MVA (manual vacuum aspiration)

Target audience	Maternity and gynaecology staff.
Patient group	Those undergoing MVA (manual vacuum aspiration). The term 'women/pregnant people' is used within this document to include women, girls, trans men, and non-binary and intersex people, who are pregnant or have recently been pregnant.

Summary

Patient selection:

The inclusion criteria are:

- missed miscarriage up to 10 weeks of gestation.
- termination of pregnancy up to 10 weeks of gestation.
- unsuccessful medical management of miscarriage / unsuccessful medical termination of pregnancy (up to 10 weeks of gestation).
- retained products of conception following miscarriage or termination of pregnancy.

Contraindications to MVA:

- over 12 weeks of gestation.
- allergy to local anaesthetic drugs.

Cautions:

- congenital or acquired uterine anomalies – may require ultrasound scan guidance.
- any previous significant uterine surgery – eg. three or more previous caesarean births, those with 'classical' uterine incisions, previous myomectomy etc.
- multiple pregnancy.
- molar pregnancy.
- coagulation disorders and recent/current use of anticoagulant therapy.
- acute pelvic infection – 24 hours antibiotic therapy should be considered prior to MVA procedure.
- severe anaemia < 8.0g/L – consider correction pre-procedure if stable.
- severe anxiety or history of poor tolerance of speculum examination.

Contents

Introduction

This guidline should be used in conjunction with the following documents:

- **MVA integrated care pathway** – http://firstport2/staff-support/practice-development-centre/nmahp-clinical-records/Documents/Integrated%20Care%20Pathway%20-%20Manual%20Vacuum%20Aspiration%20(MVA)%20SAMPLE.pdf.
- **MVA patient information leaflet** – http://firstport2/resources/patient-info-leaflets/Documents/XS%20PIL.MANVAC.24_05439.L.pdf.

MVA is offered within NHS Lanarkshire to patients who have been diagnosed as having a miscarriage, those who are requesting surgical termination of pregnancy and those who have retained products of conception (RPOC). The procedure is available within the Early Pregnancy Assessment Service (EPAS) and the Women's Health Unit (WHU). It may also be applied in the emergency setting to quickly empty the uterus of RPOC following birth.

MVA is a method of surgical uterine evacuation, which is recommended by the National Institute for Health and Care Excellence (NICE) and is supported by the Royal College of Obstetricians and Gynaecologists (RCOG). It has been used successfully worldwide for over 40 years, and has been shown to be safe and effective, with high levels of reported patient satisfaction. It is a straightforward procedure that is performed by appropriately-trained doctors and midwives using a handheld suction device and is usually performed under local anaesthetic in an outpatient setting. The risks are similar (though possibly lower) to those reported with traditional suction evacuation of the uterus performed in theatre, however MVA avoids the risks and delays associated with general anaesthesia, and is more cost-effective.

If a patient requests MVA who has a contraindication or caution as detailed above, or a pre-existing unstable medical comorbidity (eg. severe asthma), please discuss the case with a senior clinician prior to offering treatment.

Chapter 1 – aims

1.1. This document is for all staff working in EPAS, the WHU and those providing emergency care in an obstetric or gynaecological setting, to provide evidence-based guidance in the management of MVA for uterine evacuation as treatment of miscarriage, termination of pregnancy, and as management of RPOC.

1.2. This version supersedes any previous versions of this document.

Chapter 2 – guidance

2.1. The procedure, risks and alternatives should be explained to the patient and all questions should be answered.

2.2. A patient information leaflet should be provided (see link above).

2.3. Written informed consent must be obtained, as should a Sensitive Disposal 7 (SD7) form for the sensitive disposal of pregnancy tissue.

2.4. The medications required for the procedure should be discussed. Those who can self-administer the medications at home should be encouraged to do so, and prepacks should be made available.

The medications required for MVA are:

- misoprostol 400 micrograms to be taken vaginally or sublingually 2 hours before the procedure.
- antibiotic prophylaxis to commence 1 hour before the procedure. This should be:
    - First-line – oral doxycycline 100mg twice daily for 3 days (those who test positive for chlamydia should receive 7 days).
    - Second-line – once-off metronidazole 1g per rectum **AND** once-off azithromycin 1g orally (this regimen can be used if compliance is a concern).

2.5. Pain relief options during the procedure should be discussed. The patient should be advised to take analgesia 1 hour prior to their appointment at the clinic/unit. Suitable options include:

- paracetamol 1g orally **AND** ibuprofen 800mg orally (check patient's weight and give half these doses if weight is < 50kg) **or**
- co-codamol 8/500mg (1-2 tablets) orally (check patient's weight as for paracetamol above).

- entonox should be made available to the patient throughout the procedure.
- Para-cervical local anaesthetic will be provided unless patient has an allergy or declines.

2.6. The woman/pregnant person should be advised that a health professional will be at their side during the procedure providing reassurance and support.

2.7. Medical history, physical examination and laboratory evaluation:

2.7.1. Complete admission documentation, perform baseline observations and record these on a paper Modified Early Obstetric Warning Score (MEOWS) chart.

2.7.2. Any patient with a complex medical history or those whose suitability for treatment with MVA is not clear, should have their case referred to MVA practitioners for multidisciplinary team (MDT) discussion in order to plan their procedure safely.

2.7.3. Pre-procedure blood testing is NOT typically undertaken prior to MVA unless:

- there is a recent history of anaemia, or concern about anaemia based on clinical signs and symptoms.
- rhesus status is unknown.

2.8. Treatment:

2.8.1. **Patient preparation:**

2.8.1.1. Before the treatment begins, the patient should be introduced to the staff, the procedure should be reviewed with them, including the use and benefits of Entonox and any questions she has should be answered.

2.8.1.2. The treatment practitioner should review the patient's medical history, gestational age (ie. ultrasound) and confirm consent.

2.8.1.3. The patient should be asked to void shortly before the procedure; urinary bladder catheterisation is not recommended.

2.8.1.4. The patient should be allowed some privacy to remove their underwear, undress from the 'waist down' or be provided with a gown, whichever is their preference.

2.8.1.5. The patient should be assisted onto the treatment couch and their legs put into the supports. The hips should be flexed to about 45° and care should be taken in maintaining symmetry of leg positions.

2.8.1.6. The patient should be kept covered until the practitioner is ready to proceed.

2.8.1.7. An Entonox mouthpiece should be offered to the patient and instructions on its use provided.

2.8.2. **Uterine evacuation**

2.8.2.1. A bimanual pelvic examination can be performed to assess the uterine size and position or the ultrasound reviewed to gain this information.

2.8.2.2. In cases of known uterine anomaly, large fibroids, or an ante-retroflexed uterus, the use of continuous transabdominal ultrasound guidance during the procedure may be helpful.

2.8.2.3. After introduction of a vaginal speculum, the vagina and cervix should be cleaned.

2.8.2.4. A tenaculum may be placed on the cervix to stabilise and align the cervical canal and uterine cavity during the procedure. Injection of mepivacaine hydrochloride (scandonest 3%) at the site where the tenaculum will be placed can reduce discomfort from applying the instrument. For adults, the maximum recommended dose is 4.4mg/kg of body weight with an absolute maximum recommended dose of 300mg for individuals weighing 70kg or more.

2.8.2.5. A deep para-cervical block of scandonest 3% or equivalent is recommended: see above statement for dosage instructions.

2.8.2.6. The appropriate cannula and aspirator should be chosen. MVA cannulae are made of rigid plastic and come in a range of sizes up to 12mm in diameter. Typically, the size of the cannula used would match the gestational age in weeks. However, practitioners are often able to successfully and completely evacuate the uterus with cannula of smaller diameter: this may avoid the need for cervical dilation and may be more comfortable for the woman/pregnant person. In the emergency setting, the MVA equipment pack is available in ward 24 and includes a selection of cannulae.

2.8.2.7. If dilatation is necessary, the cervix should be dilated to the minimum necessary to insert a cannula of the appropriate size.

2.8.2.8. Insert the cannula gently through the cervix into the uterine cavity, just beyond the internal os; rotating the cannula with gentle pressure often helps ease insertion.

2.8.2.9. Attach the charged 60ml self-locking syringe (aspirator) to the cannula. Make sure that the cannula does not move forward into the uterus as you attach the syringe. Alternatively, the cannula could be attached to the charged aspirator syringe before inserting the cannula into the cervical os.

2.8.2.10. Never grasp the syringe by the plunger arms after the syringe has been charged.

2.8.2.11. Advance the cannula until it gently touches the fundus and then withdraw it slightly.

2.8.2.12. Open the valve so that the vacuum is applied to the uterine cavity.

2.8.2.13. Move the cannula gently back and forth from the fundus to the internal cervical os while rotating it to aspirate all sections of the uterus.

2.8.2.14. Withdrawing the cannula apertures beyond the cervical os will cause the vacuum to be lost. If the cannula becomes blocked and must be removed or if it passes the os accidentally, the aspirator must be emptied and 'recharged'.

2.8.2.15. The aspiration process is complete when no further tissue is seen passing through the cannula. Other signs of complete aspiration are when pink foam is seen passing through the cannula, a gritty sensation is felt as the cannula passes over the surface of the evacuated uterus, and the uterus contracts around the cannula.

2.8.2.16. Typically, the vaginal speculum will be removed prior to examination of the aspirate. If there is any concern regarding completion of the aspiration, the patient should remain in the treatment room until the products have been examined.

2.8.2.17. A transabdominal or transvaginal scan may now be performed and documentation of endometrial appearance and thickness made. To be deemed a success, the absence of a gestation sac (if previously seen) and endometrial thickness of less than 15mm would be expected.

2.8.2.18. Sharps, swabs and instruments should be counted and disposed of appropriately with all sharps discarded in an appropriate sharps bin.

2.8.3. **Tissue examination**

2.8.3.1. The evacuated tissue must be examined.

2.8.3.2. Empty the contents of the evacuation into an appropriate container by removing the cannula, releasing the buttons if not depressed, and gently pushing the plunger completely into the cylinder. Do not push aspirated contents through the cannula.

2.8.3.3. Tissue may only be viewed directly in the container into which it was emptied.

2.8.3.4. All tissue is sent for histological evaluation following miscarriage (unless patient declines) accompanied by the relevant sensitive disposal documentation.

2.8.4. **Post-procedure care**

2.8.4.1. As a minimum, one set of post-procedure observations should be taken and recorded on the paper MEOWS chart.

2.8.4.2. Refreshments are offered to the patient at an appropriate time.

2.8.4.3. Check patient's rhesus status and if non-sensitised rhesus negative, administer anti-D immunoglobulin.

2.8.4.4. When the patient is fully recovered, they can be discharged by nursing or midwifery staff, usually 40 minutes following completion of the procedure.

2.9. **Duration of stay**

Procedure duration is typically 15-20 minutes and recovery time 30-40 minutes.

2.10. **Antibiotic prophylaxis**

Antibiotic prophylaxis should be provided to all patients undergoing MVA. Oral doxycycline 100mg twice daily for 3 days is the preferred option, with the first dose administered 1 hour pre-procedure. Those who test positive for chlamydia should

receive 7 days treatment. An alternative regimen of metronidazole 1g per rectum and oral azithromycin 1g, both administered 1 hour pre-procedure can also be used and may be the preferred option if there are concerns about patient compliance.

2.11 **Contraception**

2.11.1 All patients require a sensitive discussion regarding contraception and, if desired, a contraceptive plan should be initiated prior to leaving the unit as ovulation may occur as early as 10 days following a MVA procedure.

- Hormonal methods such as injectables, the oral contraceptive pill and the contraceptive patch can be started on the day of the MVA procedure or the next day provided the procedure is deemed successful.
- Implants and intrauterine devices can be placed immediately after an uncomplicated procedure.

2.11.2 If the patient cannot be commenced on a contraceptive method immediately, they should be counselled regarding the use of barrier contraceptives and emergency contraception.

2.11.3 If contraception is declined as there is desire to conceive, patients should be advised to take preconceptual folic acid and vitamin D supplements.

2.11.4 Vaginal intercourse should be avoided for seven days following a MVA procedure to reduce the risk of infection.

2.12. **Aftercare**

A routine follow-up appointment is not necessary after an uncomplicated procedure.

A pregnancy test at three weeks is not recommended after MVA assuming the MVA practitioner confirms that products of conception have been removed and that the uterus is empty post-procedure.

2.13. **Persistent bleeding following discharge**

Written information should be provided on discharge that explains what is to be expected following MVA, along with relevant contact telephone numbers.

Persistent bleeding and/or cramping post-procedure may be a sign of retained products of conception or another complication. The patient should return to the EPAS for evaluation.

Chapter 3 – references

National Institute for Health and Clinical Excellence. Ectopic pregnancy and miscarriage: diagnosis and initial management. NICE Clinical Guideline NG126. Manchester: NICE; 2019.

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Chapter 4 – clinical governance

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