women had vacuum aspiration or MA[129]. They found no significant differences in reproductive or psychological health between the two groups. Studies have found that it is very important to women to choose the abortion method they prefer. When measured before and a month after the abortion, anxiety and depression declines significantly in women who choose either method[130].

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126 Reeves, MF., Anupa K, & Mitchell DC. (2008). Medical abortion outcomes after a second dose of misoprostol for persistent gestational sac. Contraception, 78: 332-5.

127 Reeves (2008) Ibid.

128 Davis A, Westhoff C, and De Nonno L. (2000). Bleeding patterns after early abortion with mifepristone and misoprostol or manual vacuum aspiration. Journal of the American Medical Women's Association, 55 (3): 141–4.

129 Howie, FL,. Henshaw R.C, Naji SA, Russell IT, & Templeton, AA. (1997). Medical abortion or vacuum aspiration? Two year follow up of a patient preference trial. British Journal of Obstetrics and Gynaecology, 104: 829-33.

130 Hemmerling, A, Siedentopf F, & Kentenich H. (2005). Emotional impact and acceptability of medical abortion with mifepristone: A German experience. Journal of Psychosomatic Obstetrics & Gynecology, 26 (1): 23-31.

Appendix 7: Misoprostol as cervical preparation for first-trimester abortion using vacuum aspiration.

Misoprostol has been demonstrated to be effective for cervical preparation prior to first-trimester abortion. Cervical preparation using misoprostol may make first-trimester abortions easier to perform. Further investigations are needed to establish the effect of cervical preparation using misoprostol upon abortion related complications.

Indications:

- Client desires termination of pregnancy.
- Cervical preparation prior to vacuum aspiration. Cervical preparation is recommended for pregnancies over nine completed weeks for nulliparous women, for women younger than 18, for durations of pregnancies over 12 completed weeks(1), or for other situations in which the risk of perforation is increased(2).
- No known hypersensitivity to prostaglandins.

Examples of Dose/ Route/ Timing of Misorportol:

Dose of Misoprostol[a]	Route	Timing
400µg (two 200µg tablets)	Vaginally[b]	3-4 hours prior to suction aspiration (3,4,5,6)
400µg (two 200µg tablets)	Buccal or sublingual	3-4 hours prior to suction aspiration (3,6)
a Mefipristone and Misoprostol are registered in Cambodia under the name of Medabon. According to the registration, Mesoprostol will be administrate vaginally. b Vaginal route may provide more effective dilation with fewer systemic side effects (3,5,7,8)		

Notes:

- Side effects may include chills, fever, nausea, vomiting and diarrhoea.
- Side effects may also include bleeding, cramping and risk of expelling the pregnancy prior to vacuum evacuation.
- Increasing the vaginal dose to 600µg or 800µg gives similar dilation rates to the 400µg dose, with more side effects.
- Misoprostol has been shown to be as effective as mechanical (for example, laminaria) dilators.

1. World Health Organization. 2003. Safe abortion: Technical and policy guidance for health systems. Geneva, WHO.
2. Royal College of Obstetricians and Gynaecologists (RCOG). 2000. The care of women requesting induced abortion. London, RCOG Press.
3. Carbonell,J,L,A Velazco,Y, Rodriguez, R. Tanda, C.Sanchez,S.Barambio,L.Valera,S.Chami, F.Valero, S.Arangon and J. Mari.2001. Oral versusvaginal misoprostol for cervical priming in first- trimester abortion: A randomized trial. Europ J of Contraception & Repro Health Care, 6(3): 134-40
4. Singh,Kuldip, Y.F.Fong,R.N. Prasad and F. Dong.1999. Evacuation Interval after vaginal misoprostol for preabortion cervical priming: A randomized trial. Obst & Gynecology , 94 (3): 431-4.
5. Maclsaac, Laura, Daniel Grossman, Elizabeth Balistreri and Philip Darney.1999.A randomized cotrolled trial of laminaria, oral misoprostol, and vaginal misoprostol before abortion. Obstetrics and Gynecology, 93 (5.1): 766-70.
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8. Goldberg, A.B., M. B. Greenberg and P.D. Darmey. 2001. Misoprostol and pregnancy. New England Journal of Medecine, 344(1): 38 - 47

Appendix 8: Sample Clinical Referral Form I

Referrals :

One of the following forms should be completed for any woman who is referred for care to another health- care facility. Because the form describes the woman's confidential medical information, including her history, the provider should ask her if she feels comfortable taking the form with her. If so, the woman should bring the form to the referral facility; if not, the provider should find an alternate means of ensuring that the referral facility receives the information.

Clinical Referral Form I

Client information

Name: .....

Referred for:.....

Date and time of admission.....

Diagnosis:

History (reproductive history, including number of pregnancies, births, etc..):

.....

Clinical condition (vital signs, findings of physical / pelvic examinations):

.....

Initial treatment (fluids, drugs given, action to control bleeding, any other medical steps taken):

.....

Assessment of woman's condition / other information:

Health professional (print name) Location(hospital, clinic)

Signature Date

Appendix 9: Sample Clinical Referral Form II

Name and contact information of referral centre or provider:

.....

.....

.....

Client name :

.....

Reason for referral:

- ☐ Follow-up appointment
- ☐ Contraception services
- ☐ Counselling
- ☐ Screening / treatment for sexually transmitted infection
- ☐ Screening for cancer
- ☐ Violence support services
- ☐ Other health or social services (specify)

Recent medical history:

.....

.....

.....

.....

.....

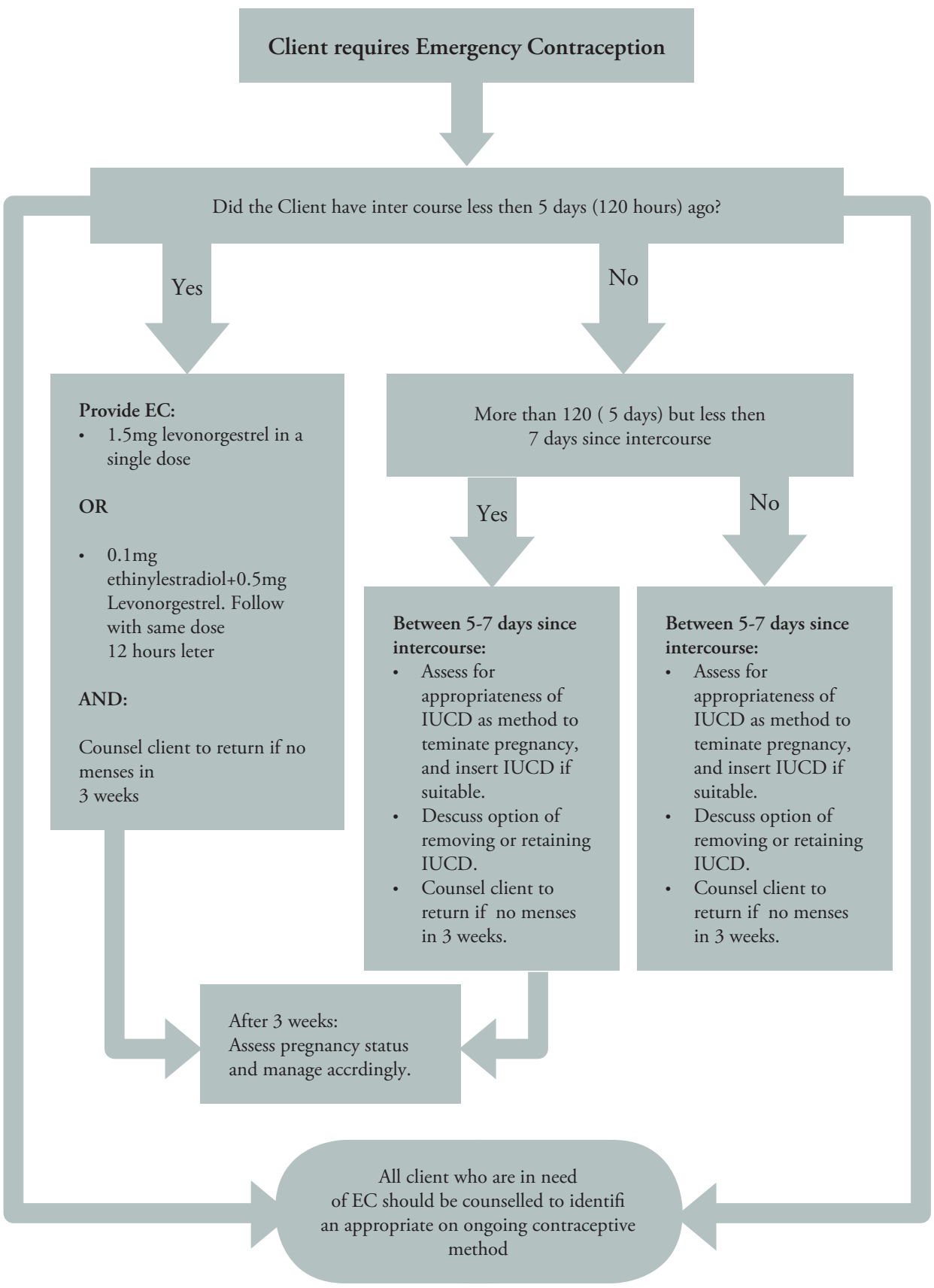
Health professional (print name)

Location(hospital, clinic)

Signature

Date

Appendix 10: Guideline for administering emergency contraception



Appendix 11: Example of monitoring form for abortion services

Facility Name:.....Type of Faciliti (cicle):
1= Hospital, 2=Health Centre, 3= Other (specify:.....)

Facility ID Number:.....	Classification of facility (circle): 1=BAC, 2=CAC			Month..... Year.....
1 Provider ID (or Full Provider Name)				
2 Client name				
3 Saw clientprivately or in public sector 1=Public, 2=Private				
4 Date of procedure	...../...../.....	...../...../.....	...../...../.....	...../...../.....
5 Age of client				
6 Client address **District**				
Province				
7 Marital Status: 1=Single, 2=Married/divorced/separated				
8 Number of living children				
9 Number of previous aborfons (induced)				
10 Did the client have any of the following problems on arrival? 0=None, 1=Infaction, 2=Sever bleeding, 3=Injury to organs/uterus, 4=Complication, 5=Shock, 6=other(state what problem)				
11 Uterine size in weeks				
12 Diagnosis *(Choose one only)* 1=Induced abortion, 2=Incomplete (spontaneous) abortion, 3=Missed abortion, 4=Molar				
13 Primary Uterine Evacuation (UE) method *(Choose one only)*1=MVA, 2=EVA, 3=D&E, 5=MA				
14 Did the client recieve modern contraceptive method before dischage? 1=Yes, 2=No				
15 What modern contraceptive method was provided? *(Please choose all that apply)* 0=None, 1=IUD, 2=Injection, 3=Condom, 4=Combined oral contraceptive pill, 5=Implant, 6=Sterilisation				
16 Does the client household own a TV? 1=Yes, 2=No				
17 Has the clients ever been to school? 1=Yes, 2=No				
18 Does the clients household have a card to help pay for health services? 1=Yea, 2=No				
19 Did the client have any of the following problem after your care? 0=None, 1=Bleeding, 2=Other (state what problem)				
Seen and Approve by Hospital Chief or Health Centre Chief	**Reported by or Provider Name**			
Date: (dd/mm/yyyy)	Date			

Appendix 12: Example of Observation Checklist for Manual Vacuum Aspiration (MVA)

Scoring for the Clinical Skills Checklist:

Write the score in the appropriate column for each task:

- Score 5 for each step / task completed satisfactorily, ie. performed well to the same or higher than training guidelines / national protocol.
- Score 2 for each step / task completed moderately well, ie. not done correctly / did not do whole step correctly and needs some coaching or correcting, but is not dangerous to the client's experience or outcome.
- Score 0 for each step / task completed unsatisfactorily or missed, ie. completely forgot the step / task, or performs it in a way that could be harmful to the woman's experience or outcome.

ASSESSMENT OF MVA CLINICAL SKILLS	SCORE			Comment (if missed part of step)
Step / Task	5	2	0	
INITIAL ASSESSMENT & MEDICAL EVALUATION				
1. Greets woman with respect and kindness, helps her feel comfortable AND ensures privacy				
2. Assesses the woman's health: medical & reproductive history, estimates gestation based on date of LMP, assesses vital signs (including heart and lung auscultation, BP, pulse, temperature)				
3. Discusses reproductive goals, including pregnancy options & FP options				
PREPARATION				
4. Explains steps of procedure and what the woman will feel at each step, provides opportunity to respond questions and concerns.				
5. Obtain informed consent from client				
6. Ask about allergies to antiseptics and anaesthetics				
7. Administer paracetamol 500 mg by mouth 30 minutes before procedure				
8. Ensure patient empties her bladder and washes her perineal area				
9. Uses infection-prevention practices: footwear, face protection, hand washing, gloves. (score 5 for all items used, 2 for 2/4, 0 for <2 items)				
10. ! Performs per speculum bimanual examination: observes for possible RTI, assesses size & position of uterus and confirms pregnancy and gestation. (removes gloves after)		X		! Critical step
11. Ensures that cannulae are high-level disinfected (HLD) or sterile, rinsed and ready for use				
12. Washes hands thoroughly and puts on sterile surgical gloves				
13. Uses no-touch technique throughout, i.e. does not touch anything that is not sterile (continues up to point 26)				
14. Prepares aspirator and checks vacuum				
15. Selects cannula based on uterine size and dilatation needed; inspects cannula and aspirator & arranges on HLD trays				

ASSESSMENT OF MVA CLINICAL SKILLS	SCORE			Comment (if missed part of step)
Step / Task	5	2	0	
MVA PROCEDURE				
16. Explain each step of the procedure to the client prior to performing it & provides continual emotional support and reassurance				
17. Inserts speculum; applies teneculum applies antiseptic to cervix and vagina two times				
18. ! Administers paracervical block		X		! Critical step
19. Dilates cervix, inserts cannula and attaches aspirator				
20. Inserts & moves cannula effectively to empty the uterus				
21. Stops evacuation when signs of completion are present				
Totals for each column on this page:				
Total score for this page, 1:				
22. ! Inspects tissue removed from uterus in strainer to ensure it is consistent with the gestation		X		! Critical step
23. If bleeding persists, repeats steps 13-22, but with clean sterile gloves (i.e. changes gloves)				
24. Can identify signs of emergency, actions to stabilise & make appropriate referral (including written notification)				
POST-PROCEDURE TASKS				
25. Disposes of waste materials in appropriate containers (including sharps)				
26. Removes & disposes of gloves appropriately, washes hands thoroughly				
27. ! Monitors recovery: checks for bleeding & ensures cramping has decreased before discharge		X		! Critical step
28. ! Ensures FP counselling is conducted and method provided, if desired		X		! Critical step
29. Instructs patient regarding post-abortion care & ensures follow-up **care is scheduled & can identify referral facilities if required***				
30. Demonstrates / can explain how to process instruments effectively (including flushing syringe & cannulae with 0.5% chlorine/chlorexadine solution)				
Totals for each column on this page:				* Referrals may be for complications of SAC, HIV testing, STIs, rape or other forms of violence.
Total score for, this page 2:				
Total score for, previous page 1:				
31. TOTAL SCORE FOR SECTION 1:				If score is 72 or less, consider coaching or training
32. Was observation based on:	☐ simulation using anatomical model and role play, including counselling; ☐ actual case (if so, also complete Section 5)			

Depending on score for Section 3 (Assessment for MVA Clinical Skills), schedule next assessment for:

1 – 3 months if score is 72 or less, or if provider has not performed any cases in last month.

3 – 6 months if score is 73 – 84

6 – 12 months if score is 85 or more

} This is flexible and the assessor may use their own discretion to select timing of next assessment as long as justification is provided.

Appendix 13: Example of Observation Checklist for Medical Abortion (MA)

ASSESSMENT OF MVA CLINICAL SKILLS	SCORE			Comment (if missed part of step)
Step / Task	5	2	0	
Procedure for MA				
1. Greets woman with respect and kindness, helps her feel comfortable AND ensures privacy				
2. Assesses the woman's health: medical & reproductive history, estimates gestation based on date of LMP, assesses vital signs (including heart and lung auscultation, BP, pulse, temperature)				
3. Discusses reproductive goals, including pregnancy options and FP options				
4. ! Provides detailed information about medication-abortion side effects, warning signs, required visits and action in the event of failure of the procedure		X		! Critical step
5. ! Explains all aspects of the medication administration regimen, including pain management		X		! Critical step
6. ! Provides emergency contact information in case the woman has questions or needs care		X		! Critical step
7. Ensures all the woman's questions have been answered				
8. ! Ensures contraceptive counselling and a method are provided, if the woman desires one		X		! Critical step
9. Schedules follow-up visit to confirm completion of the medication abortion				
10. Can confirm signs of completion of the medication abortion or provides back-up care or referral*				
Totals for each column in section 2:				* Referrals may be for complications of SAC, HIV testing, STIs, rape or other forms of violence.
11. Total score for MA assessment:				If score is 30 or less, take action – consider coaching or training
12. Was observation based on:	☐ simulation using anatomical model and role play, including counselling; ☐ actual case			

Depending on score for Section 2 (Assessment for MA Clinical Skills), schedule next assessment for:

1 – 3 months if score is 30 or less, or if provider has not performed any cases in last month.

3 – 6 months if score is 31 - 35

6 – 12 months if score is 36 or more

} This is flexible and the assessor may use their own discretion to select timing of next assessment as long as justification is provided.

Appendix 14: Example of client satisfaction monitoring or evaluation form

CLIENT FEEDBACK (if actual case was observed. Conduct in privacy, away from facility providers)					
Thank client for allowing you to speak with her and observe the procedure. Explain: "My name is _____, and I work with a team of people who train the providers for this procedure. I am here to check the quality of care that is being provided at this facility. I would like to ask you a few questions about your experience here today. If you agree to answer my questions, I will not take your name, and I will not repeat anything you tell me to the providers today. Your answers will help us to know how we need to train providers to improve their care". a) Does client agree? b) ☐ YES (continue to b); ☐ NO (thank client and wish her good recovery)					
Read response options (on right) to client Ask: "How satisfied were you with:" (Mark a check✓ in the appropriate box)	Poor	Not good	Not sure	Good	Excellent
c) The friendliness and respect you received from the health care provider?					
d) The privacy during your consultation and treatment?					
e) The opportunity to ask questions and the way the health provider answered your questions?					
f) the quality of information on any medication you were given?					
g) Your overall experience at the facility today?					
h) the total cost paid for your services today good value for money?					
i) Did you have to borrow money to pay for the costs?	☐ Yes; ☐ No –paid in full by self; ☐ exempt				
j) The total cost paid:	.....Riel				
k) What items did this total cost include? (check all that apply)	☐ MVA/PAC/MA ☐ Birth Spacing method ☐ STI treatment ☐ USS ☐ Lab tests ☐ Gratuity / tip ☐ Other / not known				
l) Did the provider give you an appointment to return?	☐ Yes; ☐ No; ☐ Not sure / can't remember				
m) Would you recommend other women to come here? Why or why not?					
n) Would you, yourself, come back here for services? Why or why not?					
o) If there was anything you could improve or change about the services provided at this facility, what would it be?					

Thank client for her time and wish her a good recovery.