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Clinical practice handbook for quality abortion care

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Contents

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Abbreviations

D&E	dilatation and evacuation
EVA	electric vacuum aspiration
hCG	human chorionic gonadotrophin
ICD	International statistical classification of diseases and related health problems (WHO publication)
IM	intramuscular
IUD	intrauterine device
IV	intravenous
LMP	last menstrual period
MVA	manual vacuum aspiration
NSAID	non-steroidal anti-inflammatory drug
Rh	Rhesus (blood group)
STI	sexually transmitted infection
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Glossary

In some of the definitions, wording has been modified with the end users of this document (health workers) in mind, such that they differ from the definitions in WHO's 2022 *Abortion care guideline*, and one new definition has been added.

- **Community-based care**: Services delivered by a broadly defined community health workforce, according to their training and capacity, encompassing a range of health workers, lay and professional, formal and informal, paid and unpaid, as well as facility-based personnel who support and supervise them and provide outreach services and campaigns.
- **Comprehensive abortion care**: Provision of information, abortion management (including induced abortion and care related to pregnancy loss), and post-abortion care.
- **Conscious (moderate) sedation**: The use of a combination of medicines – a sedative to relax and an anaesthetic to block pain – to induce a depressed level of consciousness during a medical procedure, "during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation".[1]
- **Dilatation and evacuation (D&E)**: D&E is used after 12–14 weeks of pregnancy. It is the safest and most effective surgical technique for later abortion, where skilled, experienced practitioners are available. D&E requires preparation of the cervix using osmotic dilators and/or pharmacological agents, and evacuating the uterus primarily with forceps, and using vacuum aspiration (refer to entry in this list) to remove any remaining blood or tissue.
- **Duration or gestational age of pregnancy**: The number of days or weeks since the first day of the woman's last normal menstrual period (LMP) in women with regular cycles (see the table below). For women with irregular cycles or when LMP is unknown, gestational age is the size of the uterus, estimated in weeks, based on clinical examination or ultrasound, that corresponds to a pregnant uterus of the same gestational age dated by LMP.

1 The wording in quotation marks has been added from: Practice guidelines for moderate procedural sedation and analgesia 2018: a report by the American Society of Anesthesiologists Task Force on Moderate Procedural Sedation and Analgesia, the American Association of Oral and Maxillofacial Surgeons, American College of Radiology, American Dental Association, American Society of Dentist Anesthesiologists, and Society of Interventional Radiology. Anesthesiology. 2018;128:437–79. doi:10.1097/ALN.0000000000002043.

Table 1. Equivalent gestational ages in weeks and days during early pregnancy

Weeks of gestation	Days of gestation
0	0–6
1	7–13
2	14–20
3	21–27
4	28–34
5	35–41
6	42–48
7	49–55
8	56–62
9	63–69
10	70–76
11	77–83
12	84–90
13	91–97
14	98–104

Note: Day 0 is the first day of the last menstrual period (LMP), and is also the first day of Week 0 of gestation (*not* Week 1).

Source: Abortion care guideline (WHO; 2022; https://apps.who.int/iris/handle/10665/349316; p. xiv), adapted from Safe abortion: technical and policy guidance for health systems, second edition (WHO; 2012; https://apps.who.int/iris/handle/10665/70914; p. iv), based on International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10), Vol. 2, second edition (WHO; 2004; https://apps.who.int/iris/handle/10665/42980; p. 95).

- **Incomplete abortion**: Clinical presence of an open cervical os and bleeding, whereby all products of conception have not been expelled from the uterus, or the expelled products are not consistent with the estimated duration of pregnancy. Common symptoms include heavy or prolonged vaginal bleeding and abdominal pain. Uncomplicated incomplete abortion can result after an induced or spontaneous abortion (i.e. miscarriage).
- **Induced abortion**: Intentional loss of an intrauterine pregnancy due to medical or surgical means, which is not intended to result in a live birth.[2]
- **Intrauterine fetal demise (IUFD; fetal death)**: The intrauterine death of a fetus at any point in time during the pregnancy.
- **Medical methods of abortion (medical abortion)**: Use of pharmacological agents to terminate pregnancy.
- **Mental health**: A state of well-being in which every individual realizes their own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to their community.
- **Miscarriage (spontaneous abortion)**: Spontaneous loss of a pregnancy before the fetus is usually viable outside the uterus. The clinical signs of miscarriage are vaginal bleeding, usually with abdominal pain and cramping. If the pregnancy has been expelled, the miscarriage is termed “complete” or “incomplete” depending on whether or not tissues are retained in the uterus.
- **Missed abortion**: Arrest of pregnancy development where the embryo/fetus/embryonic tissue or empty gestational sac remains in the uterus and the cervical os is closed. Symptoms may include pain and/or bleeding, or there may be no symptoms at all.
- **Osmotic dilators**: Short, thin rods made of seaweed (laminaria) or synthetic material. After placement in the cervical os, the dilators absorb moisture and expand, gradually dilating the cervix.
- **Post-abortion care**: Provision of services after an abortion, such as contraceptive services and linkage to other needed services in the community or beyond. It can also include management of side-effects or complications after an abortion.
- **Quality of care (QOC)**: QOC encompasses six areas or dimensions of quality that are required in relation to health care:
  - effective, delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need;
  - efficient, delivering health care in a manner which optimizes resource use and avoids waste;
  - accessible, delivering health care that is timely, geographically reachable, and provided in a setting where skills and resources are appropriate to medical need;
  - acceptable/person-centred, delivering health care that takes into account the preferences and aspirations of individual service users and the cultures of their communities;

2 This definition has been added based on information in ICD-11 https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/1517114528

  - equitable, delivering health care that does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location or socioeconomic status;
  - safe, delivering health care that minimizes risks and harm to service users.

- **Self-care**: The ability of individuals, families and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a health worker. The scope of self-care thus includes health promotion, disease prevention and control, self-medication, providing care to dependent people, seeking hospital/specialist/primary care if necessary, and rehabilitation, including palliative care. It includes a range of self-care practices and approaches.
- **Self-management of abortion**: Self-management of the entire process of medical abortion or one or more of its component steps, such as self-assessment of eligibility for medical abortion, self-administration of medicines without the direct supervision of a health worker, and self-assessment of the success of the abortion process.
- **Surgical methods of abortion (surgical or procedural abortion)**: Use of transcervical procedures for terminating pregnancy, including vacuum aspiration, and dilatation and evacuation (D&E). In rare cases, this includes hysterotomy or gravid hysterectomy.
- **Telemedicine (or Telehealth)**: A mode of health service delivery where providers and clients, or providers and consultants, are separated by distance. That interaction may take place in real time (synchronously), e.g. by telephone or video link. But it may also take place asynchronously (store-and-forward), when a query is submitted and an answer provided later, e.g. by email or text/voice/audio message.
- **Vacuum aspiration (electrical or manual; EVA or MVA)**: Vacuum aspiration involves evacuation of the contents of the uterus through a plastic or metal cannula, attached to a vacuum source. Electric vacuum aspiration (EVA) employs an electric vacuum pump.

Source for glossary definitions unless otherwise indicated: Abortion care guideline. Geneva: World Health Organization; 2022 (https://apps.who.int/iris/handle/10665/349316).

Purpose of the handbook

The WHO *Clinical practice handbook for quality abortion care* is intended to facilitate the practical application of the clinical recommendations from WHO's 2022 *Abortion care guideline*.[3] While legal, regulatory, policy and service-delivery contexts may vary from country to country, the recommendations and best practices described in both of these documents aim to enable evidence-based decision-making with respect to quality abortion care.

This handbook is oriented to health workers who already have the requisite skills and training necessary to provide quality abortion care and/or treat complications of unsafe abortion. It is neither a substitute for formal training, nor a training manual.

We hope this handbook will be useful to a range of health workers in different settings and in varying legal and health service contexts.

3 Available at: https://apps.who.int/iris/handle/10665/349316

Guiding principles

This handbook applies to all recommended health workers; refer to the service delivery recommendations in the 2022 *Abortion care guideline*.

Providers of abortion care should be aware of national and local laws and reporting requirements. Within the framework of those laws and requirements, all norms, standards and clinical practice related to abortion should promote and protect:

- women's and adolescents' health and their human rights
- informed and voluntary decision-making
- autonomy in decision-making
- non-discrimination
- confidentiality and privacy.

Gender equality and inclusivity: In this document, we recognize that most of the available evidence on abortion can be assumed to be derived from research among study populations of cisgender women, and we also recognize that cisgender women, transgender men, nonbinary, gender-fluid and intersex individuals with a female reproductive system and capable of becoming pregnant may require abortion care. To be concise and facilitate readability of this document, when referring to all gender-diverse people who may require abortion care, we use the word "women" most often, although we also variously use other terms, such as "individual" and "person". Providers of abortion care must consider the needs of – and provide equal care to – all individuals; gender identity or its expression must not lead to discrimination.

Enabling environment: A person's environment plays a crucial role in shaping their access to care and influencing their health outcomes. An enabling environment – which includes respect for human rights (including a supportive framework of law and policy), the availability and accessibility of information, and a supportive, universally accessible, affordable and well functioning health system – is the foundation of quality, comprehensive abortion care.

Human rights: Denying women essential aspects of medical care, such as pain management or management for an incomplete abortion, as a punishment for having an abortion is a violation of human rights.

For further information on all of the above, please refer to WHO's 2022 *Abortion care guideline*.[4]

4 Available at: https://apps.who.int/iris/handle/10665/349316

Some practical examples of how health workers can apply these principles

- Treat all individuals equally regardless of age, sex, gender, ethnicity, socioeconomic or marital status, etc., and provide services in a prompt and timely fashion.
- Ensure that abortion care is always provided respectfully and with compassion.
- Facilitate and support individuals' autonomy in decision-making.
- Provide complete, accurate and easy-to-understand information in multiple and accessible forms and languages.
- Respect the dignity of the woman, guaranteeing her privacy and confidentiality.
- Be sensitive to the needs and perspectives of the individual.
- Protect medical information against unauthorized disclosures.
- Be aware of situations in which a woman may be coerced into having an abortion against her will (e.g. based on her marital status or health status, such as living with HIV).
- When dealing with adolescents, ask if the young person wants parental involvement and, if they do, encourage their parents to engage supportively by offering information and education – but do not insist on authorization for abortion from a parent/guardian, unless it is a legal requirement.
- Ensure that all individuals can receive the care they need without financial hardship and without having to resort to unsafe abortion.
- Engage with the local community to secure support for quality abortion services.

1. Pre-abortion

- Information, counselling and decision-making
  - Provide information
  - Offer counselling
  - Facilitate decision-making
  - Obtain informed consent for abortion
  - Consider self management approaches
  - Discuss contraceptive options before an abortion procedure
- Medical history
- Physical examination
- Laboratory and other investigations
- Determining gestational age of pregnancy
- Infection prevention and control
- Inducing fetal asystole prior to abortion procedure

Objectives for Chapter 1

- Provide information and guidance in a way that a woman can understand, to allow her to make her own decisions about whether to have an abortion, and, if so, what method to choose.
- Provide an opportunity to discuss self-management options for abortion and future use of contraception, where appropriate.
- Confirm pregnancy status and gestational duration.
- Evaluate for any medical conditions that require management and/or that may influence the choice of abortion procedure.

1.1 Information, counselling and decision-making

There is no single recommended approach to providing abortion services. Deciding which health worker will provide the service (from among the recommended options) or whether the woman herself will manage all or some of the tasks, and choosing the location of service provision will depend on the values and preferences of the individual, the available resources, and the national and local context.

It is important to ensure that the range of service-delivery options will provide the following to the person who is seeking care:

- access to scientifically accurate, understandable information at all stages;
- access to competent health workers;
- access to quality-assured equipment and medicines (including those for pain management);
- back-up referral support if desired or needed;
- linkages to an appropriate choice of contraceptive services for those who want post-abortion contraception.

1.1.1 Provide information

Accurate, high-quality, evidence-based information on abortion must be available to individuals and provided in a way that respects privacy and confidentiality. **Information should be presented in a way that is non-coercive, non-discriminatory, can be understood and is acceptable and accessible to the individual,** including formats catering to low-literacy and differently abled populations, and different languages. However, the right to refuse information when offered must be respected.

At a minimum, the information provided should include:

- the available options for abortion methods and pain management;
- the potential risks and benefits of abortion and the alternatives to abortion;
- what will occur before, during and after the abortion procedure or process, including what the client is likely to see when passing the pregnancy (blood, blood clots, products of conception) and any tests that may be performed;
- any aspects of the care that could be self-managed if desired, with or without remote support;
- what possible side-effects the individual may experience during and after the abortion procedure or process (e.g. pain and bleeding);
- how long the procedure or process and the recovery are likely to take;
- when normal activities can be resumed, including when fertility may return;
- how to recognize potential side-effects and symptoms of ongoing pregnancy, and other medical reasons to return for follow-up care, including complications such as prolonged heavy bleeding or fever;
- when, where and how to access follow-up care or additional services that may be desired, such as counselling and contraception.

Key facts about abortion

- Safe abortion has a very low risk of complications (< 1%), thus most women will not suffer any long-term effects on their general or reproductive health *(1,2)*.
- The risk of death from a safe abortion is lower than from an injection of penicillin or carrying a pregnancy to term *(3,4)*
- Evidence overall does not suggest there is an association between safe abortion and adverse outcomes in subsequent pregnancies *(5)*.
- There is no link between safe abortion and any health conditions, such as breast cancer or depression *(6)*.
- Negative psychological sequelae occur in a very small number of women and appear to be the continuation of pre-existing conditions, rather than being a result of the experience of induced abortion *(7,8)*.

1.1.2 Offer counselling

Some individuals may wish to receive counselling before or after an abortion. Counselling is more than information provision. Counselling is a focused, interactive process through which a person voluntarily receives support, additional information and nondirective guidance from a trained person, in an environment that is conducive to openly sharing thoughts, feelings and perceptions and personal experiences.

When offering and providing counselling, remember to apply the following principles.

- Only provide counselling if the individual has requested or agreed to it – counselling is not required.
- Ensure that there is privacy and maintain confidentiality.
- Ask the individual what they want or need, what their concerns are, give them the time they need to respond, and actively listen to their expressed needs and preferences.
- Present all the options that are suitable for the individual, while avoiding imposing your personal values and beliefs onto them.
- Highlight relevant information during the counselling session (such as the information provided in section 1.1.1).
- Communicate information clearly, respectfully and non-judgementally, and in a manner and language that is understandable to the individual.
- Support the individual's needs and ensure that you give adequate responses to their questions and that they understand the information provided.
- Use shared decision-making to determine which services are needed, while at the same time being sure to support the woman's autonomy in decision-making.

Counselling is not the same as the process of obtaining informed consent (refer to section 1.1.4).

1.1.3 Facilitate decision-making

If the woman chooses to have an abortion and a choice of abortion methods is available, she should be allowed to choose among available methods that are appropriate, based on the duration of pregnancy and her medical condition. Use the tool provided in Fig. 1.1 to facilitate this choice.

Adequate and scientifically accurate information about potential risk factors and the advantages and disadvantages of each available method is also key to helping her make a choice. The relevant information is presented in Table 1.1.

1.1.4 Obtain informed consent for abortion

Provision of abortion must be based on the free and informed consent of the person having the abortion, and this consent must be obtained and documented before the abortion. Women's access to quality abortion care should not be restricted based on:

- lack of authorization from spouses, partners, parents/guardians or the health authorities;
- being unmarried;
- discrimination against people with disabilities, who have a right to autonomy;
- age or any other sociodemographic factor.

Consent should be provided without coercion or misrepresentation, and it should include thorough, high-quality and accurate information about the associated benefits, risks and alternatives. That information should be available in a range of formats and languages that make it accessible to people with reduced capacity, and it should be presented in a manner acceptable to the woman.

Figure 1.1 Recommended methods of abortion by pregnancy duration

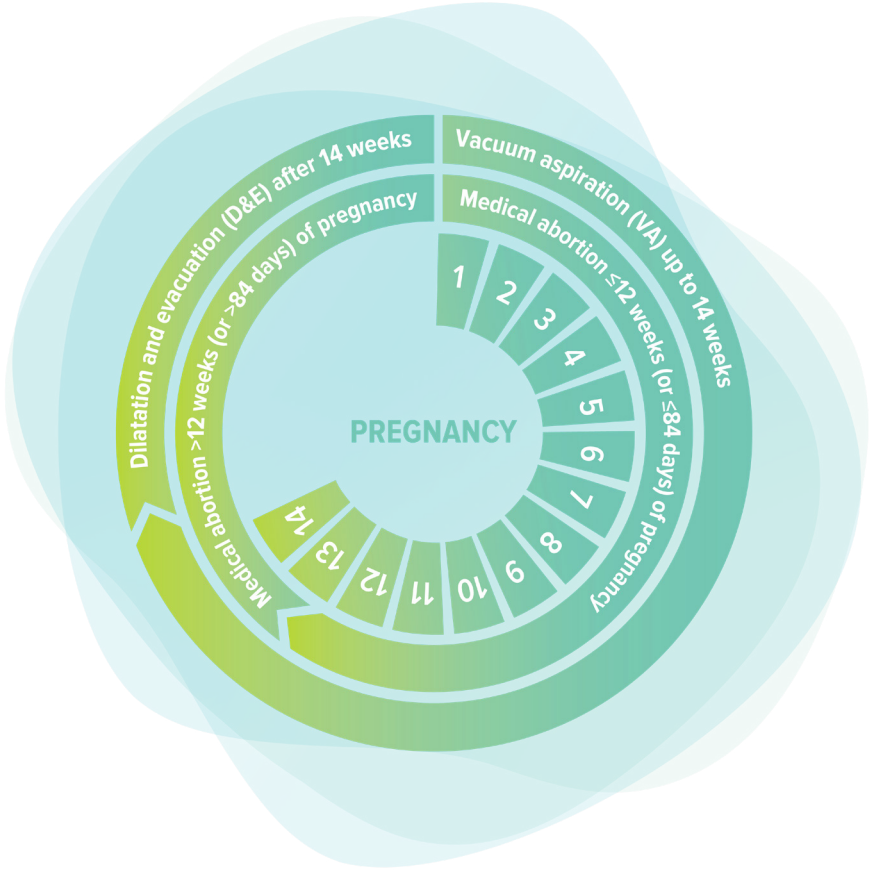

Table 1.1 Characteristics of abortion procedures

< 12 weeks of gestation		≥ 12 weeks of gestation	
Medical abortion	**Vacuum aspiration**	**Medical abortion**	**Dilatation and evacuation (D&E)**
• Avoids surgery • Mimics the process of miscarriage • Controlled by the woman and may take place at home • Takes time (hours or days) to achieve successful abortion, and the timing may not be predictable • Women experience bleeding and cramping, and potentially some other side-effects (nausea, vomiting) • May require more clinic visits or surveillance than vacuum aspiration **May be preferred in the following situations:** • For severely obese women • In the presence of uterine malformations or fibroids • Prior cervical surgery • For women who want to avoid surgical intervention • If a pelvic exam is not feasible or not wanted	• Quick procedure and completed in a predictable time • Takes place in a health-care facility • Successful abortion easily verified by evaluation of aspirated uterine contents • Sterilization or placement of an intrauterine device (IUD) may be performed at the same time as the procedure • Very small risk of uterine or cervical injury • Requires instrumentation of the uterus • Timing of abortion controlled by the facility and health worker • Can be performed under sedation **May be preferred in the following situations:** • If there are contraindications to medical abortion • If there are time constraints for the abortion	• Avoids surgery • May feel more natural to some women • Takes place in a health-care facility • Takes time (hours or days) to achieve successful abortion, and the timing may not be predictable • Women experience bleeding and cramping, and potentially some other side-effects (nausea, vomiting) • Women remain in the facility until expulsion of the pregnancy is successful • Women with a uterine scar have a very low risk (0.28% or approximately 1 in every 350) of uterine rupture during medical abortion between 12 and 24 weeks *(9)* **May be preferred in the following situations:** • For severely obese women • In the presence of uterine malformations or fibroids • Prior cervical surgery • For women who want to avoid surgical intervention • For women who want to view the fetus • If skilled health workers are not available to provide D&E	• Quick procedure and completed in a predictable time • Takes place in a health-care facility • Successful abortion easily verified by evaluation of uterine contents • Sterilization or placement of an IUD may be performed at the same time as the procedure • Requires cervical preparation in advance of procedure • Small risk of uterine or cervical injury • Requires instrumentation of the uterus • Timing of abortion controlled by the facility and health worker • Can be performed under sedation **May be preferred in the following situations:** • If there are contraindications to medical abortion • If there are time constraints for the abortion
Contraindications		**Contraindications**	
• Previous allergic reaction to one of the drugs involved • Inherited porphyria • Chronic adrenal failure • Known or suspected ectopic pregnancy (neither misoprostol nor mifepristone will treat ectopic pregnancy) **Caution and clinical judgement are required in cases of:** • Long-term corticosteroid therapy (including those with severe uncontrolled asthma) • Haemorrhagic disorder • Severe anaemia • Pre-existing heart disease or cardiovascular risk factors • An IUD in place (remove before beginning the regimen)	• There are no known absolute contraindications **Caution and clinical judgement are required in cases of:** • An IUD in place (remove before beginning the procedure)	• Previous allergic reaction to one of the drugs involved • Inherited porphyria • Chronic adrenal failure • Known or suspected ectopic pregnancy (neither misoprostol nor mifepristone will treat ectopic pregnancy) **Caution and clinical judgement are required in cases of:** • Long-term corticosteroid therapy (including those with severe uncontrolled asthma) • Haemorrhagic disorder • Severe anaemia • Pre-existing heart disease or cardiovascular risk factors • An IUD in place (remove before beginning the regimen)	• There are no known absolute contraindications **Caution and clinical judgement are required in cases of:** • An IUD in place (remove before beginning the procedure)

1.1.5 Consider self-management approaches

For medical abortion up to 12 weeks of gestation, individuals may conduct some or all elements related to the abortion process entirely on their own: self-assessment of eligibility, self-administration of medicines, and self-assessment of the success of the abortion. Typically, self-management involves interactions with trained health workers in the community or at a health-care facility, including at a pharmacy. Ideally, the individual would decide which aspects of the abortion care they want to self-manage, based on their individual circumstances and preferences. For some women, self-management of some or all elements of a medical abortion may be the only feasible option within their context, while for others it may be an active choice and preference among available options. For those having surgical abortion that requires cervical priming, women can also play an active role in self-managing cervical priming if this will be done using pharmacological methods, i.e. mifepristone and/or misoprostol (see section 2.2.4).

1.1.6 Discuss post-abortion contraceptive options before the abortion

Immediate initiation of contraception following abortion has been shown to both improve adherence and reduce the risk of unintended pregnancy. All contraceptive options may be considered for use after an uncomplicated abortion. If the person wishes to start or resume a contraceptive method, then all contraceptive options may be considered, and most methods can be initiated at the time of the abortion. Therefore, ideally, post-abortion contraception should be discussed before the procedure.

Provide information and offer to discuss contraceptive options in the context of counselling.

- Inform all women that following an abortion, ovulation can occur as early as 8–10 days later and usually within one month, putting them at risk of pregnancy unless an effective contraceptive method is used as soon as possible post-abortion, within the first month.
- If the woman is interested in contraception, provide her with accurate information to assist her in choosing the most appropriate contraceptive method to meet her needs (refer to section 3.5: Post-abortion contraception, and also the new 2022 edition of *Family planning: a global handbook for providers [10]*).

- If her contraceptive method of choice is unavailable or if a complication prevents her from obtaining her method of choice right away, offer her a "bridging" method or a method of contraception that may be safe for her now until she can start her method of choice.
- If a woman is seeking an abortion following what she considers to be a contraceptive failure, discuss whether the method may have been used incorrectly and how to use it correctly, or whether it may be preferable for her to change to a different method.
- Some women prefer to delay any discussion of contraceptive options until after the abortion is successful, and some prefer not to discuss contraception at all – this must be respected.
- The final decision about whether to use contraception, and the selection of a method to use, is the woman's choice alone. Contraception should be only provided when the person has given free and informed consent to receive it.

IMPORTANT: Abortion providers must never imply that agreeing to initiate contraception after an abortion is a prerequisite to obtaining an abortion; this decision should always be left to the discretion of the person seeking the abortion, accepting that some will not want to use contraception.

1.2 Medical history

In addition to estimating the duration of pregnancy, clinical history-taking should serve to identify contraindications and risk factors for complications. Refer the individual to an appropriate higher-level health-care facility for the abortion procedure and/or for other services, as needed, if other health/medical conditions (e.g. comorbidities or uterine anomalies) are detected that may cause or exacerbate complications.

Table 1.2 Elements of medical history

Personal data	Name, age and contact information, if possible
Reason for seeking medical care	• Circumstances of the pregnancy (if required for reporting purposes), including pregnancy symptoms or possible complications, such as vaginal bleeding
Obstetric history	• Details of previous pregnancies and their outcomes, including: ectopic pregnancy, molar pregnancy, prior miscarriage or abortion, fetal death, live birth and prior caesarean delivery
Gynaecologic history	• First date of last menstrual period (LMP), whether the last period was normal and menstrual cycle pattern • Gynaecologic issues, including previous gynaecologic surgery, history of female genital mutilation, or other known physical abnormalities or conditions • Current contraceptive use and contraceptive history[a]
Sexual history	• History or symptoms of any sexually transmitted infections (STIs), including HIV/AIDS
Surgical/medical history	• Chronic diseases, such as hypertension, seizure disorder, blood-clotting disorders, liver disease, heart disease, diabetes, sickle-cell anaemia, asthma, significant psychiatric disease • Details of relevant past hospitalizations, details of relevant past surgical operations • Recent use of any physical methods (such as insertion of objects) as an attempt to self-abort the pregnancy
Medication and allergies	• Medicines taken daily • Use of recent medicines or herbal remedies, including the details of their use (dose, route, timing) if used in an attempt to self-abort the pregnancy • Allergy to medicines
Social history	• Social support • Violence or coercion, e.g. by partner or family member(s) • Other social issues that could impact care • History and current use of alcohol, illicit drugs Note: In the context of providing medical services, health workers may encounter women with complicated social situations. Facilitating referral to social services to meet women's needs is an important aspect of quality health care. However, social history should not be used to create additional barriers to care, including quality abortion care.

[a] Contraceptive counselling or provision must never be a precondition for providing an abortion.

1.3 Physical examination

While not always indicated, some or all of the following elements of a physical examination can allow for further assessment of gestational age and identification of relevant medical problems. Refer the individual to an appropriate higher-level health-care facility for the abortion procedure and/or for other services, as needed, if other health/medical conditions (e.g. comorbidities or uterine anomalies) are detected that may cause or exacerbate complications.

Table 1.3 Elements of physical examination

General health assessment	• General appearance • Vital signs • Signs of weakness, lethargy, anaemia or malnourishment • Signs or marks of physical violence • General physical examination (as indicated)
Abdominal examination	• If the date of the start of the last menstrual period (LMP) is uncertain, palpate for the uterus, noting the size and whether tenderness is present. • Note any other abdominal masses. • Note any abdominal scars from previous surgery.
Pelvic examination	• Explain what to expect during the pelvic examination, if it is applicable.[a] • Examine the external genitalia for abnormalities or signs of disease or infection. Speculum examination – inspect the cervix and vaginal canal. - Look for abnormalities or foreign bodies. - Look for signs of infection, such as pus or other discharge from the cervical os. - If pus or other discharge is present, sample for culture, if possible, and administer antibiotics before aspiration. - Cervical cytology may be performed at this point, if indicated and available. Bimanual examination - Note the size, shape, position and mobility of the uterus. - Assess for adnexal masses and/or tenderness. - Assess for tenderness of the uterus on palpation or with motion of the cervix, and/or tenderness of the rectovaginal space (cul-de-sac), which may indicate infection. Confirm pregnancy status and pregnancy duration.

[a] Pelvic examination (bimanual and/or speculum) is useful to confirm the gestational age of pregnancy when LMP is uncertain and to further investigate signs and symptoms of STI, or it may be medically indicated for other reasons, based on clinical judgement. Pelvic examination may serve as a confirmatory check prior to commencing the surgical abortion.

1.4 Laboratory and other investigations

IMPORTANT: Routine laboratory testing is not a prerequisite for providing abortion services.

Some or all of the following tests may be performed on the basis of individual risk factors, findings on physical examination, and available resources:

- pregnancy test, if pregnancy is unconfirmed;
- haemoglobin or haematocrit, if clinically relevant;
- Rhesus (Rh) testing, where Rh-immunoglobulin is available for Rh-negative women;
  - gestational age < 12 weeks: no need to test or administer Rh-immunoglobulin for medical or surgical abortion;
  - gestational age ≥ 12 weeks: test Rh status and offer Rh-immunoglobulin for Rh-negative women;

  If Rh-immunoglobulin and testing is not available, abortion services can still be provided.
- HIV testing and/or counselling;
- STI screening (using samples collected through blood work or during pelvic examination);
- cervical cancer screening (typically performed during the pelvic examination);
- other laboratory tests as indicated by medical history (e.g. kidney or liver function tests).

Refer the individual to an appropriate higher-level health-care facility for the abortion procedure and/or for other services, as needed, if other health/medical conditions (e.g. comorbidities or uterine anomalies) are detected that may cause or exacerbate complications.

IMPORTANT: Ultrasound is not a prerequisite for providing abortion services, and in particular routine screening for ectopic pregnancy using ultrasound is not necessary prior to abortion.

- On a case-by-case basis, there may be clinical reasons for using ultrasound prior to abortion (e.g. to determine the location of the pregnancy or to investigate a medical issue).
- The incidence of ectopic pregnancy is lower in abortion seekers than in the general population *(11)*.

1.5 Determining gestational age of pregnancy

Determining the gestational age of the pregnancy is a preliminary step before selecting the most appropriate abortion method. There are multiple ways to determine gestational age. Pregnancy dating can be done based on last menstrual period (LMP) alone or in combination with the use of a validated tool (i.e. mobile app, checklist or pregnancy wheel), thus enabling the option of self-assessment of gestational age.

When LMP is uncertain, gestational age can be determined by way of a clinical/physical examination (i.e. bimanual pelvic and abdominal examination) or by ultrasound, both of which are used to assess the size of the uterus, estimated in weeks, that corresponds to a pregnant uterus of the same gestational age dated by LMP. In general, the least invasive method that is appropriate in the circumstances and available in the setting should be used.

IMPORTANT: Ultrasound is not a prerequisite for providing abortion services, and in particular routine screening for ectopic pregnancy using ultrasound is not necessary prior to abortion.

- On a case-by-case basis, there may be clinical reasons for using ultrasound prior to abortion (e.g. to determine the location of the pregnancy or to investigate a medical issue).
- The incidence of ectopic pregnancy is lower in abortion seekers than in the general population *(11)*.

Providers should bear in mind:

- Information on gestational age, as for any form of health information, should be of high quality, accurate, evidence-based and accessible.
- Do not provide information on gestational age with the aim of directing decision-making about abortion.
- Present information on gestational age in a respectful manner and in a way that is acceptable to the person receiving it and protects their privacy and confidentiality. This information should not fuel stigma and discrimination.
- Respect the person's right to refuse such information when offered; this includes the right to refuse to view ultrasound images and/or listen to heartbeats.

Table 1.4 Equivalent gestational ages in weeks and days during early pregnancy

Weeks of gestation	Days of gestation
0	0–6
1	7–13
2	14–20
3	21–27
4	28–34
5	35–41
6	42–48
7	49–55
8	56–62
9	63–69
10	70–76
11	77–83
12	84–90
13	91–97
14	98–104

Note: Day 0 is the first day of the last menstrual period (LMP), and is also the first day of Week 0 of gestation (not Week 1).

Source: WHO, 2022, p. xiv *(12),* adapted from WHO, 2012, p. iv *(13),* based on WHO, 2004, p. 95 *(14).*

IMPORTANT: If the person requests or needs them, prenatal tests and other medical diagnostic services should not be refused because the woman may decide to terminate her pregnancy on the basis of the findings. A woman is entitled – under international human rights law – to know the status of her pregnancy and to act on this information. At the same time, a client should not be forced to receive information she does not want about the pregnancy.

1.6 Infection prevention and control: standard precautions

Since abortion procedures and care may involve contact with blood and other body fluids, all clinical and support staff that provide these services should understand and apply standard precautions for infection prevention and control, for both their own protection and that of their patients.

Standard precautions, also called universal precautions, minimize or eliminate transmission of disease from patient to health worker, health worker to patient, or patient to patient. They should always be applied:

- in all situations where health workers anticipate contact with blood, any body fluid other than perspiration, non-intact skin and/or mucous membranes;
- regardless of a person's presumed infection status or diagnosis.

1.6.1 Hand washing and personal protective equipment

- Hand washing with soap and running water should be routine before and after each contact, including after contact with potentially contaminated items, even if gloves are worn.
- Gloves should be worn (non-sterile gloves can be used) and replaced between contacts with different patients and between vaginal and rectal examinations of the same patient. After completing care of one person and removing gloves, health workers should always wash their hands, as gloves may have undetected holes in them.
- Wearing barriers such as gowns, gloves, aprons, masks, protective eyewear and footwear should be routine, where available.
- It should be noted that use of auxiliary supplies, such as sterile booties, increases costs but does not make a significant difference in infection rates.

1.7 Induction of fetal cardiac asystole before abortion

For abortion after 20 weeks' gestation, induction of fetal asystole can be considered to avoid signs of life either during medical abortion or should fetal expulsion occur after cervical priming but before a planned dilatation and evacuation (D&E).

The likelihood of transient fetal survival after expulsion increases with increasing gestational age and shorter interval between cervical priming and abortion procedure, Table 1.5 summarizes regimens that are commonly used to induce fetal asystole, and Box 1.1 outlines the steps to induce fetal asystole *(15,16)*.

Table 1.5 Commonly used regimens to induce fetal asystole

	Injection of potassium chloride (KCl), (intrafunic or intracardiac)	Injection of digoxin, (intra-amniotic or intrafetal)	Injection of lidocaine, (intracardiac or intrathoracic)
EFFECTIVENESS	• **This approach is highly effective.**	• Digoxin has a higher failure rate than KCl when used to induce intrauterine fetal asystole.	• Lidocaine is rapidly effective.
TIMING	• **KCl is typically administered on the day of the abortion or one day prior.** • **Asystole is immediately observed at the time of the injection.**	• Digoxin requires time for fetal absorption; therefore, it is commonly administered the day before the abortion (for medical abortion, this means one day before misoprostol will be initiated, regardless of whether or not mifepristone is also used). • Asystole is usually confirmed before initiation of abortion.	• Lidocaine is typically administered on the day of the abortion or one day prior. • Cardiac cessation is observable within approximately 5 minutes.
SAFETY	• **This approach requires expertise for precise, safe injection.**	• Digoxin is technically easier to use and does not require ultrasound if administered intra-amniotically. • Digoxin has demonstrated safe maternal serum levels at or below therapeutic digoxin levels.	• Precise intracardiac injection requires more expertise than intrathoracic placement; both methods are highly effective. • Lidocaine presents minimal maternal risks. It may be a safe alternative in settings where digoxin or KCL are not available.
DOSAGE	• **Dosages of KCl range from 4 to 6 mEq.**	• Dosages of digoxin range from 1 to 2 mg.	• Dosages of lidocaine range from 200 to 240 mg.

Sources: Drey et al., Safety of intra-amniotic digoxin administration before late second-trimester abortion by dilation and evacuation, 2000 *(15)*; Hammond, Recent advances in second-trimester abortion: an evidence-based review, 2009 *(17)*; and Tufa et al., Drugs used to induce fetal demise prior to abortion: a systematic review, 2020 *(18)*.

BOX 1.1: Steps to induce fetal asystole

1. Provide information to the woman about the process of inducing fetal asystole and what to expect, and follow the informed consent process by outlining the risks and benefits of the procedure (see section 1.1.4).
2. Use a sterile technique for injection.
3. Have the patient empty bladder before the procedure.
4. Find the injection site by physical examination or ultrasound.
   - Ultrasound guidance is only necessary for intracardiac or intrafunic injections.
5. Consider using lidocaine as a local anaesthesia over the skin of the injection site.
6. Use a spinal needle (20 gauge to 22 gauge, with adequate length) to slowly inject the medication intended to be used for inducing fetal asystole (use the smallest effective dose).
   - When performing the intra-amniotic digoxin injection without ultrasound guidance, confirm correct placement of the needle by aspirating amniotic fluid before injection.
   - In the case of multiple gestations, inject each sac/fetus separately to induce asystole.
7. Confirm asystole; this can be confirmed immediately when performing intrafunic or intracardiac injection, and 24 hours after using intrafetal or intra-amniotic digoxin injection. Another injection may be administered if needed.
8. Ensure haemostasis and place a small, clean dressing over the injection site.

For those who will be discharged prior to the abortion procedure:

9. Provide information about when to return for the completion of the abortion process.
10. Inform the woman there is a risk for early labour, extramural delivery, or leakage of fluid. Tell her to contact her abortion provider or visit a health-care facility if any of the above happen.

Sources: Alfirevic et al., Amniocentesis and chorionic villus sampling for prenatal diagnosis, 2017 *(19)*; Diedrich, Drey and Society of Family Planning, Induction of fetal demise before abortion, 2010 *(20)*; Grimes et al., Feticidal digoxin injection before dilation and evacuation abortion: evidence and ethics, 2012 *(21)*; and Reeves et al., Transabdominal lidocaine to induce fetal demise: a cohort study, 2022 *(22)*.

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2. Abortion

Medical abortion

- Summary of methods: medical abortion
- Self-management approaches
- Clinical considerations for medical abortion (including contraindications)
- Pain management for medical abortion
- Induced medical abortion at < 12 weeks of gestation
- Induced medical abortion at ≥ 12 weeks of gestation
- Medical management for missed abortion
- Medical management for intrauterine fetal demise

Surgical abortion

- Summary of methods: surgical abortion (including drugs, supplies and equipment)
- Pain management for surgical abortion
- Cervical priming prior to surgical abortion
- Vacuum aspiration for surgical abortion at < 14 weeks of gestation
- Surgical abortion at ≥ 14 weeks of gestation

Objectives for Chapter 2

- Provide the appropriate method based on the information gathered in the pre-abortion stage
- Provide antibiotic prophylaxis where necessary
- Offer and provide pain management
- Perform cervical priming before surgical abortion if required

2.1 Medical abortion

2.1.1 Summary of methods: medical abortion

Medical abortion includes the following components or subtasks:

i. assessing eligibility for medical abortion (i.e. determining pregnancy duration and ruling out contraindications);

ii. administering the appropriate regimen of abortion medicines and managing the abortion process and the common side-effects of the medicines;

iii. assessing whether the abortion process has had a successful outcome and whether any further intervention is needed.

One health worker can provide the whole package of care for medical abortion, but it is equally possible for the subtasks to be carried out by different health workers and at different locations, including remotely, and including self-management of some or all of the tasks by the woman, with support as needed (refer to the service delivery recommendations in WHO's 2022 *Abortion care guideline [1]*).

Table 2.1 Medical abortion regimens

RECOMMENDATIONS	COMBINATION REGIMEN		MISOPROSTOL ALONE
	MIFEPRISTONE ›› 1–2 DAYS ››	MISOPROSTOL (IN ALL CASES, THIS SHOULD BE A MINIMUM OF 24 HOURS AFTER MIFEPRISTONE)	MISOPROSTOL
INDUCED ABORTION < 12 WEEKS RECOMMENDED REGIMENS[a]	200 mg PO once	800 µg PV, SL or B[b]	800 µg PV, SL or B[b]
INDUCED ABORTION < 12 WEEKS ALTERNATIVE REGIMEN	Letrozole[c] (instead of mifepristone) 10 mg PO daily for 3 days	800 µg SL on day 4[b]	NA
INDUCED ABORTION ≥ 12 WEEKS	200 mg PO once	400 µg B, SL or PV every 3 hours[b,d]	400 µg B, SL or PV every 3 hours[b,d]
MISSED ABORTION < 14 WEEKS[a]	200 mg PO once	800 µg B, PV or SL[b]	800 µg B, PV or SL[b]
INTRAUTERINE FETAL DEMISE (IUFD) AT ≥ 14 TO ≤ 28 WEEKS[a]	200 mg PO once	400 µg PV or SL every 4–6 hours[b,d]	400 µg SL (preferred) or PV every 4–6 hours[b,d]
INDUCED ABORTION < 14 WEEKS UTERINE SIZE (SEE SECTION 3.3)	NA	NA	600 µg PO or 400 µg SL[b]
INDUCED ABORTION ≥ 14 WEEKS UTERINE SIZE (SEE SECTION 3.3)	NA	NA	400 µg B, PV or SL every 3 hours[b]

B: buccal; NA: not applicable; PO: oral; PV: vaginal; SL: sublingual

[a] The combination regimen of mifepristone-misoprostol is slightly more effective than misoprostol alone.

[b] Repeat doses of misoprostol can be considered (or repeated at the noted interval) when needed to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol. Health workers should use caution and clinical judgement to decide the maximum number of doses of misoprostol in pregnant individuals with prior uterine incision. Uterine rupture is a rare complication; clinical judgement and health system preparedness for emergency management of uterine rupture must be considered with advanced gestational age.

[c] Further evidence is needed to determine the safety, effectiveness and acceptability of the letrozole plus misoprostol combination regimen at advanced gestational ages, especially in comparison with that of the mifepristone plus misoprostol combination regimen (the available evidence focused on comparison with the use of misoprostol alone).

[d] The dose of misoprostol should be reduced for induced abortion beyond 24 weeks and IUFD beyond 28 weeks, due to limited data. Clinical judgement should be used to determine the appropriate dosage, recognizing the greater sensitivity of the uterus to prostaglandins.

BOX 2.1 Documenting induced abortion for mortality statistics

Mortality statistics are widely used for medical research; for planning, monitoring and evaluating public health programmes and health-care interventions; for allocation of health-care resources; and for follow-up of health care *(2)*. This includes separate statistics on induced abortion or "artificial termination of pregnancy", which is regulated by law and is defined as "a complete expulsion or extraction from a woman of an embryo or a fetus (irrespective of the duration of the pregnancy), following a deliberate interruption of an ongoing pregnancy by medical or surgical means, which is not intended to result in a live birth" *(3, section 2.25.4.2)*. As long as it meets the definition of artificial termination of pregnancy, it should be considered separately from spontaneous abortion or stillbirth and clearly distinguishable in the statistics *(3, section 2.25.4.1)*.

Please refer to Box 2.2 regarding documenting stillbirths and fetal deaths separately for mortality statistics.

2.1.2 Self-management approaches

Self-management for medical abortion before 12 weeks' gestation (i.e. using the combination of mifepristone plus misoprostol or using misoprostol alone): The option of self-management is recommended for this – as an alternative to direct in-person supervision by a health worker – to deliver any or all of the above three component tasks of the medical abortion process, outside of a health-care facility (e.g. at home). Anyone engaging in self-management of medical abortion must also have access to accurate information, quality-assured medicines including for pain management, the support of trained health workers and access to a health-care facility and to referral services if they need or desire it *(1)*.

Telemedicine for medical abortion: Telemedicine is also a recommended option as an alternative to in-person interactions with the health worker to deliver medical abortion services in whole or in part *(1)*. This means that the assessment of eligibility for medical abortion, counselling and/or instruction relating to the abortion process, instruction for and active facilitation of the administration of medicines, and follow-up post-abortion care can all be provided through telemedicine.[1] Telemedicine services should include referrals (based on the woman's location) for medicines (abortion and pain control medicines), any abortion care or post-abortion follow-up required (including for emergency care if needed), and for post-abortion contraceptive services, which may apply to both medical and surgical abortion. For further information, refer to section 3.6.1 in WHO's 2022 *Abortion care guideline*.

1 It should be noted that the evidence about this service-delivery approach did not include hotlines, digital apps or one-way modes of communication (e.g. reminder text messages) that simply provide information.

2.1.3 Clinical considerations for medical abortion at any gestational age

- Medical abortion is a multistep process involving two medicines (mifepristone or letrozole plus misoprostol) and/or multiple doses of one medicine (misoprostol).
    - Letrozole in a combination regimen with misoprostol is currently suggested as an alternative regimen only for abortion before 12 weeks of gestation (and not for self-management). However, additional research is needed about the safety, effectiveness and acceptability of this regimen use at advanced gestational ages, especially in comparison with that of the mifepristone plus misoprostol combined regimen.
- Anyone undergoing medical abortion must be able to access advice and emergency care in the event of complications (see Table 2.2).
- Inform the individual that misoprostol might have teratogenic effects if the abortion fails and she decides to continue the pregnancy. There is no need to insist on termination of an exposed pregnancy; data are limited and inconclusive regarding teratogenicity. However, even though the risk is low (< 1% of continuing pregnancies *[4]*), the woman should be advised to seek antenatal follow-up of a continued pregnancy in this situation.
- Inform the individual that it is important for medical abortifacients to be of high pharmaceutical quality, but also that medical abortion has an inherent failure rate, even when the medicines used are of good quality and are administered correctly.
- Neither mifepristone nor misoprostol (nor both combined) will terminate an ectopic pregnancy.
    - Absence of bleeding after taking misoprostol is most likely to indicate a failed medical abortion, but there is a possibility that it signifies that the pregnancy is ectopic.
    - Even if a pregnancy is ectopic, a woman can experience some bleeding after taking mifepristone and misoprostol because the decidua may respond to the medicines.
    - Evaluate the woman for an ongoing pregnancy as well as for ectopic pregnancy if she reports signs or symptoms of continuing pregnancy after medical abortion.

- **Prophylactic antibiotics are unnecessary and not recommended prior to a medical abortion *(1, section 3.3.4)*.**

Contraindications to medical abortion:

- previous allergic reaction to one of the medicines involved
- inherited porphyria
- chronic adrenal failure
- known or suspected ectopic pregnancy.

Caution and clinical judgement are required in cases of:

- long-term corticosteroid therapy (including those with severe uncontrolled asthma)
- haemorrhagic disorder
- severe anaemia
- pre-existing heart disease or cardiovascular risk factors
- an intrauterine device (IUD) in place (it must be removed before beginning the regimen).

Refer the individual to an appropriate higher-level health-care facility, as needed, if other health/medical conditions (e.g. comorbidities or uterine anomalies) are detected that may cause or exacerbate complications.

Table 2.2 Side-effects or complications of medical abortion, and their management

Side-effect or complication	Management
Pain	Respectful, non-judgemental communication Verbal support and reassurance Thorough explanation of what to expect The presence of a support person who can remain with her during the process (only if she desires it) Hot water bottle or heating pad NSAIDs, such as ibuprofen ***Severe pain that persists*** should be evaluated to rule out ectopic pregnancy (at < 12 weeks of gestation) or uterine rupture, a rare complication, which is more likely with a history of prior uterine incision (at ≥ 12 weeks of gestation)
Bleeding	Create reasonable expectations about the amount and duration of bleeding If there is evidence of haemodynamic compromise, start IV fluids Vacuum aspiration for profuse bleeding Blood transfusion, if required (rare)
Fever/chills (a frequent side-effect of repeated doses of misoprostol)	Antipyretic drugs, such as paracetamol or ibuprofen to reduce discomfort ***If fever persists*** for more than 24 hours after the last dose of misoprostol, further assessment is warranted
Nausea and vomiting	Explain that this is self-limiting Reassure, provide anti-emetics if desired
Diarrhoea	Explain that this is self-limiting Reassure, provide antidiarrhoeal medicines if desired Encourage oral hydration
Pelvic infection	If infection is suspected, perform physical examination ***If infection is confirmed,*** provide antibiotics and uterine evacuation and hospitalize if necessary

2.1.4 Pain management for medical abortion

Almost all women will experience some pain and cramping during and after an abortion. Pain management is an important element of care and should be offered routinely and provided if and when wanted, before medical abortion. It should be administered in advance, in anticipation of the onset of pain (as a prophylactic measure) *(5),* or provided to the woman in case it is needed for later use at home.

- The amount of pain that individuals experience, and their response to that pain, varies greatly.
- The need for pain management increases with gestational age and time needed to complete the abortion.
- The degree of pain experienced also varies with the age, parity, prior vaginal delivery, history of dysmenorrhoea, and anxiety/fear level of the individual undergoing the abortion.
- Anxiety can increase sensitivity to pain.

Principles for pain management:

- Individually assess each woman's need for pain management.
- Consider both non-pharmacological and pharmacological methods for reducing pain associated with medical abortion (see Table 2.3).
- Pay close attention to an individual's medical history, allergies and concurrent use of medicines that might interact with any available analgesic or anaesthetic agents, to optimize the safe use of pain medicines.

Table 2.3 Pain management options for medical abortion

Non-pharmacological methods	Pharmacological methods
• Respectful, non-judgemental communication • Verbal support and reassurance • Thorough explanation of what to expect • The presence of a support person who can remain with the woman during the process (if she desires it) • Hot water bottle or heating pad	**At any gestational age:** • Anxiolytics/sedatives (e.g. diazepam 5–10 mg) • Analgesia (NSAIDs, e.g. ibuprofen 400–800 mg) • Adjuvant medication, if indicated, for side-effects of misoprostol (e.g. loperamide for diarrhoea) **At < 12 weeks of gestation:** • If NSAIDs are not available or contraindicated, then acetaminophen/paracetamol can be considered for pain control. **At ≥ 12 weeks of gestation:** In addition to NSAIDs, offer one or more of the following: • oral opioids (depending on availability, e.g. codeine, morphine); • intramuscular (IM) or intravenous (IV) opioids;[a] • certain anti-emetics and epidural anaesthesia, where available.

[a] When IV pain management is used, a clinician trained (and certified, if legally required) to monitor the woman's vital signs must be present *(5)*. The health worker administering IV pain management must be prepared to provide respiratory support in the event of respiratory suppression.

Following recommended dosages greatly reduces any risks associated with these pain management options for medical abortion.

IMPORTANT: Neglecting pain management needlessly increases anxiety and discomfort, thereby seriously compromising the quality of care. Denial of pain management as a punishment for having an abortion is a violation of human rights.

2.1.5 Induced medical abortion at < 12 weeks of gestation

The recommended treatment regimens for medical abortion before 12 weeks of gestation are shown in Table 2.4.

Table 2.4 Treatment regimens for medical abortion at < 12 weeks of gestation

REGIMEN TYPE	DOSING INFORMATION		REMARKS
MIFEPRISTONE PLUS MISOPROSTOL[a] RECOMMENDED REGIMEN	Mifepristone 200 mg PO once	1–2 DAYS BEFORE Misoprostol 800 µg PV, SL or B[b]	Repeat doses of misoprostol can be considered when needed to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol.
MISOPROSTOL ONLY RECOMMENDED REGIMEN		Misoprostol 800 µg PV, SL or B[b]	
LETROZOLE PLUS MISOPROSTOL ALTERNATIVE REGIMEN	10 mg PO daily x 3 days	Misoprostol 800 µg SL on day 4	This regimen may be safe and effective up to 14 weeks of gestation.

B: buccal; NA: not applicable; PO: oral; PV: vaginal; SL: sublingual

[a] The combination regimen of mifepristone-misoprostol is slightly more effective than misoprostol alone.

[b] All routes are included as options for misoprostol administration, in consideration of patient and provider preference.

Clinical considerations for medical abortion at early gestational ages

- Mifepristone and letrozole are always administered orally.
- Misoprostol can be administered by different routes, including vaginal, buccal and sublingual.
    - Side-effects and instructions for use differ for the different routes (see Table 2.5 Characteristics of different routes of misoprostol administration, and illustrations in Fig. 2.1).
- Antibiotic prophylaxis is not necessary for medical abortion.
- Mifepristone and misoprostol can safely be used at home, and the pregnancy expulsion process does not need to occur in a clinical setting if the person chooses.
- See also clinical considerations for medical abortion at any gestational age (section 2.1.3).

Administering the medicines and facilitating the abortion process

- Administer the medicine(s) to initiate medical abortion (or provide them to the woman with clear instructions).
- Discuss the range of pain and bleeding associated with the abortion process. Explain the possibility of heavy bleeding with clots, passage of the pregnancy tissue, and pain that may be significantly stronger than normal menstrual cramps for some individuals. Refer to section 2.1.4 for information on pain management.
- Ensure that all women have access to information, pain medicines and services to support successful management of the abortion process and address common side-effects of medicines (see Table 2.2), and information on where to seek assistance for any complications that may arise (see below).

IMPORTANT: It is essential that the woman knows to seek medical attention for:

- **prolonged or heavy bleeding** (soaking more than two large pads per hour for two consecutive hours);
- **fever lasting more than 24 hours** after the last dose of misoprostol;
- **feeling generally unwell more than 24 hours** after misoprostol administration.

Considerations for home use (self-management) of mifepristone plus misoprostol or misoprostol alone

Before the woman goes home with the medicines for abortion and pain relief:

- ensure that she understands when and how to use the tablets;
- ensure that she understands when and how to self-administer pain medication, and how to use other pain-relieving measures, based on a review of her preferences;
- ensure that the individual understands how to contact a trained health worker in the event of questions, concerns or complications;
- provide instruction on how to use clinical signs and symptoms and/or human chorionic gonadotrophin (hCG) levels (in blood or urine) to self-assess the success of the medical abortion (it should be noted that the results of high-sensitivity pregnancy tests can be positive up to five weeks after successful medical abortion).

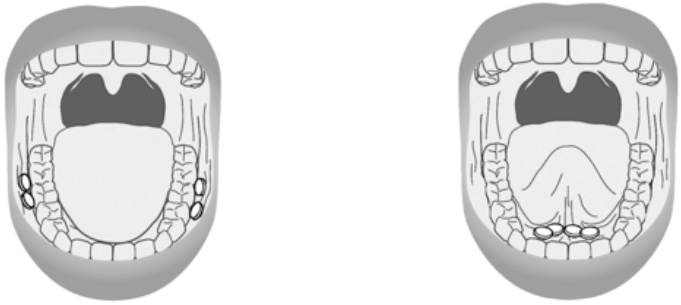
Considerations for facility-based use of misoprostol

- Ensure that the woman has access to private toilets while awaiting pregnancy expulsion.

Table 2.5 Characteristics of different routes of misoprostol administration

Route	Instructions for use	Notes
Buccal	Pills are placed between the cheek and gums and swallowed after 20–30 minutes	Increased fever and chills compared with the vaginal route
Sublingual	Pills are placed under the tongue and swallowed after 30 minutes	Increased fever, chills, diarrhoea and vomiting compared with the vaginal route Fastest onset of action and highest plasma concentration levels
Vaginal	Pills are placed in the vaginal fornices (deepest portions of the vagina) and the woman is instructed to lie down for 30 minutes	Pill fragments may be visible Lowest rate of side-effects

Figure 2.1 Illustration of buccal and sublingual routes of misoprostol administration



Buccal

Sublingual

NOTES:

- **Fever/chills** can be a frequent side-effect of repeated doses of misoprostol; administration of paracetamol or ibuprofen will reduce discomfort in these cases. Fever that persists for more than 24 hours after the last dose of misoprostol should be evaluated.
- **Severe pain** that persists should be evaluated to rule out ectopic pregnancy.
- For further information, refer to Table 2.2.

2.1.6 Induced medical abortion at ≥ 12 weeks of gestation

The recommended treatment regimens for medical abortion at or beyond 12 weeks of gestation are shown in Table 2.6.

Table 2.6 Treatment regimens for medical abortion at ≥ 12 weeks of gestation

REGIMEN TYPE	DOSING INFORMATION			REMARKS
MIFEPRISTONE PLUS MISOPROSTOL[a]	Mifepristone 200 mg PO once	1–2 DAYS BEFORE	Misoprostol 400 µg B, SL or PV[b] every 3 hours[c]	The dose of misoprostol should be reduced for induced abortion beyond 24 weeks, recognizing the greater sensitivity of the uterus to prostaglandins. Due to the lack of clinical studies/limited data, however, there are no specific dosing recommendations; clinical judgement should be used to determine the appropriate dosage.
MISOPROSTOL ALONE	NA		Misoprostol 400 µg PV, SL or B[b] every 3 hours[c]	

B: buccal; NA: not applicable; PO: oral; PV: vaginal; SL: sublingual

a The combination regimen of mifepristone-misoprostol is more effective than misoprostol alone.

b Evidence suggests that the vaginal route is most effective. Consideration for patient and provider preference suggests the inclusion of all routes.

c Misoprostol can be repeated at the noted interval as needed to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol. Health workers should use caution and clinical judgement to decide the maximum number of doses of misoprostol in pregnant individuals with prior uterine incision. Uterine rupture is a rare complication; clinical judgement and health system preparedness for emergency management of uterine rupture must be considered with advanced gestational age.

Clinical considerations for medical abortion at advanced gestational ages

- Mifepristone is always administered orally.
- Misoprostol may be administered by different routes, including vaginal, buccal and sublingual.
    - Side-effects and instructions for use differ for the different routes (see Table 2.5 Characteristics of different routes of misoprostol administration, and illustrations in Fig. 2.1).
- Abortion medicines can be administered in a health-care facility or at home.
- Antibiotic prophylaxis is not necessary for medical abortion.
- Women remain in the facility until expulsion of the pregnancy has been successful.
- If the gestational age is beyond 20 weeks, some providers of abortion care may consider pre-procedure induction of fetal asystole (see section 1.7).
- Uterine sensitivity to prostaglandins increases with gestational age. The appropriate dose of misoprostol therefore decreases as gestational age increases.
- See also clinical considerations for medical abortion at any gestational age (section 2.1.3).

Administering the medicines and facilitating the abortion process

- Ensure that all women have access to information, pain medicines and services to support successful management of the abortion process and address common side-effects of medicines (see Table 2.2), and information on where to seek assistance for any complications that may arise (see below).
- Discuss the range of pain and bleeding associated with the abortion process. Explain that there will be heavy bleeding with clots, passage of the pregnancy tissue, and pain that will be significantly stronger than normal menstrual cramps. Refer to section 2.1.4 for information on pain management.
- Administer the medicine(s) to initiate medical abortion (or provide them to the individual with clear instructions).
- Ensure prompt administration of repeat misoprostol every 3 hours, as many times as needed to achieve success of the abortion process, based on clinical judgement. Misoprostol may be given even if the person is experiencing bleeding and cramping/contractions.

- Offer supportive care while awaiting pregnancy expulsion.
- Cramping will often begin before the second dose of misoprostol is administered; however, timing is variable. Starting from the time of the first dose of misoprostol, women should be monitored every 30 minutes, particularly in relation to their need for pain management.
- Fever/chills can be a frequent side-effect of repeated doses of misoprostol; administration of paracetamol or ibuprofen will reduce discomfort in these cases.
- The expected time to expulsion and completion of abortion is higher in nulliparous women, and increases in all women with gestational age.

IMPORTANT: It is essential that the woman knows to seek medical attention for:

- **prolonged or heavy bleeding** (soaking more than two large pads per hour for two consecutive hours);
- **fever/chills lasting more than 24 hours** after the last misoprostol dose;
- **feeling generally unwell more than 24 hours** after misoprostol administration;
- **severe pain that persists** (evaluation is needed to rule out uterine rupture, a rare complication, which is more likely with a history of prior uterine incision).

Fetal/placental expulsion

- If the fetus or placenta have not passed after 24–48 hours since receiving the first dose of misoprostol, consider performing a vaginal examination, and remove any tissue present in the vagina or cervical os.
- Routine ultrasound examination should not be used to screen for incomplete abortion; ultrasound appearances correlate poorly with retained products of conception *(6)*.
- Routine uterine curettage following complete expulsion of the fetus and placenta is unwarranted.
    - Use of modern methods of medical abortion at ≥ 12 weeks of gestation (i.e. misoprostol with or without mifepristone) results in low rates (< 10%) of retained placenta.[2]
    - Uterine evacuation by vacuum aspiration (or curettage, where aspiration is unavailable) to remove the placenta should only be performed in individuals who have heavy bleeding, fever or a retained placenta beyond 3–4 hours since the expulsion of the fetus.
- Pregnancy tissue should be treated in the same way as other biological material unless the individual wishes or local rules dictate that it be managed otherwise.

Before discharge after medical abortion at ≥ 12 weeks of gestation
(see also Chapter 3, section 3.1)

- Reassure the woman that the procedure is finished and that she is no longer pregnant.
- Monitor her (bleeding, pain, blood pressure and pulse) and provide management as needed.
- She may leave the health-care facility when she is stable and meets criteria for discharge.
- Document all outcomes of the treatment, including any adverse events.
- Offer contraception as desired.

2 Sources variously indicate rates of 8% (7) and 6% (8).

2.1.7 Medical management of missed abortion

Missed abortion is when a pregnancy stops developing, where the embryo/fetus/embryonic tissue or empty gestation sac remains in the uterus with the cervical os closed. Symptoms may include pain, bleeding or no symptoms at all. If an ultrasound is done, the scan may show an embryo or fetus without cardiac activity, or what appears to be an early developing pregnancy, with only a fluid-filled sac visible within the uterus *(1)*.

Clinical considerations for management of missed abortion

- Medical, surgical (vacuum aspiration) and expectant management are all options for management of missed abortion. The decision about the mode of management should be based on the individual's clinical condition and preference for treatment.
- Expectant management can be offered as an option on the condition that the woman is informed of the longer time for expulsion of the pregnancy tissue and the increased risk of incomplete emptying of the uterus, which would necessitate a surgical intervention.
- Pregnancy tissue should be treated in the same way as other biological material unless the individual expresses a desire for it to be managed otherwise.

For women who prefer medical management for missed abortion, the recommended regimens for gestational age below 14 weeks are shown in Table 2.7. Please also refer to information in section 2.1.5, including Tables 2.4 and 2.5 and Fig. 2.1.

Table 2.7 Treatment regimens for missed abortion at < 14 weeks of gestation

REGIMEN TYPE	DOSING INFORMATION			REMARKS
MIFEPRISTONE PLUS MISOPROSTOL (Recommended regimen)	Mifepristone 200 mg PO once	1–2 DAYS BEFORE	Misoprostol 800 µg by any route (B, PV or SL) once	The minimum recommended interval between use of mifepristone and misoprostol is 24 hours.
MISOPROSTOL ALONE (Alternative regimen)	NA		Misoprostol 800 µg by any route (B, PV or SL)	If using this regimen, it should be noted that at gestational ages ≥ 9 weeks, evidence shows that repeat dosing of misoprostol is more effective to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol.

B: buccal; NA: not applicable; PO: oral; PV: vaginal; SL: sublingual

Table 2.8 Comparison of management options for missed and incomplete abortions

Method	Potential advantages	Potential disadvantages	Efficacy (%) Missed abortion	Efficacy (%) Incomplete abortion
Expectant management	• May minimize visits • Avoids side-effects and complications of other methods • Avoids intrauterine instrumentation	• Unpredictable time frame • May still require follow-up vacuum aspiration if not successful	16–75%	82–100%
Medical management	• Avoids intrauterine instrumentation	• May cause more bleeding and need for follow-up than vacuum aspiration • Short-term side-effects from misoprostol	77–89%	61–100%
Surgical management (vacuum aspiration)	• Quick resolution	• Surgical procedure	96–100%	96–100%

Note: For further information on incomplete abortion, see section 3.3.

2.1.8 Medical management of intrauterine fetal demise

Intrauterine fetal demise (IUFD) or fetal death refers to situations in which the fetus is no longer alive, but the uterus has not yet started to expel its contents and the cervical os remains closed *(9)*. The diagnosis is made by ultrasound scan following the clinical findings, which can include vaginal bleeding, absent fetal heart sounds on electronic auscultation, a failure to feel fetal movements or a uterus that is significantly smaller than the expected size *(9)*.

IUFD may be managed expectantly, or treated surgically (D&E; see section 2.2.6) or medically, as described in this section. The decision about the mode of management of IUFD should be based on the individual's clinical condition and preference for treatment. Pregnancy tissue should be treated in the same way as other biological material unless the individual expresses a desire for it to be managed otherwise.

For individuals who prefer medical management, the recommended regimens for IUFD at ≥ 14 to ≤ 28 weeks are shown in Table 2.9. It is important to note, however, that in the event that mifepristone is taken as an outpatient, it is essential that the woman knows to return to the clinic or seek care if membranes rupture or if contractions begin before she has started to take any doses of misoprostol.

Table 2.9 Treatment regimens for intrauterine fetal demise (IUFD) at ≥ 14 to ≤ 28 weeks

REGIMEN TYPE	DOSING INFORMATION			REMARKS
MIFEPRISTONE PLUS MISOPROSTOL (Suggested regimen)[a]	Mifepristone 200 mg PO once	1–2 DAYS BEFORE[b]	Misoprostol 400 µg PV or SL every 4–6 hours[b,c]	The dose of misoprostol should be reduced for induced abortion beyond 24 weeks and IUFD beyond 28 weeks, due to limited data. Clinical judgement should be used to determine the appropriate dosage, recognizing the greater sensitivity of the uterus to prostaglandins.
MISOPROSTOL ALONE[c] (Alternative regimen)	NA		Misoprostol 400 µg SL (preferred) or PV every 4–6 hours[c]	

NA: not applicable; PO: oral; PV: vaginal; SL: sublingual

a The combination regimen of mifepristone plus misoprostol is more effective than misoprostol alone.

b The minimum recommended interval between use of mifepristone and misoprostol is 24 hours.

c Misoprostol can be repeated at the noted interval as needed to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol. Health workers should use caution and clinical judgement to decide the maximum number of doses of misoprostol in pregnant individuals with prior uterine incision. Uterine rupture is a rare complication; clinical judgement and health system preparedness for emergency management of uterine rupture must be considered with advanced gestational age.

BOX 2.2: Documenting fetal deaths and stillbirths separately from induced abortion in mortality statistics

Mortality statistics are widely used for medical research; for planning, monitoring and evaluating public health programmes and health-care interventions; for allocation of health-care resources; and for follow-up of health care *(2)*. This includes statistics on fetal death, stillbirths and neonatal deaths, which are all to be recorded separately from statistics on artificial termination of pregnancy. Artificial termination of pregnancy is defined as "a complete expulsion or extraction from a woman of an embryo or a fetus (irrespective of the duration of the pregnancy), following a deliberate interruption of an ongoing pregnancy by medical or surgical means, which is not intended to result in a live birth" *(3, section 2.25.4.2)*.

Key instructions from the ICD-11:

- Just one medical certificate of cause of death is used for all deaths, including stillbirths (since the update of the International form of medical certificate of cause of death in 2016) *(3, section 2.25.4.4)*.
- As a minimum, all stillbirths and deaths following live births born with 22 or more completed weeks of gestation (≥ 154 days) should be included in the statistics, though the legal requirements for the registration may vary depending on different national legislations. This does not apply to artificial termination of pregnancy, which is defined (see above) irrespective of duration of pregnancy and should be presented separately from fetal death, stillbirth or live birth *(3, section 2.25.4.5)*.
- Artificial termination of an ongoing pregnancy is regulated by law and may be referred to as legal abortion, induced abortion, fetal reduction or other terminologies. As long as it meets the definition of artificial termination of pregnancy, it should be considered separately from spontaneous abortion or stillbirth and clearly distinguishable in the statistics *(3, section 2.25.4.1)*.

2.2 Surgical abortion

2.2.1 Summary of methods: surgical abortion

Surgical abortion includes the following tasks: administering antibiotic prophylaxis and pain management (ranging from local anaesthesia to minimal to deep sedation, or, in some cases where necessary, general anaesthesia), cervical priming, conducting the abortion procedure using the method selected, overseeing patient recovery and discharge.

A range of health workers can perform these various tasks (refer to the service delivery recommendations in WHO's 2022 *Abortion care guideline [1]*).

Table 2.10 Methods of surgical abortion

< 14 weeks	≥ 14 weeks
Vacuum aspiration • manual vacuum aspiration (MVA) • electric vacuum aspiration (EVA)	**Advanced vacuum aspiration** • MVA • EVA **Dilatation and evacuation (D&E)**

Vacuum aspiration involves evacuation of the contents of the uterus through a plastic or metal cannula, attached to a vacuum source. Electric vacuum aspiration (EVA) employs an electric vacuum pump. With manual vacuum aspiration (MVA), the vacuum is created using a hand-held, hand-activated, plastic 60 ml aspirator (also called a syringe). MVA aspirators accommodate 4–12 mm cannulae. Suction tubing for EVA can be used with cannulae up to 16 mm in diameter, permitting vacuum aspiration to be used up to 15–16 weeks of gestation or for post-abortion care cases presenting with dilated cervix where larger size cannulae are required for effective vacuum.

Dilatation and evacuation (D&E) is the surgical technique for abortion after 12–14 weeks of pregnancy, where skilled, experienced practitioners are available. D&E requires preparation of the cervix using osmotic dilators and/or pharmacological agents, and evacuating the uterus primarily with forceps, and using vacuum aspiration (refer to entry in this list) to remove any remaining blood or tissue.

Regarding documentation requirements, refer to Box 2.1 (Documenting induced abortion for mortality statistics) and Box 2.2 (Documenting fetal deaths and stillbirths separately from induced abortion in mortality statistics), both in section 2.1.

Table 2.11 Supplies, medicines and equipment for surgical abortion[3]

	Clinical assessment	Vacuum aspiration procedure and dilatation and evacuation (D&E) procedure	Recovery	In case of complications
SUPPLIES AND MEDICINES	• **Clean examination gloves**	• Clean water • Detergent or soap • Cervical priming agents and supplies (e.g. misoprostol, mifepristone, osmotic dilators) • Pain medicines, such as analgesics and anxiolytics • Clean and sterile gloves • Personal protective equipment (e.g. face mask, face shield, gown, plastic apron) • Sterilization or high-level disinfection solutions and materials • Gauze sponges or cotton balls • Antiseptic solution (non-alcohol based) to prepare the cervix • Needles (22-gauge spinal needle for paracervical block and 21-gauge needle for medicine administration) • Syringes (5, 10 and 20 ml) • Lidocaine for paracervical block • Silicone for lubricating syringes • Lubricating jelly	• Sanitary napkins/pads • Analgesics • Antibiotics • Information leaflets (on post-procedure self-care, and post-abortion contraception) • Post-abortion contraceptive methods	• Appropriate antagonists to medicines used for pain • Uterotonics (oxytocin, misoprostol or ergometrine) • Intravenous (IV) line and fluids (saline, sodium lactate, glucose) • Uterine packing • Oxygen and Ambu bag
EQUIPMENT	• **Blood pressure equipment** • **Stethoscopes**	• **Autoclave or sterilizer[a]** • **Speculum (wide mouth to increase exposure of the cervix and short to avoid pushing the cervix away, or a Sims speculum if an assistant is available)** • **Light source/head light** • Tenaculum (atraumatic tenaculum; when available) • **Mechanical dilators** tapered, up to 37 French (Fr) (or up to 51 Fr for advanced gestational age) or equivalent circumference Pratt, 13–43 Fr (or 41–79 Fr for advanced gestational age) Hern, up to 98 Fr for advanced gestational age • All sizes of cannulae up to 16 mm • Electric vacuum aspirator (with cannulae up to 14–16 mm) or manual vacuum aspirator (with cannulae up to 12–14 mm) • **Bierer uterine evacuation forceps (large and small)** • **Sopher uterine evacuation forceps (small)** • **Large, postpartum flexible curette** • Sponge (ring) forceps • Stainless steel bowl for prepping solution • Instrument tray • Clear glass dish for tissue inspection • Strainer (metal, glass or gauze)	• Blood pressure equipment • Stethoscope	• On-site access to an ultrasound machine (optional) • Long needle-driver and suture • Scissors

[a] Equipment for dilatation and evacuation (D&E) is highlighted in **bold font**.

3 For further detail, see Annex 2: Drugs, supplies and equipment for quality abortion care.

2.2.2 Clinical considerations for surgical abortion

If the gestational age is beyond 20 weeks, some providers of abortion care may consider pre-procedure induction of fetal asystole (see section 1.7).

Refer the individual to an appropriate higher-level health-care facility for the abortion procedure and/or for other services, as needed, if other health/medical conditions (e.g. comorbidities or uterine anomalies) are detected that may cause or exacerbate complications.

Clear referral mechanisms need to be in place to refer women to a higher-level facility in case complications arise during the procedure or during recovery. Routine referral should also be in place to refer women for post-abortion contraception, if this is not available on-site.

Antibiotic prophylaxis for surgical abortion

- The presence of infection in the lower reproductive tract at the time of surgical abortion is a risk factor for post-abortion reproductive tract infections. Provision of antibiotics at the time of the abortion (prophylaxis) is to prevent such complications after a surgical abortion.
    - Single-dose administration of nitroimidazoles, tetracyclines or penicillins has been shown to be effective when used as prophylactic antibiotics for surgical abortion.
    - Treatment regimens of antibiotics should not be given unless there is concern about an existing infection.
- For surgical abortion, regardless of the individual's risk of pelvic inflammatory infection, appropriate prophylactic antibiotics are recommended pre- or perioperatively *(1, section 3.3.4)*.

Aseptic technique

- Prior to any surgical abortion procedure, the woman's cervix should be wiped with an antiseptic (e.g. betadine).
- Safe handling and disposal of sharp instruments ("sharps") – blades and needles – is essential, as is proper handling and processing of other instruments and materials to avoid potential infection for both patients and health workers.
- Use the "no-touch" technique (see Box 2.3).

CAUTION: Aspirators, cannulae and adaptors are not safe to handle with bare hands until cleaned.

BOX 2.3 The "no-touch" technique

The no-touch technique is important because even though antiseptic solution is applied at the start of the procedure, it is not possible to sterilize the genital tract.

The no-touch technique means that the parts of instruments that enter the uterus (i.e. cannulae, forceps, dilators) should not touch objects or surfaces that are not sterile, including the patient's thighs or vaginal walls or the provider's hands/gloves, before being inserted into the uterus. The provider can use clean, non-sterile gloves for the procedure – sterile gloves are not necessary.

Thus, during the procedure, the health worker:

- grasps and touches only the mid-portion of dilators, avoiding the tips;
- attaches the cannula to the vacuum source without touching the tip of the cannula;
- keeps used instruments away from sterile instruments remaining on the tray.

Source: Meckstroth and Paul, First trimester, aspiration abortion, 2009 *(10)*.

2.2.3 Pain management for surgical abortion

Almost all women will experience some pain and cramping during cervical preparation, during the abortion procedure and post-abortion. This pain is primarily related to cervical dilatation (physiological, pharmacological and/or mechanical) and uterine contractions. Pain management is an important element of care and should be offered routinely and provided if and when wanted, before and/or during cervical priming and the surgical abortion procedure. Certain medicines can be administered in advance, in anticipation of the onset of pain (as a prophylactic measure) *(5)*, or provided to the woman in case it is needed for later use at home.

- The amount of pain that individuals experience, and their response to that pain, varies greatly.
- The need for pain management increases with gestational age and time needed to complete the procedure.
- The degree of pain experienced also varies with the age, parity, prior vaginal delivery, history of dysmenorrhoea, and anxiety/fear level of the individual undergoing the abortion.
- Anxiety can increase sensitivity to pain; a woman who is highly anxious about the procedure may not be able to lie still on the procedure table for a surgical abortion, potentially compromising her safety if this is not treated.

Principles for pain management:

- Individually assess each woman's need for pain management.
- Consider both non-pharmacological and pharmacological methods for reducing pain associated with abortion (see Table 2.12).
- Pay close attention to the individual's medical history, allergies and concurrent use of medicines that might interact with any available analgesic or anaesthetic agents, to optimize the safe use of pain medicines.

Table 2.12 Pain management options for surgical abortion, and during cervical priming prior to surgical abortion

Non-pharmacological pain management	Pharmacological pain management (for further detail, see Table 2.13)
• Respectful, non-judgemental communication • Verbal support and reassurance • The presence of a support person who can remain with her during the process (if the woman desires it) • Encouraging deep, controlled breathing • Listening to music • Hot water bottle or heating pad	**For cervical priming:** Pain management should be offered for any type of cervical priming **For cervical priming with osmotic dilator(s) prior to surgical abortion at ≥ 14 weeks,** PCB is suggested, and additional pain medication can be considered, such as intravaginal gel.
All of the above, plus: • Gentle, smooth operative technique • Advance notice of each step of the procedure (if the woman desires it)	**For surgical abortion at any gestational age:** **Analgesia using non-steroidal anti-inflammatory drugs (NSAIDs)** (e.g. ibuprofen)[a] **Routine use of a paracervical block (PCB)** is recommended (e.g. using lidocaine; see PCB details below). **The option of combination pain management using conscious sedation[b] plus PCB** should be offered, where conscious sedation is available (see Table 2.13). **In addition to the above,** anxiolytics/sedatives can be offered. WHO recommends against the routine use of general anaesthesia for surgical abortion.

[a] To ensure that oral medicines will be most effective at the time of the procedure, administer them 30–45 minutes before the procedure.

[b] Conscious sedation is also known as moderate sedation, or intravenous (IV) sedation as it is commonly administered intravenously (see Table 2.13).

Example of how to administer a paracervical block (PCB) *(11)*

- Inject 1–2 ml of anaesthetic at the cervical site where the tenaculum will be placed (either at 12 o'clock or 6 o'clock, depending on the preference of the provider or the presentation of the cervix).
- Next, stabilize the cervix with a tenaculum at the anaesthetized site.
- Use slight traction to move the cervix laterally and define the transition of smooth cervical epithelium to vaginal tissue, which delineates the placement for additional injections.
- Slowly inject 2–5 ml lidocaine into a depth of 1.5–3 cm at 2–4 points at the cervical/vaginal junction (2 and 10 o'clock, and/or 4 and 8 o'clock).
    - Lidocaine can be buffered with sodium bicarbonate, where available.
    - If lidocaine is not available, the use of normal saline can be an option.
- Move the needle while injecting OR aspirate before injecting, to avoid intravascular injection.
- The maximum dose of lidocaine in PCB is 4.5 mg/kg of body weight or generally in the range of 200–300 mg lidocaine (approximately 20 ml of 1% or 40 ml of 0.5%).

Use of moderate or deep sedation or general anaesthesia for pain management

The use of general anaesthesia is one of the few potentially life-threatening aspects of abortion care. Any facility that offers general anaesthesia must have the specialized equipment and staff to administer it and to handle potential complications. General anaesthesia can be an appropriate option in certain circumstances, such as when the pregnancy is a result of rape or when the woman has a severe intellectual or developmental disability.

When sedation or general anaesthesia is used, a health worker trained (and certified, if legally required) to monitor appropriate respiratory, cardiovascular and neurologic parameters, including the level of consciousness, must be present *(5)*. The health worker administering any level of sedation or pain management intravenously must be prepared to provide respiratory support in the event of respiratory depression.

Following recommended dosages (see Table 2.13) greatly reduces any risks associated with these pain management options. If medicines are used that cause sedation and, potentially, respiratory depression, then their antagonists must be available – preferably on an emergency cart, along with instructions on treating adverse reaction.

IMPORTANT: Neglecting pain management needlessly increases anxiety and discomfort, thereby seriously compromising the quality of care and potentially increasing the difficulty of (and time needed for) performing the procedure. Denial of pain management as a punishment for having an abortion is a violation of human rights.

Table 2.13 Pharmacological pain management for surgical abortion – sedation and anaesthesia medicines and their effects

	Minimal sedation (anxiolysis)	Conscious (moderate) sedation	Deep sedation	General anesthesia
WHAT MEDICATION TO PROVIDE?[a]	**Anxiolytics, e.g. one of the following, 30–60 minutes prior to procedure:** • midazolam 10 mg PO • diazepam	**Combined analgesics and anxiolytics:** **Analgesics, e.g. one of the following opioids:** • fentanyl 50–100 µg IV • pethidine 25–100 mg IV/IM) • tramadol 50–100 IV/IM • morphine 0.1–0.2 mg/kg IV **Anxiolytics, give an initial dose of one of the following:** • midazolam 1–2 mg IV • diazepam 5–10 mg IV • lorazepam 1 mg IV **IMPORTANT:** The provider should develop protocols to ensure adequate pain control while avoiding oversedation.	**Analgesics, e.g. one of the following combinations:** • propofol with fentanyl (this combination is most commonly used) • ketamine with pethidine/fentanyl. **Anxiolytics, give an initial dose of one of the following:** • midazolam 1–2 mg IV • diazepam 5–10 mg IV • lorazepam 1 mg IV **IMPORTANT:** A state of general anaesthesia might result as a complication of deep sedation, in which case extra respiratory and cardiovascular support will be needed. **Notes:** • Pre-anaesthesia evaluation is necessary. • Clear liquids (water, clear juice, black coffee) may be consumed up to 2 hours prior to procedure, while at least 6 hours must pass after the last light meal or 8 hours after consuming fried/fatty foods or meat before the procedure.	**Analgesics:** • propofol • nitrous oxide (NO) • neuromuscular blocking agents (only if intubation is intended) **Notes:** • Pre-anaesthesia evaluation is necessary. • Clear liquids (water, clear juice, black coffee) may be consumed up to 2 hours prior to procedure, while at least 6 hours must pass after the last light meal or 8 hours after consuming fried/fatty foods or meat.

Table 2.13 (continued)

	Minimal sedation (anxiolysis)	Conscious (moderate) sedation	Deep sedation	General anesthesia
WHAT IS THE EFFECT ON THE PATIENT?	• Decreased anxiety before and during the procedure • No direct effect on pain • Normal response to verbal stimulation • No effect on airway, ventilation or cardiovascular system	• Decreased anxiety • Reduced pain • Sleepy but can respond to verbal and tactile stimuli • No effect on airway • Adequate ventilation is maintained • Cardiovascular system is maintained	• Anxiety and pain are well controlled • Patient will respond after repeated or painful stimulation • Sleepy without eyelid reflex • Intervention/positioning might be required to maintain airway • Ventilation support might be needed • Cardiovascular function is usually maintained	• Anxiety and pain are well controlled • Amnesia, analgesia and muscle relaxation • Airway and ventilation are affected • Cardiovascular system might require support
WHAT MONITORING IS NEEDED?	No need for continuous or frequent monitoring	• Frequent monitoring of vital signs and level of consciousness every 3–5 minutes, and supplemental oxygen • Must be provided by a trained health worker who can give basic or advanced life support (BLS/ALS)	• Continuous monitoring with supplemental oxygen • In well selected patients and in appropriate settings, deep sedation does not increase the risk of pulmonary aspiration or anaesthesia-related complications.	• Continuous monitoring and supplemental oxygen • Higher risk of anaesthesia-related complications than with sedation • Needs interdisciplinary team management with anthaesiologist, or with a trained health worker who can provide general anaesthesia

[a] The antagonists should also be available: flumazenil (0.2 mg IV increments over 30 seconds) reverses benzodiazepines; nalaxone (titrated in 0.04 mg IV increments) efficiently reverses narcotics.

Sources: Allen and Singh, Society of Family Planning clinical guidelines pain control in surgical abortion part 1 – local anesthesia and minimal sedation, 2018 *(12)*; Dean et al., The safety of deep sedation without intubation for abortion in the outpatient setting, 2011 *(13)*; Nichols et al., Pain management, 2009 *(14)*.

2.2.4 Cervical priming prior to surgical abortion

Prior to surgical abortion, cervical priming (also known as cervical preparation or ripening) may be considered for all women with a pregnancy of any gestational age, in particular for individuals with a pregnancy over 12 weeks of gestation. The recommendations for this are presented in Table 2.14, along with the suggested medical regimens.

Cervical priming is especially beneficial for individuals with the following conditions, to decrease the risk of cervical injury or uterine perforation (which may cause haemorrhage), and the risk of incomplete abortion:

- cervical anomalies
- previous surgery to the cervix
- adolescent age
- advanced pregnancy.

The cervical priming recommendations and regimens may also be followed in cases of surgical management of intrauterine fetal demise (IUFD; see section 2.1.8), if cervical softening and dilation has not yet commenced. Clinical judgement will be necessary to determine if cervical priming is needed in these cases.

Cervical priming can be achieved using mechanical methods (natural or synthetic osmotic dilators) or pharmacologic agents (i.e. mifepristone and/or misoprostol).

- This can be initiated by a health worker other than the provider who will conduct the procedure.
- The use of medication for cervical priming prior to surgical abortion can be self-managed and can save travel time for the woman and avoid use of staff for insertion of osmotic dilators.
- Cervical priming may help to facilitate the abortion procedure for an inexperienced provider.
- Appropriate pain medication should be provided with cervical priming (see Table 2.12 in section 2.2.3).

Cervical priming has some disadvantages, such as discomfort for the woman, extra cost and extra time to administer it effectively.

IMPORTANT: If a woman undergoing cervical priming starts experiencing heavy vaginal bleeding, she should have the evacuation procedure without delay.

Table 2.14 Cervical priming before surgical abortion

< 12 weeks of gestation	≥ 12 weeks of gestation
WHO **recommends against** the use of osmotic dilators for cervical priming. If cervical priming is used, select one of the suggested medical regimens below.	**12–19 weeks:[a] cervical priming is suggested** • medication alone (a combination of mifepristone plus misoprostol is preferred; see below) OR • osmotic dilator(s) [c] plus medication (mifepristone, misoprostol, or a combination of both; see below)
	≥ 19 weeks: cervical priming is recommended • osmotic dilator(s)[c] plus medication (mifepristone, misoprostol, or a combination of both; see below)
Suggested medical regimens: • Mifepristone 200 mg orally 24–48 hours prior to the procedure • Misoprostol[b] 400 µg sublingually 1–2 hours prior to the procedure • Misoprostol[b] 400 µg vaginally or buccally 2–3 hours prior to the procedure	

[a] The evidence for cervical priming between 12 and 14 weeks of gestation is limited and therefore health workers should use clinical judgement to decide on the most convenient method for cervical priming prior to surgical abortion at this gestational age range.

[b] The sublingual route is more effective for misoprostol administration.

[c] When using osmotic dilator(s), the time between placement of the dilator(s) and the procedure should not exceed two days.

Example of how to insert osmotic dilators

- Place a speculum in the vagina and wipe the cervix with a non-alcoholic antiseptic solution.
- Administer local anaesthesia to the cervical lip and then grasp the lip of the cervix with an atraumatic tenaculum. Next administer a full PCB (see information on administering a PCB in section 2.2.3).
- Grasp the end of an osmotic dilator with forceps (ring or packing forceps) and insert it into the endocervical canal such that the tip extends just beyond the internal cervical os, into the uterus (using the "no-touch" technique, see Box 2.3). Coating the osmotic dilator with lubricant jelly or with antiseptic solution can ease placement.
- Sequentially place the dilators (if using multiple dilators) adjacent to one another within the cervical os, so that they fit snugly in the cervical canal.

Additional considerations for the use of osmotic dilators

- Natural osmotic dilators (laminaria sticks) achieve maximum dilation at 24 hours.
- Synthetic osmotic dilators (Dilapan-S) will achieve good dilation in 6 hours but will continue to dilate up to 24 hours and can be used for same-day procedures.
- When fewer than the desired number of osmotic dilators have been placed initially, the procedure can be repeated, in 4 hours or on the following day, to place the additional dilator(s).
- As there is minimal risk of expulsion after placement of osmotic dilators, women may leave the clinic and return for their procedure at a later scheduled time.
- Providers should document the number of osmotic dilators placed to ensure that all are accounted for when they are removed at the start of the abortion procedure.
- The number, type and combination of osmotic dilators to be used for cervical preparation varies greatly according to local protocols, provider preferences and available resources, and also depending on the following key considerations:
  - gestational age;
  - parity;
  - provider experience;
  - type of osmotic dilator used;
  - how long the osmotic dilator(s) will be left in-situ prior to the planned procedure (factoring in the risk of extramural delivery);
  - use of mifepristone and/or misoprostol along with osmotic dilator(s) for cervical priming (in this case, close attention should be paid to the timing of the cervical priming relative to the procedure – e.g. mifepristone may be given on the day of dilator placement and misoprostol should be given on the day of the procedure to minimize the risk of extramural delivery).
- Key information about the characteristics of osmotic dilators is summarized in Table 2.15.

Additional considerations for the use of mifepristone

- Women may experience spotting or light bleeding due to the mifepristone.
- The pregnancy may be passed during the intervening period (1–2 days) before the scheduled abortion procedure.
- Mifepristone given 24–48 hours prior to the abortion procedure should not be combined with misoprostol due to the risk of pre-procedure expulsion. If the clinician wants to add misoprostol, then it should be given 1–3 hours prior to the procedure while the patient is in the clinical setting and not at home.

Additional considerations for the use of misoprostol

- Women may experience some bleeding and cramping, fever, nausea, vomiting and/or diarrhoea due to the misoprostol.
- Ensure there is a place for women to wait comfortably while the misoprostol is taking effect (up to 3 hours).
- If the cervix does not dilate easily after one dose of misoprostol, the dose can be repeated by the same route as before or by a different route, or consider the use of osmotic dilator(s).

Ensure that there is a clear plan for the surgical abortion prior to the woman taking or using the cervical priming agent and ensure that she has access to the health system should she desire or need additional support during the interval.

Table 2.15 Characteristics of osmotic dilators

Character		Natural (i.e. laminaria sticks)	Synthetic (i.e. Dilapan-S®)
Size	**Diameter**	2–10 mm	3–4 mm
	Length	60–85 mm	55–65 mm
Material		Natural, dried and compressed hygroscopic Laminaria, a type of kelp (brown seaweed)	Synthetic, hygroscopic osmotic dilator made from Aquacryl® hydrogel
Mechanism of action		Mechanical	Mechanical and chemical
Extent of expansion from initial dry diameter		3–4 times	3–4 times
Time between insertion and maximum dilation		12–24 hours	6–24 hours
Gestational age	< 12 weeks	Recommended against (not to be used at this gestational age)	
	12–19 weeks	Suggested for use, combined with medication (mifepristone, misoprostol, or a combination of both; see Table 2.14)	
	> 19 weeks	Recommended for use, combined with medication (mifepristone, misoprostol, or a combination of both; see Table 2.14)	

Sources: WHO, Abortion care guideline, 2022 *(1)*; Fox, Hayes, Society of Family Planning, Cervical preparation for second-trimester surgical abortion prior to 20 weeks of gestation, 2007 *(15)*; Hammond and Chasen, Dilation and evacuation; 2009 *(16)*; Newmann et al., Society of Family Planing, Clinical guidelines: cervical preparation for surgical abortion from 20 to 24 weeks' gestation, 2008 *(17)*.

2.2.5 Surgical abortion at < 14 weeks of gestation

Clinical considerations for surgical abortion at early gestational ages

Surgical abortion before 14 weeks of gestation is performed using vacuum aspiration. Both types of vacuum aspiration are equally safe and effective.

- **Manual vacuum aspiration (MVA)** uses a hand-held aspirator to generate a vacuum. The aspirator is attached to cannulae ranging from 4 to 14 mm in diameter, and it can be used in a range of settings, including those without electricity.
- **Electric vacuum aspiration (EVA)** uses an electric pump to generate a vacuum and can accommodate cannulae up to 16 mm in diameter, with larger-diameter tubing (for use with cannulae > 12 mm).

The abortion procedure is similar with both types. Ensure that all women have access to relevant information (section 1.1.1), and refer to all key information above about surgical abortion, on methods and supplies (section 2.2.1), clinical considerations (section 2.2.2), appropriate pain medication (section 2.2.3) and cervical priming (section 2.2.4).

Prior to the start of the procedure

- Ensure that all necessary equipment is gathered and available for use (see section 2.2.1 and Annex 2).
- Reduce the risk of post-procedure infection by:
  - using appropriately disinfected or sterilized instruments
  - administering prophylactic antibiotics pre- or perioperatively (see section 2.2.2 and note below)
  - using the no-touch technique (see Box 2.3 in section 2.2.2).
- Confirm that the woman has received appropriate pain medication (see section 2.2.3).
- Perform cervical priming, if indicated (see section 2.2.4).
- If using MVA, before starting, make sure to check that:
  - the aspirator holds a vacuum
  - back-up aspirators are readily available, in case the first aspirator has technical problems.

IMPORTANT: To reduce the risk of post-procedure infection, prophylactic antibiotics initiated preoperatively or perioperatively are recommended: facilities offering surgical abortion should make efforts to secure adequate antibiotic supplies (see Annex 2). If antibiotics are not available, however, abortion may still be performed.

Figure 2.2 Steps of surgical abortion at < 14 weeks of gestation

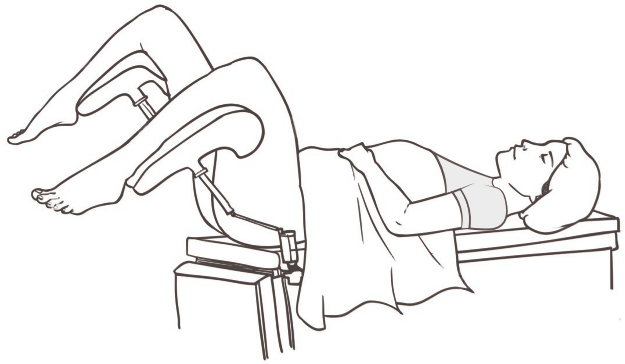
1. Ask the woman to empty her bladder
2. Wash hands and put on personal protective equipment
3. Assist the woman onto procedure couch and into lithotomy position
4. Perform a bimanual examination
5. Place the speculum
6. Perform cervical antiseptic preparation
7. Perform paracervical block
8. Dilate the cervix
9. Insert the cannula
10. Aspirate the uterine contents
11. Inspect the tissue
12. Perform any concurrent procedures
13. Recovery and discharge from the facility

Steps of surgical abortion (vacuum aspiration) at < 14 weeks of gestation

1. Ask the woman to empty her bladder

2.Wash hands and put on personal protective equipment: This should include clean gloves.

3.Assist the woman onto the procedure couch and into the dorsal lithotomy position



4.Perform a bimanual examination: This will confirm or update findings, if an earlier assessment was done. The health worker should have an accurate assessment of the uterine size and position before performing a uterine evacuation.

- If one or more osmotic dilators were used (i.e. at gestational ages of 12 weeks and over; see section 2.2.4), they should be removed from the cervix, either manually during the bimanual examination or with ring forceps after placement of the speculum. Confirm that the number of dilators removed is equal to the number that was placed.

5.Place the speculum: Ensure adequate visualization of the cervix.

6.Perform cervical antiseptic preparation: Wipe the cervix with a non-alcoholic antiseptic solution, starting at the cervical os with each new sponge and spiralling outward until the os has been completely covered by antiseptic.

7.Perform a paracervical block. See section 2.2.3 for instructions.

8.Dilate the cervix: Mechanical cervical dilatation is an essential step if the cervix is closed or insufficiently dilated at the start of the procedure (see Box 2.4). Dilatation is not needed when the cervix allows a cannula of appropriate size to fit snugly through the cervical os. Women with incomplete abortion often already have an adequately dilated cervix.

BOX 2.4 Technique for cervical dilatation using mechanical dilators

- Carefully examine the position of the uterus and cervix and place a tenaculum on either the anterior or posterior cervical lip. With the tenaculum in place, apply continuous traction to straighten the cervical canal.
- Use the smallest dilator (or a plastic os finder, if needed and available) to initially find the cervical canal.
- Insert the dilator until the tip passes the internal cervical os.
- Dilate gently, never using force, using the no-touch technique (see Box 2.3) with successive mechanical dilators, while stabilizing the cervix with gentle traction on the cervical tenaculum.

NOTE:

The safety of the mechanical dilatation procedure at the time of performing the abortion is dependent upon adequate visibility of the cervix, gentle technique and knowledge of the uterine position. If dilatation is difficult, it is best not to force the dilator. Instead, change the angle or path to identify the cervical canal, or repeat the bimanual examination to verify the uterine position. Sometimes, changing the speculum to one with a shorter blade can provide more room and flexibility to straighten out the cervical angle. Finally, if dilatation is particularly difficult, consider administering misoprostol and delaying the procedure approximately 3 hours, or asking for assistance from a colleague, if available.

9.Insert the cannula: When appropriate cervical dilatation is achieved, insert the cannula just through the internal cervical os and into the middle of the uterine cavity while gently applying traction to the cervix. Do not insert the cannula forcefully, to avoid trauma to the cervix or uterus. Stop the procedure if signs of uterine perforation occur.

IMPORTANT: It is important to use a cannula size that is appropriate to the size of the uterine contents and the dilatation of the cervix. Using a cannula that is too small is inefficient and may result in retained pregnancy tissue or loss of suction. The suggested cannula size (mm) for pregnancies up to 13 or 14 weeks should generally correspond to the number of weeks of gestation +/- 1. For example, at 7 weeks of gestation, the cannula size should be 6–8 mm.

10.Aspirate the uterine contents:

- Attach the prepared aspirator or vacuum connection to the cannula (or alternatively the cannula and aspirator may already be connected), holding the tenaculum and the end of the cannula in one hand and the aspirator or vacuum connection in the other hand.
- Initiate the suction when the cannula tip is in mid-uterus; as the uterus contracts, the uterine walls will feel firmer and the fundus will descend.
- Evacuate the contents of the uterus by gently and slowly rotating the cannula 180° in each direction. Blood and tissue will be visible through the cannula.
- Do not withdraw the opening of the cannula beyond the cervical os, or suction will be lost.
- If using an MVA, as the aspirator becomes full, suction will reduce. Detach the aspirator from the cannula, empty the aspirator into an appropriate container, and re-establish the vacuum.
- Repeat this procedure until the uterus is empty.
- When the procedure is complete, remove the cannula and cervical tenaculum, wipe the cervix with a clean swab, assess the amount of uterine or cervical bleeding, and check for any cervical tears.

IMPORTANT: 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 as the cannula passes along the surface of the evacuated uterus.
- The uterus contracts around the cannula.
- The woman feels intensified cramping or pain, indicating that the uterus is contracting.

11.Inspect the tissue: Inspection of the pregnancy tissue is important, to confirm the success of the abortion.

- First, empty the uterine aspirate into an appropriate container (do not push aspirated contents through the cannula, as the cannula will become contaminated.
- Look for:
  - the quantity and presence of tissue: villi, decidua and sac/membranes in appropriate quantities based on gestational age (note: after 9–10 weeks of gestation, fetal parts are visible);
  - the presence of grape-like hydropic villi, which suggest a molar pregnancy.

IMPORTANT: Do not perform sharp curettage to check for success of the abortion.

- If the visual inspection is inconclusive, the tissue should be strained, placed in a transparent container, immersed in water or vinegar, and viewed with light from beneath. If indicated for abnormal findings, the tissue specimen may also be sent to a pathology laboratory.
- If no tissue is visible, less tissue than expected was removed from the uterus, or the tissue sample is inconclusive, this may indicate:
  - unsuccessful abortion: the uterine cavity still contains tissue, even if it appeared to be empty at the end of the procedure;
  - spontaneous abortion that was completed prior to the procedure;
  - failed abortion: all tissue remains within the uterine cavity;
  - ectopic pregnancy: when no villi are seen, ectopic pregnancy is a possibility and should be investigated;
  - anatomical anomaly: in a bicornuate or septate uterus, the cannula may have been inserted into the side of the uterus that did not contain the pregnancy;
  - incorrect pregnancy dating.
- If it is not absolutely clear that the sac/membranes and villi are present on tissue evaluation, then assume none are present and attempt re-aspiration and re-inspect the tissue, and/or evaluate for ectopic pregnancy or for anatomical anomaly.
- If visual inspection is inconclusive, use ultrasound, if available, to confirm that the evacuation is complete.

12.Perform any concurrent procedures: When the aspiration procedure is complete, proceed with any concurrent procedures to be conducted, such as IUD insertion, tubal ligation or repairing a cervical laceration, as necessary.

13.Recovery and discharge from the facility (see Chapter 3, section 3.1)

2.2.6 Surgical abortion at ≥ 14 weeks of gestation

Clinical considerations for surgical abortion at advanced gestational ages

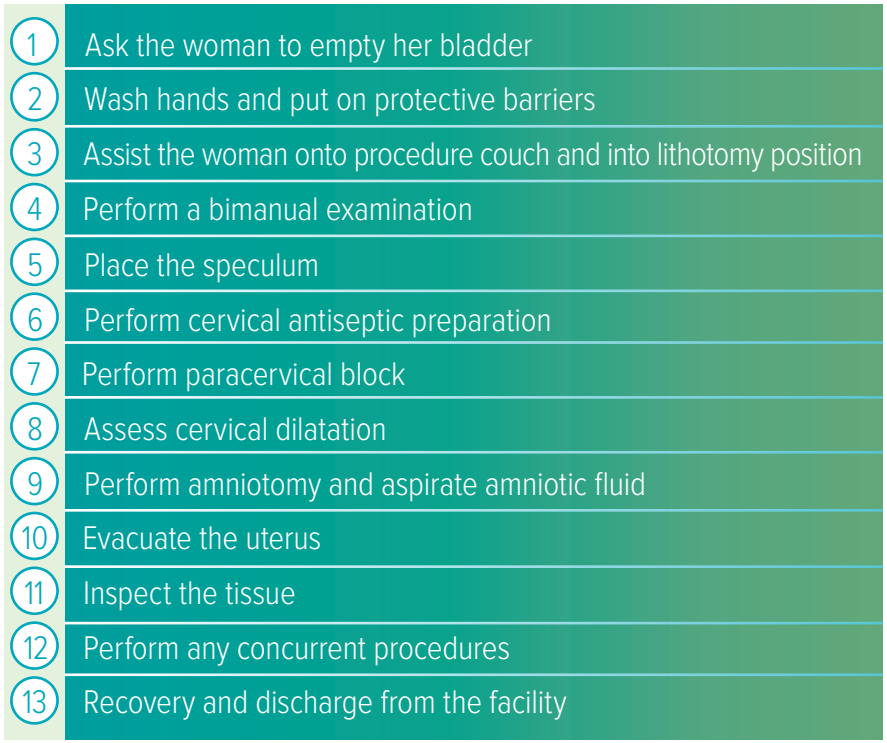
- The procedure for surgical abortion at ≥ 14 weeks of gestation is usually dilatation and evacuation (D&E), although in some settings, an "advanced vacuum aspiration" can be performed at this stage.
- Cervical priming with pharmacological agents, with or without the addition of osmotic dilators (depending on gestational age; see section 2.2.4), is recommended prior to all D&E and advanced vacuum aspiration procedures.
- Refer to the clinical considerations in section 2.2.2.

Prior to the start of the procedure

- Ensure that all necessary equipment is gathered and available for use (see section 2.2.1 and Annex 2).
- Reduce the risk of post-procedure infection by:
  - using appropriately disinfected or sterilized instruments
  - administering prophylactic antibiotics pre- or perioperatively (see section 2.2.2 and note below)
  - using the no-touch technique (see Box 2.3 in section 2.2.2).
- Confirm that the woman has received appropriate pain medication (see section 2.2.3).
- Confirm if cervical priming has been done (see section 2.2.4). If osmotic dilators were placed in advance, then refer to the documentation noting the number of dilators placed.
- Before using vacuum aspiration for the amniotomy and aspiration of amniotic fluid, make sure to check that:
  - the aspirator holds a vacuum
  - back-up aspirators are readily available, in case the first aspirator has technical problems.

IMPORTANT: To reduce the risk of post-procedure infection, prophylactic antibiotics initiated preoperatively or perioperatively are recommended: facilities offering surgical abortion should make efforts to secure adequate antibiotic supplies (see Annex 2). If antibiotics are not available, however, abortion may still be performed.

Figure 2.3 Steps of surgical abortion at ≥ 14 weeks of gestation



Steps for surgical abortion at ≥ 14 weeks of gestation

1. Ask the woman to empty her bladder

2.Wash hands and put on personal protective equipment: This should include clean gloves.

3.Assist the woman onto the procedure couch and into the dorsal lithotomy position.

4.Perform a bimanual examination: This will confirm or update findings, if an earlier assessment was done. The health worker should have an accurate assessment of the uterine size and position before performing a uterine evacuation.

- If one or more osmotic dilators were used (see section 2.2.4), they should be removed from the cervix, either manually during the bimanual examination or with ring forceps after placement of the speculum. Confirm that the number of dilators removed is equal to the number that was placed.

5.Place the speculum: Ensure adequate visualization of the cervix.

6.Perform cervical antiseptic preparation: Wipe the cervix with a non-alcoholic antiseptic solution, starting at the cervical os with each new sponge and spiralling outward until the os has been completely covered by antiseptic.

7.Perform a paracervical block: See section 2.2.3 for instructions. Where available, consider conscious (moderate) sedation for additional pain management.

8.Assess cervical dilatation: Place traction on the tenaculum to bring the cervix down into the vagina. Check the adequacy of dilatation by attempting to pass a large dilator, a large-gauge cannula (12–16 mm) or Bierer forceps through the cervix. If such an instrument cannot be passed, more cervical dilatation is needed, with repeat cervical priming or mechanical dilatation (see Box 2.4).

IMPORTANT: Surgical abortions should only occur if the cervix is adequately dilated. This is particularly important for abortions performed at ≥ 14 weeks of gestation.

9.Insert the cannula and perform amniotomy and aspirate amniotic fluid: Insert a 12–14 mm cannula attached to an aspirator if using MVA, or a 14–16 mm cannula if using EVA, through the cervix into the uterine cavity, perform an amniotomy (artificial rupture of membranes) and aspirate the amniotic fluid.

- The appropriate-sized cannula (in millimetres) is generally equivalent to, or 1–2 mm less than, the gestation in weeks. At gestational ages ≥ 16 weeks, the largest available cannula should be used (14–16 mm, depending on the tubing and cannulae available), as the procedure will also include the use of specialized forceps.
- MVA aspirators accommodate 4–12 mm cannulae. Suction tubing for EVA can be used with cannulae up to 16 mm in diameter, permitting vacuum aspiration to be used up to 15–16 weeks of gestation or for women presenting with incomplete abortion and dilated cervix where a larger size cannulae is required in order to effectively remove the pregnancy tissue.
- Perform the suction to aspirate the amniotic fluid as would be done for a vacuum aspiration abortion before 12 weeks of gestation (see section 2.2.5), by gently and slowly rotating the cannula 180° in each direction. If the cannula glides very easily back and forth through the uterus, the aperture may be blocked. In this case, remove the cannula from the uterus and clean as necessary, being careful to maintain the no-touch technique (see Box 2.3). When nothing more can be suctioned, usually after 1–2 minutes, remove the cannula from the uterus.

NOTE:

The safety of the aspiration procedure is dependent upon adequate visibility of the cervix, gentle technique and knowledge of the uterine position. If advancement of instruments is difficult, it is best not to force them. Instead, change the angle or path to identify the cervical canal, or repeat the bimanual examination to verify the uterine position. Sometimes, changing the speculum to one with a shorter blade can provide more room and flexibility to straighten out the cervical angle. Finally, if dilatation or evacuation is particularly difficult, consider administering misoprostol and delaying the procedure approximately 3 hours, or asking for assistance from a colleague, if available.

10.Evacuate the uterus:

- Wherever possible, use forceps to complete the evacuation of fetal parts and the placenta from the lowest section of the uterine cavity.
    - Avoid probing deeply into the uterus, particularly with instruments in the horizontal position.
    - Avoid reaching high into the uterus, where the perforation risk is greater. Instead, reinsert the cannula just inside the os and use suction to bring tissue down from the fundus to the internal os.

- Extract the placenta using forceps and fundal massage (timing of placental removal depends on its position and ease of fetal extraction).
- Ultrasonography may be helpful to locate fetal parts if identification is otherwise difficult.
- In the unlikely event that the fetal parts cannot be readily removed for any reason, consider administering a uterotonic agent, such as one of the following:
    - 400–600 µg misoprostol sublingually or buccally;
    - an ergot alkaloid, such as 0.2 mg methergine orally or IM;
    - high-dose oxytocin 20 units in 500 ml of normal saline or Ringer's lactate solution, run at 30 drops per minute.

  Then, reassess after 3–4 hours and repeat the uterine evacuation procedure.
- As a final step in the evacuation, provide suction aspiration (with an 8–12 mm cannula) to remove blood clots and any residual tissue.

IMPORTANT: Stop the procedure if signs of uterine perforation occur, such as:

- instrument passes further into uterus than expected;
- excessive bleeding;
- loss of sensation of contact with uterus/endometrium;
- visualization of abdominal contents (such as bowel) in the vaginal canal;
- sharp, sudden abdominal pain;
- (if ultrasound is used) findings such as fetal parts in the abdominal cavity or intra-abdominal haemorrhage.

See further information on uterine perforation in Chapter 3, section 3.4.

IMPORTANT: 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 as the cannula passes along the surface of the evacuated uterus.
- The uterus contracts around the cannula.
- The woman feels intensified cramping or pain, indicating that the uterus is contracting.

11.Inspect the tissue: Inspection of the pregnancy tissue is important, to confirm the success of the abortion.

- All the following components of the pregnancy must be identified:
  - four extremities
  - thorax/spine
  - calvarium
  - placenta.

IMPORTANT: Do not perform sharp curettage to check for success of the abortion.

- If the tissue inspection indicates that the abortion may not have been successful, re-evacuate the uterus or, if available, use ultrasonography to confirm complete evacuation. If still unable to find all of the fetal parts, the provider should have a high degree of suspicion for uterine perforation with fetal parts in the abdomen (see Chapter 3, section 3.4).

12.Perform any concurrent procedures: When the aspiration procedure is complete, proceed with any concurrent procedures to be conducted, such as IUD insertion or tubal ligation, if planned in advance, or repairing a cervical laceration, as necessary.

13.Recovery and discharge from the facility (see Chapter 3, section 3.1)

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3. Post-abortion

- Prior to discharge from the health-care facility after abortion
- Follow-up care after abortion
- Incomplete abortion
- Assessing and managing complications
- Post-abortion contraception

Objectives for Chapter 3

- Address any immediate complications of abortion or side-effects.
- Provide contraceptive information and offer contraceptive counselling and methods.
- Assess any other sexual and reproductive health needs that may require additional care.

3.1 Prior to discharge from the health-care facility after abortion

After a medical abortion at or beyond 12 weeks of gestation or after any surgical abortion, reassure the woman that the procedure is finished and that she is no longer pregnant, and document all outcomes of the treatment, including any adverse events.

Within the first hour after the abortion, monitor her for any complications (assess bleeding, pain/cramps, fever, blood pressure and pulse *[1]*) and provide management as needed. See section 3.4: Assessing and managing abortion complications.

With the woman, **review the risk of her becoming pregnant again** before her next menses, and explain the possibility of a return to fertility within two weeks following abortion. Provide contraceptive information and offer contraceptive counselling to women who desire it, and then provide them with the method they have chosen (if any), in accordance with the guidance in section 3.5.

For abortion after 14 weeks of gestation, any regulation around the **management/ disposal of pregnancy remains and birth or death certificates** should not pose a burden or a breach of confidentiality for women or health workers (see Box 2.2 in Chapter 2, section 2.1.8).

Provide the following, if needed:

- iron tablets for anaemia
- pain medicines
- emotional support.

Refer the woman to other services, depending on your assessment of her needs prior to the abortion, such as STI/HIV counselling and testing, support services for gender-based violence, or other social services or specialist medical services.

Discharge criteria

She may leave the health-care facility when she meets criteria for discharge:

- ambulatory
- stable blood pressure and pulse
- bleeding and pain are controlled *(1)*.

Upon discharge, provide clear oral and written discharge instructions to the woman, including the following.

- Vaginal bleeding for two weeks after successful surgical or medical abortion is normal.
    - Women experience light bleeding or spotting following surgical abortion, while heavier bleeding occurs with medical abortion and generally lasts for 9 days on average (but can last up to 45 days in rare cases).
- Resumption of sexual intercourse can occur when the woman feels ready.
- As breast engorgement may evolve, mainly after abortions at advanced gestational ages, use of breast bandage, tight bras and/or pharmacologic inhibition of lactation may be helpful to improve comfort in some cases.

- After an abortion, women should return to the hospital or clinic in the case of any:
    - continuing signs/symptoms of pregnancy (i.e. nausea, vomiting, breast tenderness, fatigue);
    - increased intensity of cramping or abdominal pain;
    - heavy vaginal bleeding such as soaking more than two pads (or equivalent) per hour for two consecutive hours;
    - fever.

3.2 Follow-up care after abortion

3.2.1 Follow-up care after uncomplicated surgical abortion or medical abortion

Routine follow-up is not necessary following an uncomplicated surgical or medical abortion, if the individual has adequate information about when to seek care for complications and has received any appropriate supplies or information to meet their contraceptive needs. However, an optional follow-up visit 7–14 days after the abortion procedure may be offered to provide contraceptive services. Any post-abortion medical issues should always be assessed and managed as soon as possible when concerns are raised.

IMPORTANT: When medically indicated, post-abortion care should always be provided and should always be confidential, even in settings where abortion is illegal.

If the woman chooses to attend a follow-up appointment:

- Assess the individual's recovery and inquire about any signs or symptoms of ongoing pregnancy (i.e. nausea, vomiting, breast tenderness, fatigue); in the case of medical abortion, refer to section 3.2.2 below on how to confirm the success of the abortion.
- Review any available medical records and referral documents.
- Ask about any other symptoms she has experienced since the procedure; if she needs any emotional support related to the procedure, provide this support or make an appropriate and prompt referral.
- Perform a focused physical examination if needed to assess any complaints.

- Assess the individual's fertility goals and need for contraceptive services.
    - If no contraceptive method was provided or started prior to discharge from the facility after the abortion, provide information on contraception, offer counselling and provide contraceptive services, if they are wanted (see section 3.5).
    - If a contraceptive method was already started, assess the method used, and the client's satisfaction or concerns, and resupply the method as needed. If she is not satisfied, help her select another method that will meet her needs (see section 3.5).
- Depending on the findings of the review and assessments, refer the woman to other sexual and reproductive health services as needed, and facilitate her access to any necessary referral services.

3.2.2 Further evaluation to confirm the success of medical abortion

If a woman reports symptoms of ongoing pregnancy and/or had only minimal bleeding after taking the abortion medicine(s) as directed, ongoing intrauterine pregnancy should be suspected and further evaluation could include pelvic examination (to check for a growing uterus) or an ultrasound scan (to check for an ongoing pregnancy).

- If these evaluations indicate ongoing intrauterine pregnancy, offer vacuum aspiration or repeat the administration of abortion medicines.

If a woman reports prolonged or excessive bleeding and cramping, and ongoing intrauterine pregnancy or incomplete abortion is not suspected, consider a diagnosis of ectopic pregnancy and manage appropriately.

If a woman reports lighter than expected bleeding or no bleeding, and ongoing intrauterine pregnancy is not suspected, consider a diagnosis of ectopic pregnancy and manage appropriately.

BOX 3.1: If a woman attends a follow-up appointment after medical abortion

Confirm the success of the abortion using one of the following methods.

- Check clinical signs and symptoms, using bimanual examination if clinically indicated.
- Assess human chorionic gonadotrophin (hCG) levels via serum (this is most useful if baseline hCG had been taken) or urine testing (using low-sensitivity urine pregnancy tests). Note that the results of high-sensitivity pregnancy tests can be positive up to five weeks after successful medical abortion.
- Use ultrasonography, if available. If an ultrasound is used, success of the abortion can be determined by confirming the absence of a gestational sac, as long as the patient is not complaining of symptoms of ongoing pregnancy. Do not use endometrial thickness as a guide to clinical management.

3.3 Incomplete abortion

Incomplete abortion is defined by clinical presence of an open cervical os and bleeding, whereby all pregnancy tissue has not been expelled from the uterus, or the expelled products are not consistent with the estimated duration of pregnancy. Common symptoms include heavy or prolonged vaginal bleeding and abdominal pain. Uncomplicated incomplete abortion can result after an induced or spontaneous abortion (i.e. miscarriage); the management in both cases is the same.

For clinically stable patients, there are three options for management of incomplete abortion: expectant management, vacuum aspiration, or medical management with misoprostol. The decision about the mode of management should be based on the clinical condition of the woman and her preference for treatment.

- **Expectant management** of incomplete abortion can be offered as an option on the condition that the woman is informed of the longer time for expulsion of the pregnancy tissue and the increased risk of incomplete emptying of the uterus. This can be as effective as misoprostol.
- **Vacuum aspiration** to manage uncomplicated incomplete abortion when uterine size is less than 14 weeks includes recognizing the condition, assessing uterine size, the vacuum aspiration procedure and pain management.
- **Medical management,** if selected, should use the regimens presented in Table 3.1.

Table 3.1 Recommended regimen for management of incomplete abortion with misoprostol

Uterine size[a]	Misoprostol regimen (dose and route)
< 14 weeks uterine size	600 µg oral or 400 µg sublingual
≥ 14 weeks uterine size	400 µg sublingual, vaginal or buccal every 3 hours[b]

[a] Based on physical examination when patient first presents.

[b] Misoprostol can be repeated at the noted interval as needed to achieve success of the abortion process. WHO guidance does not indicate a maximum number of doses of misoprostol. Health workers should use caution and clinical judgement to decide the maximum number of doses of misoprostol in pregnant individuals with prior uterine incision. Uterine rupture is a rare complication; clinical judgement and health system preparedness for emergency management of uterine rupture must be considered with advanced gestational age.

For a comparison of management options for missed and incomplete abortions, please refer to Table 2.8 in Chapter 2, section 2.1.7 Missed abortion.

3.4 Assessing and managing abortion complications

When abortion has been done safely, taking all the necessary precautions, potentially life-threatening complications only occur in rare cases. These complications can include haemorrhage, infection, uterine perforation, anaesthesia-related complications and uterine rupture.

When abortions are obtained from untrained providers, at unsafe locations, or using methods that are not recommended, complications are much more common. Some women seeking subsequent care may be seriously ill and need immediate emergency attention for life-threatening conditions.

IMPORTANT: Emergency post-abortion care should always be provided even in settings where abortion is illegal.

Some methods of unsafe abortion may also lead to complications related to the method used, such as: ingestion of poison, toxic substances or medicines; insertion of a foreign body into the anus, vagina or cervix; or abdominal trauma (see section 3.4.2). Treatment of complications in these individuals should include treatment of any systemic or physical injuries, in addition to any of the abortion-related complications (see section 3.4.1 below).

Health workers should use clinical judgement to determine whether patients may need referral to a hospital or a different facility offering a higher level of care.

3.4.1 Abortion-related complications, in alphabetical order

Anaesthesia-related complications

Where anaesthesia is used, staff must be skilled in the management of seizures and cardiorespiratory resuscitation. Reversal agents (e.g. opioid antagonist [naloxone], benzodiazepine antagonist [flumazenil], anticholinesterases) should always be readily available in settings where narcotics or benzodiazepines are used.

Ectopic pregnancy

While the incidence of ectopic pregnancy is lower in abortion cases than in the general population, health workers assessing women seeking post-abortion care should still be vigilant about the possibility of an ectopic pregnancy, especially if a pre-abortion ultrasound was not done.

Common signs and symptoms include:

- abdominal pain
- bleeding or spotting pre-abortion
- minimal to no bleeding after completing the medical abortion regimen
- minimal or no tissue identified at the end of the surgical abortion
- haemodynamic instability (indicating a ruptured ectopic pregnancy).

If ectopic pregnancy is suspected, immediate evaluation is required – if this can't be performed on-site, refer the patient without delay, following the local protocol for ectopic pregnancy management.

NOTE:

Even for continuing pregnancies, WHO only recommends one routine early pregnancy ultrasound before 24 weeks of gestation to estimate gestational age, detect fetal anomalies and multiple pregnancies, reduce induction of labour for post-term pregnancy, and improve a woman's pregnancy experience *(2)*.

Haemorrhage

Haemorrhage can result from retained tissue, uterine atony, trauma or damage to the cervix, coagulopathy or, rarely, uterine perforation or uterine rupture.

Appropriate treatment for haemorrhage depends on its cause and severity, and includes:

- resuscitation (oxygen and IV fluids as indicated)
- careful inspection for cervical or vaginal injuries
- re-evacuation of the uterus, using vacuum aspiration (not dilatation and curettage)
- uterine massage
- administration of uterotonic drugs
- uterine compression with packing or large foley balloon catheter
- blood transfusion
- replacement of clotting factors
- laparoscopy
- exploratory surgery (laparoscopy or laparotomy) with repair or hysterectomy.

IMPORTANT: Every service-delivery site must be able to immediately stabilize and treat or refer women with haemorrhage.

Infection and sepsis

Common signs and symptoms of infection include:

- fever or chills;
- foul-smelling vaginal or cervical discharge;
- abdominal or pelvic pain;
- prolonged vaginal bleeding or spotting;
- uterine tenderness.

Individuals with infection require treatment with antibiotics. If retained tissue is also present and is suspected to be the cause of the infection, re-evacuate the uterus using vacuum aspiration (not dilatation and curettage). Health workers should not wait to finish administering a dose of antibiotics before evacuating retained tissue in patients who are clinically unstable. Women with severe infections may require hospitalization.

IMPORTANT: Always evaluate patients with post-abortion infection for signs of sepsis.
Maternal sepsis is a life-threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, post-abortion or the postpartum period. Signs include fever or hypothermia plus any of the following: fast heart beat, low blood pressure, respiratory distress, jaundice, decreased urination, altered mental status.[4]

Ongoing pregnancy

Women with signs or symptoms of ongoing pregnancy or failed abortion should be assessed to rule out ectopic pregnancy if they did not have a pre-abortion ultrasound scan. If an ongoing uterine pregnancy is suspected or confirmed, the individual should be offered a uterine evacuation (by medical or surgical means) promptly.

Uterine perforation

This complication usually goes undetected and resolves without the need for intervention. When available and clinically indicated, laparoscopy is the investigative

4 Further information on maternal sepsis is available at: https://srhr.org/sepsis/ including an infographic (https://srhr.org/sepsis/wp-content/uploads/2017/08/WHO_Infographic-Maternal-sepsis-overview-EN-A4-WEB.pdf), and there is more information on sepsis in general at: https://www.who.int/news-room/fact-sheets/detail/sepsis

method of choice. If the woman's status or findings during laparoscopy suggest damage to the bowel, blood vessels or other structures, a laparotomy to repair any damage may be needed.

- If a perforation is suspected while using sharp forceps (such as Bierer) during D&E, laparoscopy (or, if unavailable, laparotomy) should be used to further investigate and repair injuries.
- During any abortion, the provider should use clinical judgement if they are concerned about potential perforation.
- If after surgical abortion at ≥ 14 weeks of gestation the tissue inspection indicates that the abortion may not have been successful (unable to find all of the fetal parts), even after re-evacuation of the uterus, the provider should have a high degree of suspicion for uterine perforation with fetal parts in the abdomen, and should therefore attempt to use ultrasound, if available, to check for intrauterine or intra-abdominal fetal parts, and then as needed perform laparoscopy/laparotomy on-site or else refer and transfer the patient to a higher-level facility where appropriate management can be provided.

Uterine rupture

This rare complication of abortion is associated with advanced gestational ages and the presence of a uterine scar, but uterine rupture has also been reported in women without these risk factors. In a meta-analysis, the risk of uterine rupture in women with a prior caesarean delivery having a misoprostol-induced abortion in the second trimester was found to be 0.28% *(3)*.

3.4.2 Other complications resulting from the method used to induce abortion

Following unsafe abortion, various other complications may occur that result from the manner or method of inducing the abortion. Examples are poisoning, abdominal trauma, or the presence of foreign bodies in the genital tract, among others.

Individuals with these complications should be stabilized and treated or referred for appropriate treatment, in addition to managing any abortion-related complications (see section 3.4.1) and providing appropriate post-abortion care (as described throughout this chapter).

3.4.3 Complications that are not specific to the abortion procedure or method

The following complications may occur, but they are not specific to the abortion procedure or method used. These complications should be treated as they would be following any other medical or surgical procedure:

- anaphylaxis
- asthmatic reactions
- seizure
- syncope/vasovagal reaction
- upper respiratory obstruction (choking)
- venous thromboembolism.

3.5 Post-abortion contraception

3.5.1 General information

Following an induced or spontaneous abortion, ovulation can return as early as 8–10 days later and usually within one month, and thus contraception initiation as soon as possible within the first month is important for individuals who desire to delay or prevent a future pregnancy *(4,5)*.For individuals wanting to be pregnant again, personal values and preferences should inform decisions around when they are ready to conceive again.

All contraceptive options may be considered after an abortion, but informed choice and the client's wishes are paramount. If the individual wishes to start or resume a contraceptive method, then all contraceptive options may be considered at any point in care and some methods can be initiated at the time of the abortion *(6)*.

Generally, almost all methods can be initiated immediately following a surgical or medical abortion.

- Immediate start of contraception after surgical abortion means it can be started on the same day as the procedure, after the success of the abortion has been confirmed.

- Immediate start of contraception after medical abortion means it can be started after taking the first pill (mifepristone or misoprostol) of the medical abortion regimen, except for IUDs (see further information in section 3.5.2). Evidence is currently unavailable on the immediate start of contraception after using a medical abortion regimen using letrozole.

As with the initiation of any method of contraception, the woman's medical eligibility for a method should be verified.

3.5.2 Medical eligibility for use of contraceptives or sterilization after abortion

- **Hormonal methods (including pills, injections, implants, the patch and vaginal ring)** may be started immediately after any abortion, including septic abortion.
    - If a woman initiates the vaginal ring immediately, advise her to check for expulsion if she has residual or heavy bleeding during/after the medical abortion process.
    - The option of self-administration of injectable contraception in the post-abortion period (as a self-management approach) should be considered and offered as an alternative for individuals who wish to use injectables but who could not return regularly to access repeat injections (see the section on teaching clients to self-inject, in Chapter 4 of *Family planning: a global handbook for providers [7]*).
    - If the client chooses oral contraceptive pills (OCPs), provide up to one year's supply, depending on preference and anticipated usage. Note: OCPs should be made available over-the-counter without a prescription for individuals using OCPs *(8, Recommendation 15)*.
- **IUDs** may be inserted immediately after any abortion has been determined to be successful. The risk of expulsion is slightly higher following abortion at gestational ages later than 12 weeks; in these cases, insertion should be done by a specially trained person and the woman should be informed of the risk.

IMPORTANT: An IUD should not be inserted immediately after septic abortion.

- **Condom** use may start with the first act of sexual intercourse after abortion, including septic abortion.

NOTE:

The consistent and correct use of male and female condoms is highly effective in preventing the sexual transmission of HIV; reducing the risk of HIV transmission both from men to women and women to men in serodiscordant couples; reducing the risk of acquiring other STIs and associated conditions, including genital warts and cervical cancer; and preventing unintended pregnancy.

Diaphragm or cervical cap use may start with the first act of sexual intercourse after abortion, including septic abortion. Use of this method should be postponed for six weeks following abortion at ≥ 12 weeks of gestation. The diaphragm must be refitted after uncomplicated first-trimester miscarriage or abortion. After uncomplicated second-trimester miscarriage or abortion, refitting of the diaphragm should be delayed six weeks to allow the uterus to return to normal size.

- **Fertility-awareness-based (FAB) methods** can generally start when regular menstrual cycles return, but special counselling may be needed to ensure correct use. Symptom-based methods should only be started "with caution" after abortion, and special counselling should be offered to ensure correct use of the method in this circumstance. The use of calendar-based methods should be delayed until normal menses have resumed, and alternative temporary methods of contraception should be offered for use in the meantime.
- **Female surgical sterilization** can be performed immediately after uncomplicated abortions, if the decision to have this surgery has been made in advance of the abortion (not while a woman is sedated, under stress or in pain). This surgery should be delayed if abortion is complicated with infection, severe haemorrhage, trauma or acute haematometra. Be sure the person understands that this method is irreversible (permanent) and that reversible methods are available.
- **Vasectomy** can be performed at any time. Be sure the person understands that this method is irreversible (permanent) and that reversible methods are available.
- **Emergency contraceptive pills (ECPs) or IUD** can be used within 5 days (120 hours) of an act of unprotected sexual intercourse, to decrease the risk of pregnancy.
- **Withdrawal** use may start with the first act of sexual intercourse, after abortion, including septic abortion.

Table 3.2 Post-abortion medical eligibility for hormonal contraceptives, intrauterine devices (IUDs) and barrier contraceptive methods

Post-abortion contraception	< 12 weeks of gestation	≥ 12 weeks of gestation	Immediate post-septic abortion
Combined oral contraceptives	1	1	1
Combined injectable contraceptives	1	1	1
Patch and vaginal ring	1	1	1
Progesterone-only pill	1	1	1
DMPA and NET-EN progestogen-only injectables	1	1	1
LNG and ETG progestogen-only implants	1	1	1
Copper-bearing intrauterine device (IUD)	1	2	4
LNG-releasing IUD	1	2	4
Condom	1	1	1
Spermicide	1	1	1
Diaphragm and cap	1	1[a]	1

DMPA: depot medroxyprogesterone acetate; ETG: etonogestrel; LNG: levonorgestrel; NET-EN: norethisterone enanthate.
a Unsuitable until 6 weeks post-abortion

Definition of medical eligibility criteria (MEC) categories:
1: a condition for which there is no restriction for the use of the contraceptive method
2: a condition where the advantages of using the method generally outweigh the theoretical or proven risks
3: a condition where the theoretical or proven risks usually outweigh the advantages of using the method
4: a condition that represents an unacceptable health risk if the contraceptive method is used.

Source: WHO, Medical eligibility criteria for contraceptive use, fifth edition, 2015 *(9)*.

Table 3.3 Post-abortion medical eligibility for female surgical sterilization

Post-abortion condition	Medical eligibility for female surgical sterilization
Uncomplicated	A
Post-abortal sepsis or fever	D
Severe post-abortal haemorrhage	D
Severe trauma to the genital tract; cervical or vaginal tear at the time of abortion	D
Uterine perforation	S
Acute haematometra	D

Definition of medical eligibility criteria (MEC) categories:

A = (accept): there is no medical reason to deny sterilization to a person with this condition.
C = (caution): the procedure is normally conducted in a routine setting, but with extra preparation and precautions.
D = (delay): the procedure is delayed until the condition is evaluated and/or corrected; alternative temporary methods of contraception should be provided.
S = (special): the procedure should be undertaken in a setting with an experienced surgeon and staff, and equipment is needed to provide general anaesthesia and other back-up medical support. For these conditions, the capacity to decide on the most appropriate procedure and anaesthesia regimen is also needed. Alternative temporary methods of contraception should be provided, if referral is required or there is otherwise any delay.

Source: WHO, Medical eligibility criteria for contraceptive use, fifth edition, 2015 *(9)*.

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Annex 1. Methodology and contributors

Methodology

This handbook is an update of the 2014 *Clinical practice handbook for safe abortion*. The update process was performed as outlined below.

Writing

This updated edition was revised in full to allow for close alignment with the 2022 *Abortion care guideline*. The writing team included Caron Kim and Mekdes Wolderufael of the WHO Department of Sexual and Reproductive Health and Research, Jane Patten of Green Ink Publishing Services Ltd, and Kate Whitehouse, independent consultant.

The updated edition was reviewed internally by members of the Department's Prevention of Unsafe Abortion (PUA) unit: Ferid Abubeker, Bela Ganatra, Heidi Johnston, Laurence Läser, Antonella Lavelanet, Ulrika Rehnström Loi. During initial stages of the update process, Abraham Sium also contributed to the writing and reviewing.

Peer review

Upon completion, the updated edition was submitted for peer review. The group of peer reviewers was determined by the writing team and the PUA unit in consensus. The peer reviewers were not paid for their work. Declarations of interest were obtained from all peer reviewers and no conflicting interests were declared.

The following peer reviewers provided valuable input upon review of the draft: Alison Edelman (Oregon Health & Science University), Eva Lathrop (Population Services International [PSI]), Patricia Lohr (British Pregnancy Advisory Service [BPAS]), Steve Luboya (Pathfinder), Alice Mark (National Abortion Federation), Helena Paro (Federal University of Uberlândia, Minas Gerais, Brazil), Dhammika Pereira (MSI Reproductive Choices), Mariana Romero (Centro de Estudios de Estado y Sociedad), Patricia Titulaer (Laerdal) and Francelle Toedtli (United Nations Population Fund [UNFPA]).

Annex 2. Drugs, supplies and equipment for quality abortion care

Supplies	Medicines	Equipment

• Clean water
• Detergent or soap
• Clean and sterile gloves
• Personal protective equipment (e.g. face mask, face shield, gown, plastic apron)
• Sterilization or high-level disinfection solutions and materials
• Gauze sponges or cotton balls
• Antiseptic solution (non-alcohol based) to prepare the cervix (e.g. betadine)
• Needles (22-gauge spinal needle for paracervical block and 21-gauge needle for medicine administration)
• Osmotic dilators (e.g. laminaria sticks or Dilapan-S®)
• Syringes (5, 10 and 20 ml)
• Sanitary napkins/pads
• Oxygen and Ambu bag
• Uterine packing
• Information leaflets
• Silicone for lubricating syringes
• Lubricating jelly
• Contraceptive methods, including long-acting reversible contraceptives (i.e. implants, injectables and intrauterine devices)
	• Medical abortion
	  ▫ mifepristone (also for cervical priming)
	  ▫ misoprostol (also for cervical priming)
	  ▫ letrozole
	• Analgesics
	  ▫ NSAIDs (e.g. ibuprofen)
	  ▫ opioids (e.g. fentanyl, tramadol, morphine)
	  ▫ acetaminophen/paracetamol
	• Anxiolytics (e.g. diazepam, midazolam, lorazepam)
	• Lidocaine for paracervical block
	• Drugs used to induce fetal asystole
	  ▫ potassium chloride (KCl)
	  ▫ digoxin
	  ▫ lidocaine
	• Antibiotics (e.g. tetracycline, macrolide, penicillin or nitroimidazole antimicrobials)
	• Anti-D immunoglobulin a
	• Uterotonics (e.g. oxytocin, misoprostol or ergometrine)
	• Intravenous (IV) line and fluids (e.g. saline, sodium lactate, glucose)
	• Opioid antagonists (e.g. naloxone, naltrexone)
	• Benzodiazepine antagonist (e.g. flumazenil)
	• Anti-emetics/anti-nausea (e.g. metaclopramide)
	• Antidiarrhoeal (e.g. loperamide)
		• Autoclave or sterilizer
		• Blood pressure equipment
		• Light source/head light
		• Stethoscope
		• Speculum (wide mouth to increase exposure of the cervix and short to avoid pushing the cervix away, or a Sims speculum if an assistant is available)
		• Tenaculum (atraumatic tenaculum, when available)
		• Mechanical dilators
		  ▫ tapered, up to 37 French (Fr) (or up to 51 Fr for advanced gestational age) or equivalent circumference
		  ▫ Pratt, 13–43 Fr (or 41–79 Fr for advanced gestational age)
		  ▫ Hern, up to 98 Fr for advanced gestational age
		• Electric vacuum aspirator (with cannulae up to 14–16 mm) or manual vacuum aspirator (with cannulae up to 12–14 mm)
		• Bierer uterine evacuation forceps (large and small)
		• Sopher uterine evacuation forceps (small)
		• Large, postpartum flexible curette
		• Sponge (ring) forceps
		• Stainless steel bowl for prepping solution
		• Instrument tray
		• Clear glass dish for tissue inspection
		• Strainer (metal, glass or gauze)
		• On-site access to an ultrasound machine (optional)
		• Long needle-driver and suture
		• Scissors

Note: For dosage, route and use, see Chapter 2.

[a] Anti-D immunoglobulin should not be given for abortion at < 12 weeks of gestation, but standard of care applies for anti-D administration at ≥ 12 weeks of gestation.

For more information, please contact:

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