



NZ COLLEGE
OF SEXUAL &
REPRODUCTIVE
HEALTH

MODULE 3

Early surgical abortion theory

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1. LEARNING OBJECTIVES AND MODULE OVERVIEW

Learning objectives

The objectives of this course are to provide the necessary theoretical knowledge to provide high quality early surgical abortions using vacuum aspiration. Participants will learn how to provide early surgical abortions that:

1. Are culturally safe and patient-centred
2. Manage patient pain using analgesia and/or sedation
3. Prevent infection through the use of sterile equipment, a “no touch” technique and antibiotic prophylaxis
4. Are safe, with knowledge and plans in place for the management of any complications.

Following completion of this course, trainees need to observe an experienced abortion provider before completing a [minimum of 40 early surgical abortions](#) with a competency-based assessment under supervision in order to become an early surgical abortion provider.

Module overview

This module describes the equipment, steps and skills required to provide early surgical abortion using vacuum aspiration. In contrast to an early medical abortion, which most commonly occurs in the person's home environment, provision of early surgical abortion requires that the provider has the assistance of an additional qualified health practitioner(s), access to specialist equipment and suitable premises. The NZCSRH supports the provision of early surgical abortion by qualified health practitioners including nurses, midwives, non-specialist doctors and specialist doctors, and this is also recommended in the [World Health Organization 2022 Abortion care guidelines](#).

It is essential that early surgical abortion trainees are aware of the safety plans in place to manage any potential complications in the service prior to providing early surgical abortions. Examples of plans that can be used as templates are [available to download within this module](#). We recommend developing support networks with local whakatahe abortion providers as they are the specialists in abortion care. You should also connect with local gynaecology services to enable referral for complications. You should be familiar with the available support services in your area including specific services for Māori, Pacific peoples and rangatahi (young people).

Before beginning this course, it is expected that participants will have completed the online New Zealand College of Sexual and Reproductive Health (NZCSRH) [Module 1: Consultation – communication and decision making](#) module. Qualified health practitioners who intend to provide early surgical abortion must also:

- Hold a current practising certificate with their Aotearoa New Zealand professional body
- Hold a minimum of [NZ Resuscitation Council CORE immediate certificate](#)
- Have competence to provide contraceptive counselling
- Have completed long-acting reversible contraception (LARC) training and be able to fit LARC competently as per the [New Zealand LARC standards](#) (this can be done during early surgical abortion training)
- Be competent to provide the analgesia/sedation used according to [The Australian and New Zealand College of Anaesthetists \(ANZCA\) PS09 guideline](#). Many hospital sites will have processes for sedation accreditation and training. One online training option for safe sedation training alongside the clinical training is available at [safesedationtraining.com](#). Please [contact the NZCSRH](#) if you are interested in further sedation training as we may provide this in future if there is sufficient demand

2. TIKANGA IN EARLY SURGICAL ABORTION CARE

When providing care for people seeking an early surgical abortion, try to use key terms that are relevant to their spoken/preferred language; this includes te reo. In Te Reo Māori, “tahe” and “whakatahe” are words for abortion. For Māori, the concept of abortion is not a modern thing, and like many other cultures there are traditional methods for ending a pregnancy. Colonisation brought different attitudes towards abortion. Now, just as Māori people are diverse, so too are Māori perspectives on abortion.

Abortion providers must support people having an abortion to uphold and apply their tikanga Māori (cultural practice).

For an early surgical abortion consider:

- The physical transition from waiting areas to areas where consultation/abortion occur. In particular, separating Noa (ordinariness) from Tapu (sacredness).
- The right to Karakia (prayer) should be offered and facilitated. This can be done in many ways; if the person does not have someone to say a Karakia then we have provided you with an example (below), or if their support person is available on the phone then put them on speakerphone.
- The ability to offer Whānau support throughout the process, whilst maintaining confidentiality. Always ask the patient about their wish/need for Whānau involvement and facilitate their wishes.
- Be respectful of Taonga (valuables worn with spiritual significance) this is especially critical if you are in a theatre setting and removing them. Ensure your service has appropriate policies and follow these.
- The ability to wash after the procedure
- Support of Kai Atawhai (return of pregnancy tissue to cultural land) and facilitation of this if the patient is unable
- Audit your practice and make sure Māori wāhine are receiving equitable access and care



For further information, [click here](#).

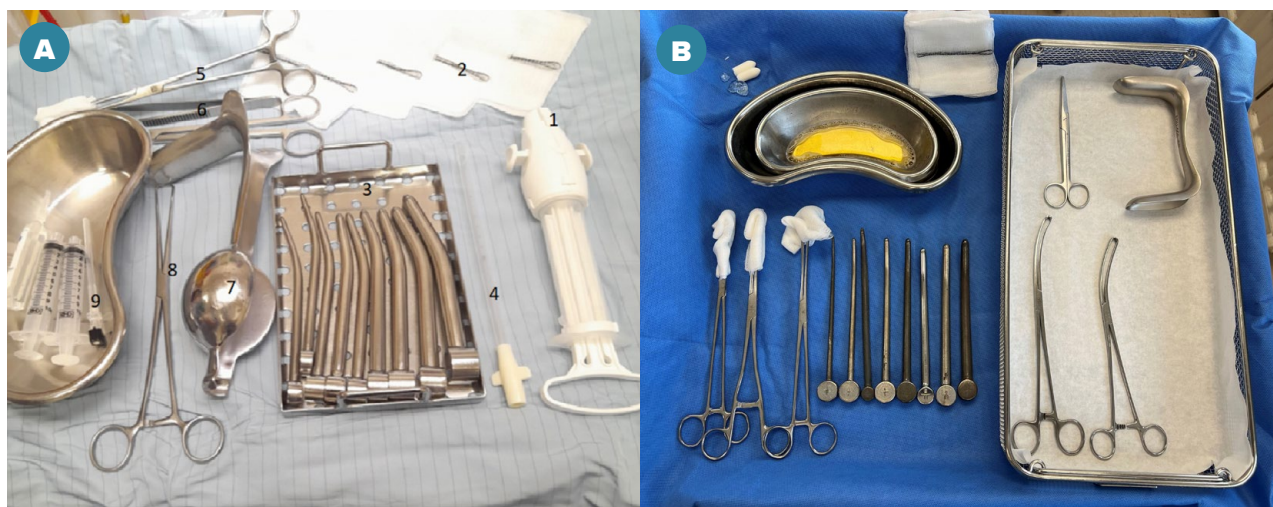
3. SUPPORT STAFF, EQUIPMENT AND MEDICINES USED IN EARLY SURGICAL ABORTION

Support staff requirements

At least one other qualified health practitioner is required to work alongside the main abortion provider to assist them in providing the abortion. There also needs to be a separate qualified health practitioner to [manage the sedation and the airway](#) during an early surgical abortion.

Equipment requirements

In general, the equipment required to perform an early surgical abortion includes:



- An appropriate bed with leg supports
- An appropriate covering/drape for the person
- Speculum – The optimal type is person, operator and equipment dependant (7)
- Tenaculum (8)
- Ringed forceps (5)
- Sterile gauze (e.g. 4 × 4's) with radio-opaque strip (2)
- Betadine or chlorhexidine without alcohol
- Anaesthetic (e.g. 10 – 20 mL of 1% lidocaine; optional to dilute with NaCl or add sodium bicarbonate)
- 22g 1½" or longer needle to attach to syringe or 21g spinal needle with taper tip (9)
- Syringe for local anaesthetic
- Manual vacuum aspirator (MVA)* (1) or electric vacuum aspirator (EVA)†
- Range of dilators (multiple sizes above and below gestational age) (3)
- Cannulae (multiple sizes above and below gestational age) (4)
- Forceps for removing tissue obstructing canula (6)
- Correct sized tubing (if using EVA) or MVA
- Strainer (optional)
- Dish to collect and examine products of conception in (if not using point of care ultrasound)
- An appropriate light source

Note: Some of the items in this list are present in the equipment trays in Figure 1 (circled numbers in list correspond to numbered items in panel A). Additional equipment examples are depicted in Figures 2 – 5.

* MVA are recommended for use in patients up to 12 weeks gestation in Aotearoa and are available from [ISTAR Ltd](#). A product description for the Ipas MVA Plus® Aspirator is linked [here](#).

† For gestations over 12 weeks there is a larger suction tube size required for EVA. Surgical abortions > 14 weeks are performed via dilatation and evacuation which is a different procedure to early surgical abortion with aspiration.

Figure 1. Equipment used for early surgical abortion using manual vacuum aspiration.



Figure 2. Tubing Medline product TB29494CE.

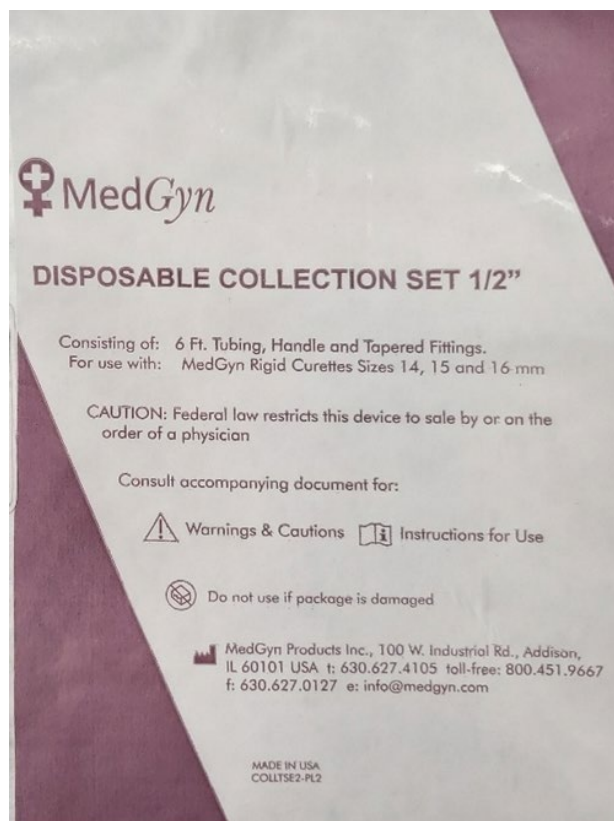


Figure 3. MedGyn disposable collection set half inch packaging.



Figure 4. Single ended dilators.



Figure 5. Versa brand EVA machine

In addition to the equipment listed above, appropriate equipment to manage safe analgesia/sedation should be available as per the Australian and New Zealand College of Anaesthetists & Faculty of Pain Medicine (ANZCA) [PS09\(G\) guidelines](#).

Medicines used in early surgical abortion

Antibiotic prophylaxis

New Zealand Aotearoa Abortion Clinical Guideline 2021,

- Recommendation 3.1.5 states: “Recommend routine antibiotic prophylaxis to reduce the risk of post-abortion upper genital tract infection” and
- Recommendation 3.1.6 is “Consider metronidazole 1 g per rectum at end of procedure for antibiotic prophylaxis. Alternatively, consider oral doxycycline 100 mg twice a day for 3 days for antibiotic prophylaxis. Do not routinely offer metronidazole in combination with another broad-spectrum antibiotic such as doxycycline.”

There is strong evidence that antibiotic prophylaxis reduces the risk of upper genital tract infection following an early surgical abortion (for further information see this [2019 NICE evidence review](#) and this [2012 Cochrane review](#)). The [New Zealand Aotearoa Abortion Clinical Guideline 2021](#) suggests 1 g of [metronidazole](#) should be given rectally immediately following the early surgical abortion. Metronidazole is a more effective treatment for a broader range of infections than doxycycline or azithromycin and is effective against anaerobic bacteria. An alternative (but not additional) recommended prophylactic treatment is to prescribe a short course of oral [doxycycline](#) (100 mg, twice daily, for three days) to be started immediately following the abortion.

Anti-D prophylaxis

New Zealand Aotearoa Abortion Clinical Guideline 2021:

- Recommendation 1.3.6: “Recommend testing of rhesus status for people having medical abortion > 10 weeks’ gestation, or surgical abortion at any stage of pregnancy.”
- Recommendation 5.1.2: “Consider anti-D prophylaxis for people who are rhesus D negative and are having a surgical abortion up to and including 10+0 weeks’ gestation.”
- Recommendation 5.1.3: “Offer anti-D prophylaxis to people who are rhesus D negative and are having a medical or surgical abortion after 10+0 weeks’ gestation.”
- Recommendation 5.1.4: “Anti-D prophylaxis supply should not cause delay to providing timely abortion care.”

Administering anti-D immunoglobulins to rhesus D negative pregnant patients can [lower their risk of becoming sensitised to the rhesus D antigen](#) if it is passed into their bloodstream from a rhesus positive fetus, embryo or baby. In subsequent pregnancies this could result in haemolytic disease of the newborn, where parental immunoglobulins crossing the placenta can target the rhesus D positive erythrocytes. However, there is [no high-quality evidence surrounding the use of anti-D prophylaxis for early surgical abortion](#) under 10 weeks of pregnancy. The [New Zealand Aotearoa Abortion Clinical Guideline 2021](#) recommends testing rhesus status for people having an early surgical abortion and offering anti-D prophylaxis to rhesus D negative patients after ten weeks gestation. In gestations under ten weeks, health practitioners should consider offering anti-D treatment to rhesus negative patients having an early surgical abortion.

Pain relief – analgesia, anaesthetic and sedation

 For a video discussing pain during early surgical abortion, [click here](#)

New Zealand Aotearoa Abortion Clinical Guideline 2021:

- Recommendation 3.5.1: “Recommend pre-operative analgesia with nonsteroidal anti-inflammatory drugs (NSAIDs).”
- Recommendation 3.5.2: “For people who are having surgical abortion, consider local anaesthesia alone, procedural sedation with local anaesthesia, deep sedation or general anaesthesia.”
- Recommendation 3.5.3: “When using procedural sedation for a surgical abortion, use intravenous rather than oral sedation.”
- Recommendation 3.5.4: “Offer supportive methods to reduce pain and anxiety, including empathetic staff, gentle technique, music and verbal reassurance.”
- Recommendation 3.5.5: “When using general anaesthesia for a surgical abortion, consider intravenous propofol and a short-acting opioid (such as fentanyl) rather than inhalational anaesthesia.”

There are three main options for providing pain relief during an early surgical abortion :

1. Local anaesthetic (paracervical block) and simple analgesics – non-steroidal anti-inflammatory drugs (NSAIDs)
2. Procedural sedation (see [ANZCA PS09\(G\) Guidelines 2014, definition 1.1](#)) with local anaesthesia (paracervical block) and NSAIDs
3. Deep sedation (see [ANZCA PS09\(G\) Guidelines 2014, definition 1.2](#)) or general anaesthesia and NSAIDs

Ideally, the choice of analgesia/sedation/anaesthesia will be up to the person seeking abortion care. However, it is common that the skill of the practitioners or the capacity of the facility impacts on this choice. If a provider is unable to offer the person's preferred care choice, it is critical that they offer to refer them to another service to access this care. Examples of people who may request or require an early surgical abortion under general anaesthetic can include tamariki/young people under 15 years seeking abortion care and people with a history of sexual assault. In reality, many people seeking abortion care will choose the option most easily accessible to them, however, this should not be the default approach.

There are various factors that may influence the pain experienced by patients receiving an early surgical abortion (Table 1). It is important to develop gentle physical skills and effective social skills as an abortion provider. Encouraging and reassuring communication, including the “[vocal local](#)” technique, can help to reduce anxiety and pain, as can the support of a whānau member or friend. Guiding patients to take slow, deep, regular breaths may also assist in relaxation and help in avoiding hyperventilation.

Table 1. [Factors associated with pain experienced during early surgical abortion.](#)

Increased pain	Decreased pain	Conflicting results	Not strongly associated
<ul style="list-style-type: none"> • Anxiety/depression • Ambivalence • Expectation of pain • Younger patient age • Dysmenorrhea • Fewer pregnancies 	<ul style="list-style-type: none"> • Previous vaginal delivery • Older patient age • More pregnancies • Shorter operative time • Participation in the choice of anaesthesia 	<ul style="list-style-type: none"> • Gestational age • Maximum cervical dilation • Comfort with decision • Provider experience 	<ul style="list-style-type: none"> • Prior pelvic exam • Prior uterine aspiration • Prior caesarean section • MVA vs EVA

Non-steroidal anti-inflammatory drugs

Table 2 outlines pre-procedural analgesic options for patients receiving an early surgical abortion. It is recommended to give non-steroidal anti-inflammatory drugs (NSAIDs), at least 30 minutes prior to an early surgical abortion. This reduces cramp pre- and post-procedure. Consider anti emetics as required by patients.

Table 2. Pre-procedure analgesic options for early surgical abortion.

Medicine	Dose	Comments
Ibuprofen*	600 – 800 mg PO	Not available on PSO
Naproxen*	250 – 500 mg PO	Not available on PSO
Diclofenac	50 – 100 mg PO* or PR	Oral form not available on PSO
Paracetamol	1 g – 2 g PO	Poor evidence. May be suitable for patients who cannot tolerate NSAIDs.

* Some medicines are available on practitioner supply order ([PSO](#)). Medicines marked with an asterisk are recommended but not available on PSO.

Medicines for cervical priming

[The New Zealand Aotearoa Abortion Guideline 2021](#) recommendation 3.2.1 states “Recommend cervical priming prior to surgical abortion before 14 weeks’ gestation, to reduce the risk of incomplete abortion and make the procedure easier to perform.”

Options for cervical priming in the first trimester include misoprostol or mifepristone.

[The New Zealand Aotearoa Abortion Guideline 2021](#)

- Recommendation 3.2.2 states “For people having surgical abortion prior to 14 weeks’ gestation, offer cervical priming with 400 micrograms misoprostol, administered sublingual 1 hour prior, buccal 1–3 hours prior or vaginal 3 hours prior” and
- Recommendation 3.2.3 is “For people having surgical abortion prior to 14 weeks’ gestation where misoprostol is contraindicated, consider cervical priming with 200 mg oral mifepristone 24–48 hours prior, to make the procedure easier to perform”.

Misoprostol (e.g. [Cytotec®](#)) is a synthetic prostaglandin E1 analogue which induces contractions of the smooth muscle fibres in the myometrium and relaxation of the cervix. Each Cytotec® tablet is 200 micrograms.

Misoprostol is recommended for cervical priming at a dose of 400 micrograms. The wait time before proceeding with the early surgical abortion procedure differs depending on parity and on the route the misoprostol is taken. The onset of action is:

- 1 hour for the **sublingual** route
- 1 – 3 hours for the **buccal** route
- 3 hours for the **vaginal** route

Multiparous people who have previously laboured may respond more quickly to misoprostol. This should be taken into consideration when planning the order of a list of procedures. Staff in the facility should be aware there may be a need to change the patient order if someone shows signs of a medical abortion beginning and the person does not want a medical abortion, or staff are not trained to manage medical abortion.

There are a number of situations where misoprostol is either contraindicated or where mifepristone may be easier for the person seeking the abortion. These include known hypersensitivity to misoprostol or any other ingredient of the product, or to other [prostaglandins](#). In the situation of uncontrolled asthma (where the abortion cannot be delayed) or severe inflammatory bowel disease consideration should be given to using mifepristone due to the risk of bronchospasm and diarrhoea respectively with misoprostol. Prostaglandins are not recommended for people with moderate/severe cardiac disease and mifepristone may be an alternative option for cervical priming.

Mifepristone (e.g. [Mifegyne®](#)) is a synthetic steroid with anti-progestational properties as a result of competition with progesterone for progesterone receptors. In people at doses of ≥ 1 mg/kg, mifepristone antagonises the endometrial and myometrial effects of progesterone. There is a longer interval of 24 – 36 hours needed between taking mifepristone and the abortion procedure (compared with the shorter onset of action associated with misoprostol use).

Other reasons to consider mifepristone may include a history of multiple caesarean sections with a more advanced gestational age, or practical reasons such as if the patient prefers the convenience of taking it at an appointment 24 hours prior to the procedure (rather than one to three hours before with misoprostol).

⊕ **Practice point:** the use of misoprostol for cervical priming is an example of an unapproved use of medicine. Unapproved medicines have not been assessed by Medsafe for efficacy or safety of use for this specific therapeutic indication. However, under [Section 25 of the Medicines Act 1981](#), they are able to be prescribed by authorised prescribers in New Zealand provided the [Code of Health and Disability Services Consumers’ Rights 1996](#) has been applied. Patients have the right to be fully informed about unapproved medicines and any safety concerns, including in writing (if requested), prior to consenting to their use for early surgical abortion. Verbal informed consent from the patient is sufficient and this should be documented in the patient notes. It is not necessary to obtain written consent.

 Follow [this link](#) to watch the presentation on off-label use of medicines (section 25) in [Module 1](#).

Local anaesthetic – paracervical block

A local anaesthetic is injected into the cervix using a technique known as the [paracervical block](#).

 For a video explaining this procedure, see: “[Early surgical abortion – Uterine aspiration procedure](#)”

Care must be taken to ensure that the local anaesthetic dose does not exceed that recommended level (maximum 4.5 mg/kg) due to the risk of local anaesthetic toxicity. This may present as peri-oral numbness, tinnitus or a metallic taste in the mouth. At higher concentrations, muscular twitching, convulsions, cardiac arrhythmias and a loss of consciousness may [occur](#).

There are various mechanisms for carrying out a paracervical block. All include insertion of local anaesthetic into the cervix at the “12 o’clock point” to decrease the discomfort of tenaculum placement (N.B. a “clock face” description is commonly used to identify locations for injections, when looking at the cervix of a person lying on their back; Figure 6). A 2012 [random controlled trial](#) (RCT) using a five site injection at 12, 2, 4, 8, and 10 o’clock demonstrated the benefit in terms of pain reduction in comparison to sham treatment. Alternatively, there are blocks using only three sites: 12, 4 and 8 o’clock.

The RCT confirmed that the paracervical block itself is painful and patients should be informed of this. Slow administration of local anaesthetic may reduce the pain associated with the paracervical block (Table 3). Use of buffering with bicarbonate can also reduce pain. One suggested regime is 20 ml paracervical block, 18 mL of 1% lignocaine buffered with 2 mL of 8.4% bicarbonate.

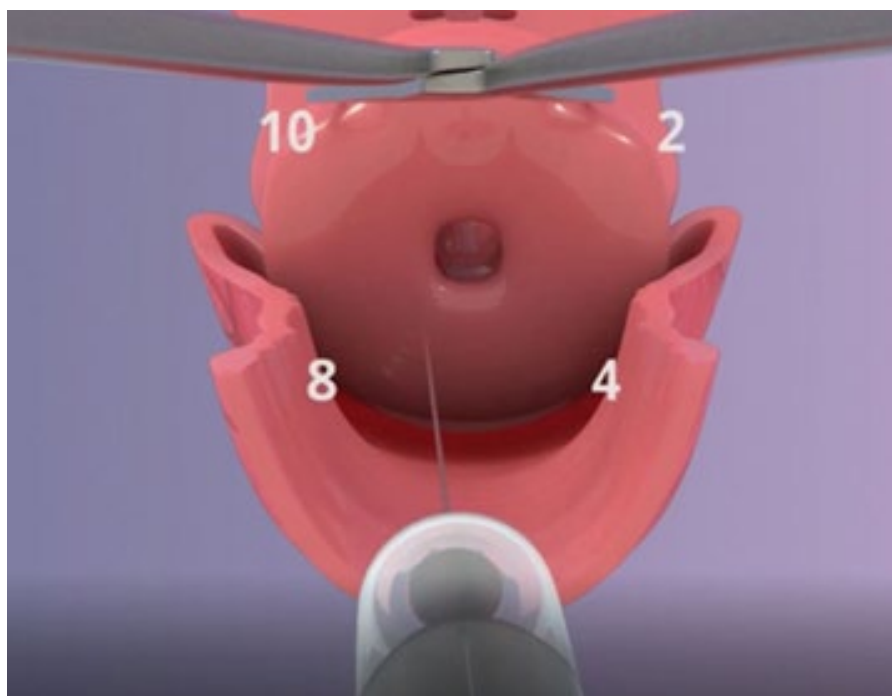


Figure 6. Cervix showing four paracervical block injection sites. NB. This is a still from the  “[Early surgical abortion – Uterine aspiration procedure](#)” video.

Table 3. Local anaesthesia options and additives for early surgical abortion.

Drug (Class)	Dose Range	Comment
Lidocaine (1% or 2%)	Up to 200 mg (20 mL 1% or 10 mL 2%)	Lower concentration is as effective.
Bicarbonate Buffer	5 mL / 50 mL anaesthetic	Less injection pain

Sedation

[ANZCA background paper for the PS09BP guideline](#), section 3.4 states: “The continuum of sedative/hypnotic drug effect extends from conscious sedation through deeper sedation to general anaesthesia. Regardless of the sedative and/or analgesic agent used, PS09 specifically limits the practice of medical and dental practitioners who are not anaesthetists, or other trained and credentialed medical practitioners practising within their scope of practice, to conscious sedation in healthy patients, because of the inherent risks in deeper sedation and general anaesthesia. These risks include airway obstruction, respiratory depression and cardiovascular instability. If deep sedation or general anaesthesia is desired or required, then an anaesthetist, or another appropriately trained and credentialed medical specialist within his/her scope of practice, must be present.”

There are multiple different levels and options for sedation in abortion care. Abortion providers must receive training in sedation, airway and resuscitation skills appropriate to the care they are providing. This training in early surgical abortion by aspiration is not adequate to be considered sedation training. At least one assistant with training in monitoring sedation must also be present during the procedure. An early surgical abortion carried out using any degree of sedation beyond conscious sedation requires the services of a trained anaesthetist, or other trained and credentialed medical practitioner working within their scope of practice to monitor the patient during the procedure.

Medicines that may be used for early surgical abortion sedation are detailed in Table 4. In New Zealand the range of practice is wide with some providers using simple analgesia and paracervical block only, many using a range of oral or intravenous (IV) benzodiazepines with IV fentanyl (in addition to NSAIDs and paracervical block) and some centres that use general anaesthetic. If benzodiazepines are used, flumazenil must be available for reversal and if opioids are used, naloxone must be available.

Oxygen should be available for resuscitation and for routine use as indicated dependant on sedation.

Table 4. Recommended medicines for early surgical abortion sedation.

Sedative	Dose	Comments
Midazolam	1 – 2 mg IV or 7.5 mg oral*	Give over 2 minutes. Oral formulation not available on PSO. Antidote is flumazenil (also not available on PSO).
Lorazepam*	0.5 – 1 mg SL or 1 – 2 mg PO or IV	Shorter acting benzodiazepine. Not available on PSO. Antidote is flumazenil* (also not available on PSO).
Fentanyl*	Up to 100 microgram IV	Give over 30 – 60 seconds. Not available on PSO. Titrate by weight and pain. Antidote is naloxone
Penthrox*	One bottle of Penthrox ® (1.5 mL or 3 mL)	To be vaporised in a Penthrox® inhaler.
Syntometrine*	Dose: 1 mL IM	Synthetic oxytocin 5 IU/mL ([8.5 micrograms] added as 200 IU/mL solution) and ergometrine maleate 0.5 mg/mL

* Some medicines are available on [PSO](#). Medicines marked with an asterisk are recommended but not available on PSO.

4. REVIEW OF MEDICAL HISTORY AND EXAMINATION

A medical and surgical history and physical examination should have been performed as part of the consultation and decision-making process (Table 5); this may have been completed by a different healthcare provider. Ensure that you have reviewed the patient's history and performed a risk assessment, including allergies, and have agreed on management plans for complications with the patient before starting the procedure. For example, if you are in a community setting, the management of an intraoperative complication such as a perforation of the uterus will be different to when the abortion is being provided in theatre under a general anaesthetic.

Table 5. [Selected health considerations and management in early surgical abortion.](#)


Health Condition	Considerations
Hypertension	<ul style="list-style-type: none">• Mild to moderate hypertension is not a contraindication; referral for treatment may be required as needed.• Symptomatic and/or severe hypertension (>160/110 mm/Hg) should be treated prior to procedure or referred for additional management• Ergometrine should be avoided for patients with hypertension
Seizure disorder	<ul style="list-style-type: none">• Anti-seizure medicines should be taken as prescribed on day of early surgical abortion and resumed as usual following procedure• There is no contraindication to receiving procedural benzodiazepines or opiates• Uncontrolled seizure disorder or seizure in last two weeks is a contraindication to out of hospital (community) abortion• Some anti-seizure medicine interact with hormonal contraception; options should be reviewed for medical eligibility
Anaemias	<ul style="list-style-type: none">• If recent history or symptoms, check pre-procedure haemoglobin. If < 100 g/L, refer to hospital setting or be prepared to manage bleeding appropriately.
Blood-clotting disorders	<ul style="list-style-type: none">• For active clotting disorders, early surgical abortion can be performed in outpatient setting with appropriate preparation (i.e. IV access, available uterotonics)• Anticoagulation medicines can be continued with relatively low risk of additional blood loss up to 12 weeks.
Insulin-dependent disorders	<ul style="list-style-type: none">• No changes in diet or medicines are recommended for early surgical abortion, but consider scheduling the procedure for early in the day• Low glucose levels require dextrose or food prior to procedure• High glucose levels are not a contraindication, but levels ≥ 15 mmol/L warrant evaluation for diabetic ketoacidosis; this requires treatment or referral prior to procedure
Heart disease	<ul style="list-style-type: none">• If symptomatic underlying heart disease, or severe disease, early surgical abortion may be performed in operating room with monitoring by an anaesthetist
Asthma	<ul style="list-style-type: none">• Patients with mild asthma may have a routine early surgical abortion. Advise taking routine asthma medicines before the procedure and bringing these medicines along to the clinic.• Patients with acute or poorly controlled asthma may need to delay abortion care until better controlled• Misoprostol is safe for use in patients with asthma.

Health Condition	Considerations
Active respiratory infection	<ul style="list-style-type: none"> Consider delaying the procedure. If unable, consider personal protective equipment (PPE) for both the patient and staff. In the context of COVID-19 community transmission, recommend PPE that assumes infection if status is unknown
Cervical stenosis	<ul style="list-style-type: none"> Consider use of an Os. finder, or perform early surgical abortion under ultrasound guidance A cervical preparation agent such as misoprostol or mifepristone may be helpful Medical abortion may be offered
Uterine fibroids	<ul style="list-style-type: none"> Fibroids may inhibit ability to complete early surgical abortion depending on size and location in relation to pregnancy. Ultrasound guidance may be a helpful adjunct. Consider referral to a hospital care with an experienced provider Medical abortion may be considered as an alternative
Previous caesarean delivery	<ul style="list-style-type: none"> Patient may be at increased risk of haemorrhage. Ensure uterotonic medicines are readily accessible. Consider performing with ultrasound guidance. Additional rare risk of uterine scar pregnancy if multiple previous caesarean deliveries; consider ultrasound and/or referral to hospital with experienced provider
Alcohol or substance use disorders	<ul style="list-style-type: none"> Alcohol use disorder – may need larger benzodiazepine doses due to tolerance Opiate use disorder – may need larger opiate doses due to tolerance

5. THE EARLY SURGICAL ABORTION BY ASPIRATION PROCEDURE

New Zealand Aotearoa Abortion Clinical Guideline 2021:

- Recommendation 3.1.3: “Perform a pre-procedure bimanual examination.”
- Recommendation 3.1.2: “Venous access should be in place prior to the procedure taking place.”
- Recommendation 3.4.2: “Consider using intra-procedure ultrasonography to aid in:
 - visualising instruments
 - locating fetal parts
 - verifying an empty uterus
 - reducing the risk of uterine perforation
 - shortening the procedure.”

 For a video demonstrating this procedure see “[Early surgical abortion – Uterine aspiration procedure](#)” or for another video explaining early surgical abortion [click here](#).

Follow all [principles of informed consent](#) at all times, including if requested having a karakia performed prior to and after the procedure. Consent must be in writing if the early surgical abortion is performed under general anaesthetic.

1. Before the procedure

Check that all the necessary equipment is available and sterile and that all necessary staff and support people are present. Ensure you have clean gloves and appropriate personal protective equipment (PPE). Perform a suitable pre procedure checklist including antibiotic prophylaxis, contraception and anti-D plans and perform or facilitate a karakia if this has been planned.

2. Bimanual examination

Make sure the person is optimally positioned and covered on a bed with their legs supported and able to relax their pelvic muscles and that venous access is in place.

A bimanual examination must be performed, to assess the uterine size and position and correlate this to the preprocedural estimated gestation. Note that the presence of fibroids or other anomalies may affect this. If the findings suggest a difference of gestation to that expected, then a point of care ultrasound may be used to confirm gestation. If the uterus is estimated to be a greater size than first trimester and point of care ultrasound is not available to confirm the gestational age, then stop the procedure until gestation can be confirmed.

The uterine position and the estimated direction of the cervical canal must be noted.

If there is cervical excitation reconsider your antibiotic management to include treatment of pelvic inflammatory disease and note not to insert an intrauterine contraceptive (IUC) if this was planned. Consider the possibility of an ectopic pregnancy.

3. Cervical cleansing and paracervical block procedure

Insert a speculum gently and open to visualise the cervix. Cleanse the cervix with an antiseptic solution (consider allergies). Warming the solution may improve the person’s comfort. An early surgical abortion using aspiration is a no touch aseptic procedure; as the vagina is not made sterile prior to the procedure it is important not to touch the vagina when placing the dilators and canulae into the cervical canal.

Insert 2 mL of local anaesthetic at 12 o’clock (or at six o’clock in a severely retroverted uterus) and place a tenaculum. Perform a paracervical block if indicated.

4. Cannula placement and cervical dilatation

Cannula come in two varieties: flexible or rigid (Figure 7). MVA cannula are available from ISTAR. They are sized by diameter, and most clinicians choose a diameter equal to the number of weeks gestation or one size smaller.

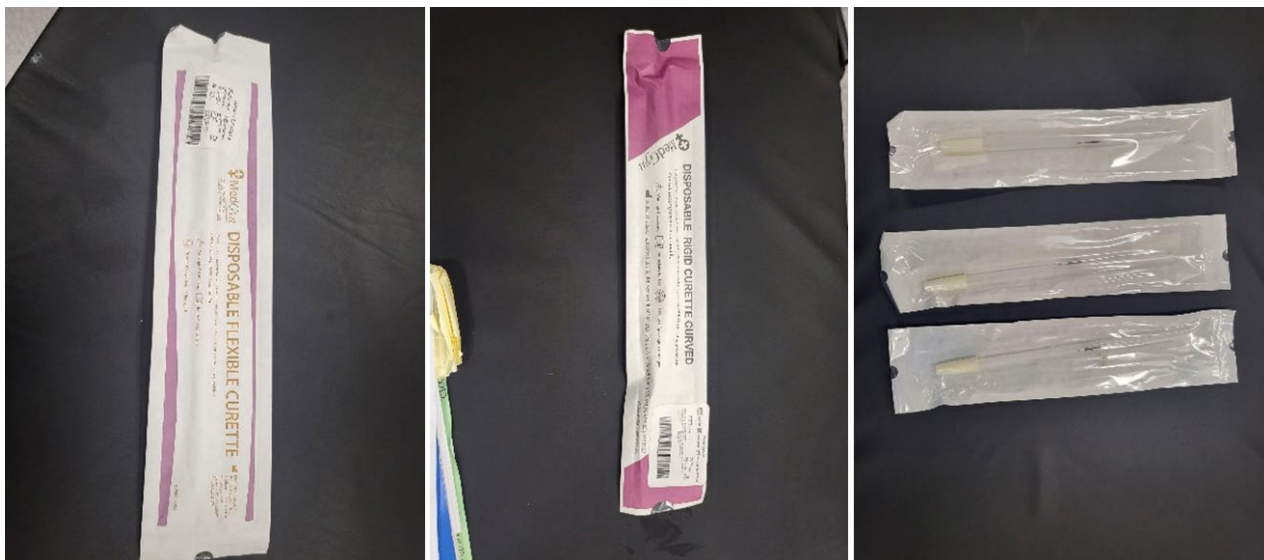


Figure 7. MedGyn cannula. From left to right, the images depict flexible packaging, rigid packaging, and three individual curettes in packaging.

If the os is already open to allow the size of the cannula required to enter there is no need to perform additional dilatation.

Pull with gentle traction on the tenaculum to straighten the cervical uterine angle, before trying to pass the cannula through the os and advance it to the fundus. **DO NOT USE A UTERINE SOUND IN A PREGNANT UTERUS.**

If the canula does not pass through the internal os you will need to dilate the cervix.

There are a number of cervical dilators: Hawkin-ambler dilators are tapered and create progressive dilation, [double ended dilators](#) (Figure 8) must be held in the middle to achieve a no touch technique. Slowly increase the dilation up to that required to pass the canula, ensure you know the correlation between the size of your dilators and your cannula. The aim is to dilate the internal os; you do not need to pass the dilator into the upper uterine cavity. It is important to follow the cervical canal and not create a false passage, this is done by not forcing the dilator. If there is a difficulty with dilation, then consider: dilating the external os first especially if you do not have Pratt dilators; using an os finder; using ultrasound to assist; stopping the procedure and giving more time or an alternative cervical priming preparation.

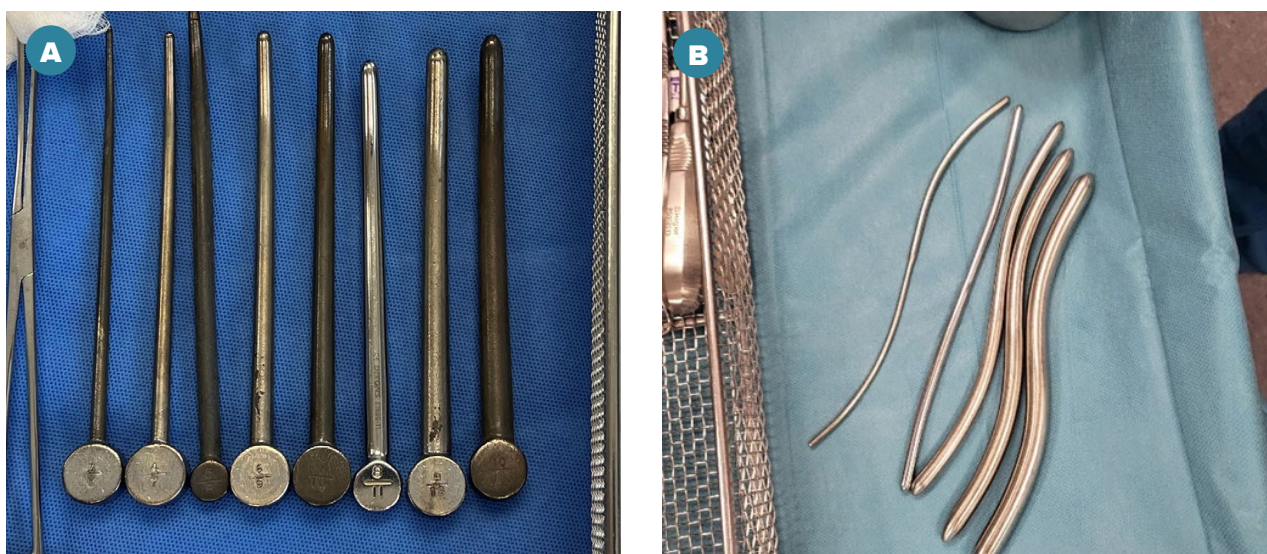


Figure 8. A) Hawkin-ambler dilators

B) Double-ended dilators – these are held at the midpoint.

5. Aspiration of uterine contents

Once the cannula of the appropriate size passes through the internal os and is located at the fundus the cannula suction can be applied with either the MVA or the EVA tubing.

You must be familiar with the MVA or EVA equipment you are using before commencing abortion training. To review the skills health practitioners need to demonstrate, and the training required to provide culturally safe, consistent, high-quality early surgical abortion care, see “[Early surgical abortion: Qualified health practitioner training principles](#)”. We recommend that you arrange a [PAPAYA workshop](#) with your supervisor to become comfortable with the equipment you will be using in your environment.

Once the vacuum is activated, the cannula is manoeuvred in the uterus with a combination of rotation and in and out movements between the fundus and internal os. Avoid suction movement along the endocervical canal.

When the syringe fills or tissue stops entering the syringe or tubing, remove the cannula to empty the syringe and reactivate the suction. Earlier gestations ≤ 8 weeks have less tissue and may only require one pass. You can leave the cannula in the uterus whilst emptying the MVA. Sometimes a small amount of tissue can block suction by clogging the cannula opening. Often this tissue is a gestational sac. A sterile gauze or forceps can be used to wipe the cannula clean keeping the tissue for evaluation.

Ensure you keep the end of the cannula sterile.

Once the uterus is empty, you will feel a gritty texture when moving the cannula, along with the feeling that the uterus is contracting resulting in the cannula becoming harder to move. It may become more uncomfortable for the person at this time. Avoid unnecessary passes with the cannula once you think the cavity is empty. If you use point of care ultrasound it may be used at this time to confirm the cavity is empty.

If the texture feels smooth, it may be that the uterus is not yet empty or that the cannula is clogged. In this circumstance it is important to look at the end of the cannula to remove possible clogging. You may need forceps to remove this.

Once the aspiration is felt to be complete turn off the suction before removing the cannula, this avoids a sucking sound that can be distressing for people. Remove the tenaculum and examine the cervix for bleeding and trauma. A small amount of bleeding at the tenaculum site is normal and usually resolves with pressure, either bimanual or it can be compressed with sponge forceps.

Before finishing check your plan for antibiotic prophylaxis, contraception and anti-D and perform or facilitate a karakia if this has been planned.

All people having an abortion should be offered contraception and this should have been planned during the consultation and decision-making process. All long-acting reversible contraceptives (LARCs) can be fitted at the time of the early surgical abortion except intrauterine pregnancy (IUC) in the situation of active intrauterine infection. There is a reported increase in expulsion with IUC insertion at the time of an abortion; this is within acceptable limits to recommend not delaying insertion. Medroxyprogesterone acetate (Depo-Provera) injection can be given immediately and Combined Oral Contraceptive Pill (COCP)/Progesterone-only Contraceptive Pill (POP) should be started within 5 days of the procedure (ideally the next day).

6. Ensure that the abortion is complete

[New Zealand Aotearoa Abortion Clinical Guideline 2021](#) recommendation 3.1.4 states “*Ensure that every abortion is complete. This can be done by clinical assessment of the uterus, visual inspection of products of conception or ultrasound scan.*”

- *If the gestation is < 7 weeks, visually inspect the aspirated tissue; if there is doubt that the gestational sac and chorionic villi are clearly visualised, ensure follow-up with serum β -hCG or ultrasound scan to exclude ongoing pregnancy or ectopic pregnancy.”*

You can ensure the abortion is complete in a number of ways:

1. By use of [point of care ultrasound](#) confirming the gestational sac has been evacuated
2. By clinical assessment of the uterus, with visual inspection of the aspirated tissue under 7 weeks
3. It may be necessary in early gestations < 7 weeks to perform a serum β -hCG follow up especially if no gestational sac was seen on ultrasound prior to the procedure i.e. there was a pregnancy of unknown location (for further information, click [here](#))

Visual inspection of the tissue is done by floating the evacuated tissue in saline in a clear dish over a light box (Figure 9).

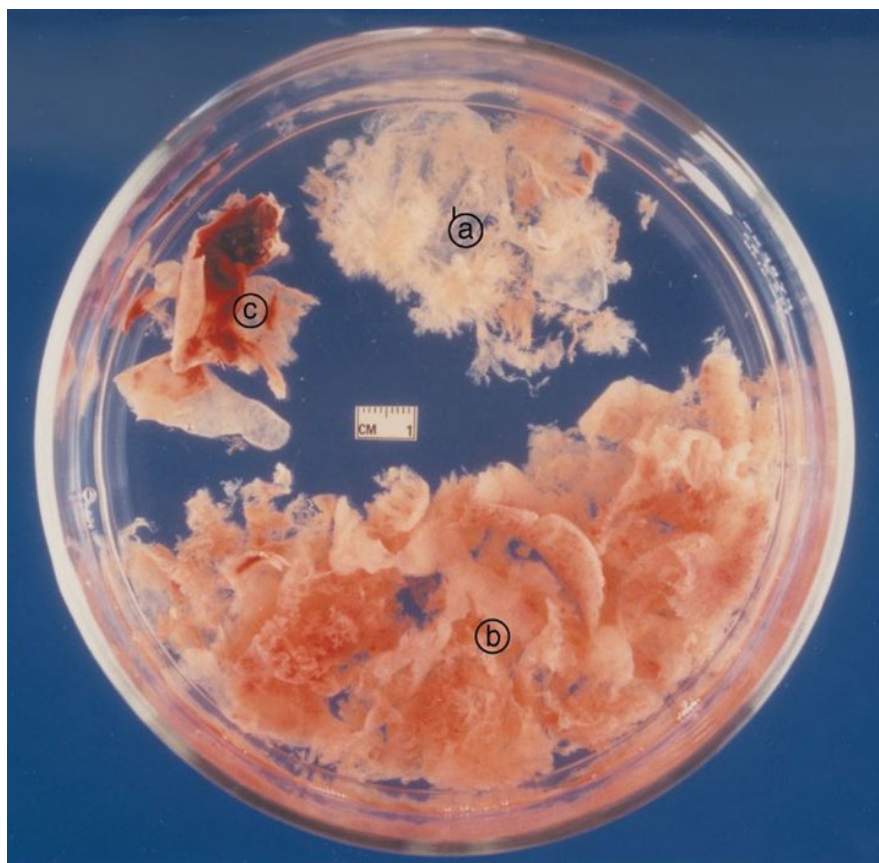


Figure 9. Products of conception aspirated from an 8-week gestation pregnancy. A) thin gestational sac tissue with villi. B) heavier, reddish-brown or grey decidual tissue and C) decidua capsularis, an opaque sheet with haemorrhagic areas.

Treat all products of conception with respect and ensure that for those people who have requested it that their tissue is returned to them. Ideally, we would have culturally safe waterproof containers that decompose when returned to the ground available for the products of conception. It is critical to use a suitable container and to ensure that people know what to expect if they look inside. **DO NOT USE FOOD CONTAINERS.** Sometimes people will change their mind and ask to have tissue returned after the procedure – be prepared and label all tissue in a confidential and secure manner.

7. Report the abortion

To comply with the [Contraception, Sterilisation, and Abortion Act 1977](#) abortion service providers must submit a notification to the Ministry of Health within one month of an abortion. The Ministry of Health collates the national data on abortions and uses this to report on issues such as timely and equitable access to abortion services.

There is a guide provided on the [Ministry of Health Abortion reporting webpage](#) to completing and submitting the notification report, via an online [form](#). A PDF version of the form is also available on request.

6. MANAGEMENT OF COMPLICATIONS AND AFTERCARE

Management of complications

Complications of an early surgical abortion using vacuum aspiration are uncommon. They include: anaphylaxis, cervical shock, haemorrhage < 1%, incomplete evacuation (often not diagnosed at the time), ongoing pregnancy and perforation of the uterus. All facilities providing early surgical abortion care must have a management plan for these complications prior to commencing provision of services. For example plans that can be used as templates, [click here](#).

Clinics should have hospital transfer plans outlining the means of communication and transport and the protocol for emergency transfer of care.

Anaphylaxis: follow the Australian and New Zealand Committee on Resuscitation (ANZCOR) [guideline](#).

Cervical shock: stimulation of the vagal nerve with cervical dilatation/stimulation can result in a significant reduction in heart rate leading to bradycardia and thus low blood pressure presenting as loss of consciousness and if there is inadequate cerebral perfusion a self-limiting seizure as the bradycardia resolves.

Symptoms and signs of vasovagal syncope include complaints of feeling faint/dizzy/lightheaded, a slow pulse rate < 60 bpm, low blood pressure, pale appearance with sweating, nausea and less commonly vomiting followed by a loss of consciousness.

Use a [resuscitation approach ABCDE](#) – and STOP any instrumentation of the cervix.

Bradycardia associated with cervical shock is managed with atropine administered intravenously 500 – 600 micrograms (comes in 600 microgram 1 mL vials in New Zealand) repeated as necessary every 3 – 5 minutes up to a total dose of 3 micrograms. Call for emergency assistance after two doses.

Haemorrhage: excessive bleeding during an early surgical abortion should be managed by emptying the products of conception from the uterus to enable the uterus to contract.

Ecbolics can be used to make the uterus contract once the uterus is empty if bleeding continues. As oxytocin receptors do not develop early in pregnancy ergometrine intramuscular (IM) is more effective than oxytocin IM/IV however ergometrine can precipitate vomiting and hypertension. Misoprostol sub-lingual (SL)/rectal (PR) administration and [Carboprost](#) IM are also effective. You must be familiar with the doses (Table 6) and contraindications to all medicines you are prescribing. If bleeding does not resolve then consider if the cause is an injury to the uterus or cervix; these require surgical management. For patients who have contraindications to ecbolics (N.B. These cases should be performed in a hospital with an experienced anaesthetist present), bimanual compression and insertion of a foley catheter with 20 – 30mL of saline in the balloon to tamponade the internal walls of the uterus can be an alternative. Timing of removal should be based on clinical environment and resolution of haemorrhage.

Incomplete evacuation: if the uterus is not feeling empty and you have point of care ultrasound then complete the procedure under ultrasound. Always consider perforation as a possible cause. Sometimes procedures take longer than expected and as long as you are in the cavity and there are products of conception being evacuated continue.

Perforation of the uterus is important to diagnose. Do not put suction on until you are at the fundus. If you do not feel the fundus, STOP and follow your pathway for perforation management. If you have a point of care ultrasound keep the canula in place and assess where the canula is and take an image. Perforation of the uterus is an emergency; you must follow your preprepared emergency pathway for management.

Tables 6, 7 and 8 provide an overview of the medicines and management approaches used in emergency situations relating to early surgical abortion.

Table 6. Uterotonics for haemorrhage following early surgical abortion.

Medicine	Dose	Comments
Ergometrine	0.2 mg IM	Use with caution in patients with hypertension
Misoprostol	800 micrograms SL or 800 – 1,000 micrograms PR	Given a rapid time to peak concentration, SL or buccal may be preferable to PR if possible. PR uses the same medicine/formulation as SL, administered rectally.
Carboprost*	0.25 mg IM, may repeat at 15 – 90 minute intervals to max of 2 mg	Use with caution in asthmatic patients due to increased risk of bronchospasm. Not available on PSO.
Oxytocin	10 units IM, or 10 – 40 units IV in crystalloid, or 10 units IVP	More uterine oxytocin receptors > 20 weeks

* Some medicines are available on [PSO](#). Medicines marked with an asterisk are recommended but not available on PSO.

Table 7. Emergency medicines used for managing complications associated with early surgical abortion.

Medicine	Dose	Used for:
Atropine sulfate	600 micrograms/mL IV every 3 – 5 minutes. Maximum dose 3 mg	For prolonged symptomatic bradycardia with vasovagal CALL FOR EMERGENCY HELP if it persists after the second dose
Tranexamic acid*	1 g IV	For control of haemorrhage whilst transferring to emergency care. Not available on PSO.
Adrenalin 1:1000	0.5 mg (1 mg/mL) IM. Repeat doses at 5 – 15 minute intervals as necessary.	For anaphylaxis. Preferable to inject in mid-anterolateral thigh
Naloxone	0.1 mg – 0.2 mg (0.25 – 0.50 mL) IV/IM every 2 – 3 minutes. Maximum dose 0.4 mg.	Opiate antidote
Flumazenil*	0.2 mg (2 mL) IV every minute. Maximum dose 1 mg	Benzodiazepine antidote. Not available on PSO.

* Some medicines are available on [PSO](#). Medicines marked with an asterisk are recommended but not available on PSO.

Table 8. Emergency management chart for complications associated with early surgical abortion.

MAINTAIN CLIENT SAFETY ● CALL FOR HELP ● ASSESS PATIENT CONDITION					
<ul style="list-style-type: none"> Recent exposure Hives Coughing/ sneezing Low pulse Flushed / agitated More severe: shortness of breath 	<ul style="list-style-type: none"> High pulse Cool, clammy skin Low blood pressure Perioral cyanosis Onset over minutes or hours Rare syncope 	<ul style="list-style-type: none"> Low pulse Low blood pressure Pale, sweaty Cool, clammy skin Nausea, vomiting May lose consciousness Sudden onset 	<ul style="list-style-type: none"> Unresponsive No pulse Absent respirations 	<ul style="list-style-type: none"> Rhythmic limbs, jaw movements Pulse > 60 bpm Possible incontinence 	<ul style="list-style-type: none"> Anxious Rapid, shallow breathing Normal pulse Numbness Carpal-pedal spasm
↓	↓	↓	↓	↓	↓
ANAPHYLAXIS	HYPOVOLEMIC SHOCK	VASOVAGAL REACTION (Neurogenic Shock)	CARDIO-PULMONARY ARREST	SEIZURE	HYPER-VENTILATION
<ul style="list-style-type: none"> Adrenaline mg 1:1000 0.5 mL IM Oxygen Instigate your emergency plan 	<ul style="list-style-type: none"> Instigate your emergency plan Elevate legs Place large bore IV, infuse NS rapidly 	<ul style="list-style-type: none"> Keep supine Elevate legs Cool cloth/ice pack Oxygen 	<ul style="list-style-type: none"> Instigate your emergency plan CALL FOR HELP Follow NZRC arrest guidelines 	<ul style="list-style-type: none"> Prevent injury Lateral position to protect airway Let seizure run its course Oxygen 	<ul style="list-style-type: none"> Reassure patient Slow-count breathing Place paper bag over mouth to rebreathe CO₂
↓	↓	↓	↓	↓	↓
If low BP: <ul style="list-style-type: none"> Start IV, lactated ringers solution or normal saline 	Evaluate cause and manage Start 2nd IV line	If persistent symptomatic bradycardia: <ul style="list-style-type: none"> Give Atropine 600 micrograms IV 		If continues > 2 minutes, Instigate emergency plan Give Midazolam 10 mg IM	Ensure patient is stable before leaving the clinic
		↓		↓	
		Instigate your emergency plan		Repeat once within 5 minutes, if needed	

After care/Poroaki

New Zealand Aotearoa Abortion Clinical Guideline 2021:

- Recommendation 5.2.1: “Following abortion, give verbal and written information on what to expect. See Table 1: Information for people considering an abortion in Appendix B.”
- Recommendation 5.4.1: “Consider selective follow-up with their health practitioner for people who:
 - are at risk of (or develop) complications
 - still need contraception
 - may need ongoing mental health support
 - are living with complexities
 - are young, or
 - request follow-up.”

Ensuring the person has all the support structures they need is important in abortion care. This includes informing them of the availability of counselling support services.

Provide a letter detailing their care to the person and what to expect and when and how to seek further advice. Many systems automatically upload electronic discharge letters to general practitioners. You must have consent from the person to share their health information with other health providers and many people will choose not to share their abortion information, and this must be facilitated.

The majority of people will not need any further intervention after an early surgical abortion, but they must be provided with information on what to expect and when to seek further advice or emergency care. For a patient information leaflet, click [here](#).

Advise the person that they:

- Can expect to bleed off and on for up to two weeks
- May have cramps and can pass blood clots for up to two weeks; ibuprofen can help
- There is no evidence that it is harmful to use a menstrual cup or tampon after an abortion, but [pads.. make it much easier to see how heavy the bleeding is](#)
- Should consult a health practitioner if they soak more than two pads in 20 minutes for more than two hours, if they have increasing heavy bleeding or pain, or if they develop a fever.

Table 9 lists potential post-procedural medicines that can be considered for analgesia for patients.

Table 9. Post-procedure medicines following early surgical abortion.

Medication	Dose	Comments
Codeine*	30 – 60 mg, every four hours. Maximum dose 240 mg every 24 hours.	Equivalent medicines can also be used. Not available on PSO. Give < 5 day supply.
Tramadol*	50 – 100 mg (IR), every four hours. Maximum dose 400mg every 24 hours.	Equivalent medications can also be used. Not available on PSO. Give < 5 day supply.
Paracetamol	1 g, four times daily, as needed. Maximum 4 g every 24 hours.	Give 2 weeks supply
Ibuprofen*	400 mg, four times daily, as needed. Maximum dose 2.4 g every 24 hours.	Equivalent medicines can also be used. Not available on PSO. Give 2 weeks supply.

* Some medicines are available on [PSO](#). Medicines marked with an asterisk are recommended but not available on PSO.

Some people having an abortion may request or require follow-up and this must be facilitated. Depending on who and where the abortion care is being provided the follow up may be with the abortion provider or arranged with a more appropriate health practitioner, for example their general practitioner if they are not the provider.

7. PATIENT COMMUNICATION AND SUPPORT

General patient safety and support

Health practitioners must ensure that they are able to provide abortion care for people in a safe environment where they are treated with dignity and respect by all personnel when undergoing an early surgical abortion. High-quality, equitable abortion services must be available for Māori framed by Te Tiriti o Waitangi. The planning and preparation stages for provision of early surgical abortion should include special consideration of how the service will best provide care to rangatahi/youth, people with disabilities and members of the rainbow community. The clinical setting for the ESA procedure should also be considered from the patient experience perspective; for example by providing a comfortable surface, ensuring privacy, an even temperature and good lighting for the patient. Some patients may choose to listen to music during the procedure.

[New Zealand Aotearoa Abortion Clinical Guideline 2021](#), recommendation 5.2.1 states: “Following abortion, give verbal and written information on what to expect. See Table 1: Information for people considering an abortion in [Appendix B](#)”.

It is important that people having an early surgical abortion are fully informed about the procedure, and what to expect. They should participate in decisions made about their care, for example the pain management used, anti-D and antibiotic prophylaxis and the management of the products of conception, before giving their informed consent to the procedure going ahead.

Patient centred information provision

The [DECIDE website](#) is recommended as a good source of information for people pre- and post-abortion. An example of a single page information sheet for people to take with them following an early surgical abortion is available for [download here](#).

Counselling

[New Zealand Aotearoa Abortion Clinical Guideline 2021](#), recommendation 5.2.2 states: “Advise people to seek support if they need it, and how to access counselling and/or social supports”.

Health practitioners must advise patients that abortion counselling is available on request throughout the process of their abortion and afterwards if requested, at no charge to them.

8. REVIEW OF KEY LEARNING POINTS

1. To provide culturally safe and patient-centred early surgical abortion care, abortion service providers should be able to:
 - Communicate clearly with the patient, and any other whānau/people the patient chooses to involve in their care, to explain the procedure and ensure informed consent is given
 - Ensure the patient is aware that counselling is available to them before and after an abortion on request
 - Provide further information and referrals where necessary for alternative abortion or pregnancy pathways; for example if the patient is unsure or chooses not to have an early surgical abortion, or requests pain management requiring hospital level care
 - Take a focused medical history to find out if the patient has any relevant medical history including use of medicines and allergies
 - Have a culturally safe conversation with the patient about their plan for the products of conception, including transporting them home and the service's management of them
 - Offer anti-D prophylaxis to rhesus negative patients if gestation is greater than 10 weeks (still consider offering it to patients if under 10 weeks having an early surgical abortion)
 - Advise the patient of post-abortion contraceptive options and be prepared to provide their choice of contraception including IUC/implant if this is requested
2. Support the patient receiving early surgical abortion through knowledge and application of pain management options:
 - Cervical priming
 - Pre-operative NSAIDs
 - Local anaesthesia
 - Conscious sedation
 - Anaesthetic assistance is required beyond conscious sedation
3. Lower infection risk resulting from early surgical abortion:
 - Ensure all equipment to be used is sterilised
 - Use the “no-touch” technique throughout the procedure (do not let equipment come in contact with the vagina)
 - Administer prophylactic antibiotics post-procedure
4. Performing an early surgical abortion, including managing complications:
 - Confirm all personnel, equipment and supplies are ready for the procedure
 - Pre-procedure: give cervical priming and analgesic medicines
 - Early surgical abortion steps:
 - Ensure the person is positioned comfortably, and has venous access
 - Begin sedation if using
 - Perform bimanual examination
 - Insert speculum and exam and clean cervix
 - Apply local anaesthetic to the cervix whilst stabilising the cervix
 - Dilate the cervix if required
 - Aspirate the uterine contents by MVA up to 12 weeks or EVA
 - Manage any immediate complications, e.g. cervical dilation difficulties, poor aspiration of uterine contents, blockage of cannula, excessive bleeding, incomplete abortion, vasovagal reaction, allergic reaction
 - Confirm that the abortion is complete by:
 - Visual inspection of products of conception
 - Ultrasound of the uterus
 - Clinical assessment of the uterus

- Provide IUC/implant/Depo-Provera injection, if requested
- Administer antibiotic prophylaxis and anti-D immunoglobulin if indicated
- If there are inadequate products of conception, investigate for continuing, ectopic or molar pregnancy
- Manage any delayed complications including bleeding, infection or ongoing pregnancy
- Complete all documentation, including a personal procedure log and the Manatu Hauora Notification of Abortion Form, available [here](#).

9. QUIZ ON EARLY SURGICAL ABORTION

 [Click here to access a quiz](#) and test your understanding of the concepts discussed in the module.

N.B. The module 1 quiz must be completed before attempting the module 3 quiz.

10. FURTHER READING AND RESOURCES

Paul et al (eds). Management of Unintended and Abnormal Pregnancy: Comprehensive Abortion Care. Wiley-Blackwell (2009). Print ISBN:9781405176965 | Online ISBN:9781444313031 | [DOI:10.1002/9781444313031](https://doi.org/10.1002/9781444313031)

- An e-book version (with downloadable pdfs for single chapters or as a whole) is available through the libraries at the University of Otago and the University of Auckland
- Free access is available to a number of colour plates from Paul et al (2009). For example, at this link: <https://onlinelibrary.wiley.com/doi/10.1002/9781444313031.ins>.

Kerns, J.L., Brown, K., Nippita, S., Steinauer, J. (2023). Society of Family Planning Clinical Recommendation: Management of hemorrhage at the time of abortion. Contraception. Available online 20 September 2023, 110292. Available from <https://doi.org/10.1016/j.contraception.2023.110292>

International online resources

Ipas produce several concise review articles on topics related to abortion care under their 'Clinical Updates in Reproductive Health' series, available here: <https://www.ipas.org/clinical-update/english/introduction/>

- They also have produced several short videos for health workers, including one on processing the Ipas MVA Plus instrument for reuse, available here: <https://www.ipas.org/resource/abortion-care-videos/#abortion-care-videos-for-health-workers>

The Bixby Center for Global Reproductive Health at the University of California, San Francisco (UCSF) produces many educational resources for abortion healthcare providers through its [Training in Early Abortion for Comprehensive Healthcare \(TEACH\) program](#).

- Their training tools include [materials and instructions for running workshops](#) to simulate emergency complications of early surgical abortion

The Center for Reproductive Health Education In Family Medicine (RHEDI) at the Department of Family and Social Medicine, Montefiore Medical Center, New York has created training resources to support practitioners to provide patient-centred abortion care as a part of family medicine in the US.

- Their resources include an [Interactive Tray for Manual Vacuum Aspiration tool](#) and a series of [aspiration abortion training videos](#)

Innovating Education in Reproductive Health is another programme within the UCSF Bixby Center and is a part of UCSF's Department of Obstetrics, Gynecology & Reproductive Sciences. They curate and produce resources, including a video series, on topics in reproductive health, including abortion.

- The narrated animated video on early surgical abortion within this module is from the [Innovating Education Abortion Course](#), and used here with permission

11. FEEDBACK: NEW ZEALAND COLLEGE OF SEXUAL & REPRODUCTIVE HEALTH ABORTION TRAINING

Your feedback is invaluable to us to assist in improving the course. We would appreciate your assistance by completing [the short form on the Abortion Training website feedback page](#).