LEEDS TEACHING HOSPITALS NHS TRUST

Manual Vacuum Aspiration under Local Anaesthetic- Standard Operating Procedure

Ownership: Gynaecology Guideline Development Group
Publication date: January 2014
Next Review date: January 2015
Status Current. SOP MVA 1

Aims
- To standardise and optimise the process of performing manual vacuum aspiration in the outpatient setting

Background
- Manual vacuum aspiration (MVA) is a method of evacuating the uterine contents with a hand-held suction device and is an alternative to electric vacuum aspiration (EVA).
- It offers a quick and easy way to evacuate the uterine contents in women who wish to undergo surgical management under local anaesthetic, provided that are appropriate facilities and trained staff.
- It provides the woman and the clinician with an alternative to expectant, medical and standard electric surgical management of miscarriage under general anaesthetic.
- It is as safe and effective as Electric Vacuum Aspiration (EVA) and is also time and cost effective. Both MVA and EVA are recognized methods of surgical treatment in the NICE guidelines on management of miscarriage and ectopic pregnancy.
- Local anaesthesia, oral analgesia and ‘vocal local’ are commonly used for pain management.

Contraindications to MVA

MVA is relatively contraindicated where:
- The gestation greater than 12 weeks- due to increased risk of failure and major haemorrhage
- There is an allergy to local anaesthetic drugs. Occasionally MVA is performed without local anaesthetic e.g where no dilation is required and where pain scores are low, in an emergency or when local anaesthetic has been declined by the patient.
- Evidence of intrauterine/pelvic infection- The woman should receive at least 24 hours antibiotics prior to procedure.

MVA should be used with caution when:
- Women exhibit excessive anxiety about the procedure or local anesthetic techniques.
- Women have congenital or acquired uterine or cervical anomalies- ultrasound guidance may be required during the procedure. It may be more difficult to dilate the cervix or cannulate the uterine cavity, leading to more painful or longer procedure. These women should be considered for expectant or medical management as first line unless it is contraindicated.
(see guidelines for Management of Miscarriage).

- Women with bleeding disorders must be discussed with the Consultant Gynaecologist and a Haematologist before undertaking MVA.
- Anaemia Hb<8.0g/L. Anaemia should be corrected prior to treatment where possible.
- BMI >40kg/m² - The MVA suction and syringe may not be long enough to complete treatment in women with very large BMIs.

If a woman has any of the above contraindications / cautions, her case must be discussed with the consultant on call before being offered MVA.

**Pre-Treatment Procedures**

**Indications for MVA**

MVA may be offered to all women with the following as an alternative to EVA under general anaesthetic:
- a diagnosis of failed pregnancy up to 12+0 weeks gestation
- missed miscarriage
- incomplete miscarriage
- failed expectant or medical management of any of the above
- retained products of conception
- haematometra

**Provision of MVA service**

There are two options for providing MVAs to women:

- Where trained staff and appropriate facilities are immediately available, women wishing to have MVA should be booked into the next available acute gynaecology clinic appointment and the procedure should be performed by the on call gynaecology doctor at a time that suits both the on call clinician and the woman. Women can booked onto this clinic via the early pregnancy unit.

- Where trained staff and appropriate facilities are NOT immediately available, women wanting MVA should be referred to the Early Pregnancy Unit (EPU) to be booked for an MVA. Two ‘elective’ MVA slots are available through the acute gynaecology clinic on most Wednesday afternoons.

Women should be seen in EPAU or GATU for counseling prior to referral to have MVA. This includes women who are diagnosed with a miscarriage outside of the trust.

Where this is not practical, and the woman has been reviewed by an obstetrician, gynaecologist, midwife or trained gynaecology nurse working within the trust, a referral may be made by telephoning EPU and sending a faxed referral letter (appendix 5) and copy of ultrasound scan report.

The following areas can refer in this manner:
  - Antenatal clinics in LTHT
  - Recurrent miscarriage
  - Fertility control clinic (where a miscarriage has been diagnosed)
  - Ultrasound departments in LTHT (after the woman has been counselled by a trained
The woman must be given a patient information leaflet on Manual Vacuum Aspiration or referred to the link for the patient leaflet which is located on the trust website:

- In addition, in emergency situations such as incomplete miscarriage with heavy bleeding and haemodynamic compromise, manual vacuum aspiration may be used with the woman’s consent by a health professional trained in its use.

**Pre-procedure requirements**

The following must be ensured when listing for MVA in the acute gynaecology clinic:

- Contraindications and indications for treatment should be noted (hyperlink to Management of Miscarriage Guideline)

- A written consent form should be completed. A ‘preprinted surgical management of miscarriage consent form can be used’. Women must be made aware of the temporary discomfort associated with injecting the local anaesthetic and cramping pain experienced at the end of the procedure. They must be warned of the sucking sound caused by the vacuum.

- The doctor on call should complete a prescription form. Taking allergy status into account, the following should be prescribed:
  - Analgesia- paracetamol 1g and codeine phosphate 30mg PO
  - Antiemetic- cyclizine 50mg
  - Cervical priming agent- misoprostol 600 mcg.

- The woman may eat and drink as normal. Fasting IS NOT REQUIRED.

- On the day of treatment premedication must be given 1-2 hours prior to treatment.

**Discuss the following with the woman:**

- Verbal and written information about the procedure. Patient leaflets on Miscarriage and MVA treatment are available online in the Acute Gynaeology Services microsite under ‘Your condition & treatment’ section.

- Pain control:
  - Pre-procedure oral pain relief
  - Intracervical local anaesthetic injection at start of procedure
  - ‘vocal local’

- Healthcare professional who will act as a ‘vocal local’- be at her side during the procedure to provide support and reassurance.

- Venous blood samples to be taken- FBC and Group and save- for haemoglobin level and rhesus
status (if not already known). Anti-D will be offered if she is rhesus negative.

- Vulvovaginal swabs will need to be taken prior to or on the day of their appointment prior to the procedure. These can be self-taken.

- All women should have 24 hour contact details for Early Pregnancy Unit/ Gynaecology assessment and treatment unit should there be any concerns prior to the scheduled procedure.

- A date, time and place for the MVA procedure should be given to the woman. The woman’s details should be entered into the acute gynaecology clinic appointment book and onto the PAS system. Ideally this appointment should be within 72 hours of her diagnosis.

**Treatment Day**

**Pre Procedure preparation**

- The patient’s history and ultrasound findings should be reviewed by the clinician performing the procedure.

- Ensure full blood count and group and rhesus status results are available and within acceptable limits.

- Take or confirm informed consent for MVA and ensure that there has not been any significant change in symptoms that may need further investigation before proceeding

- An initial set of observations (pulse and blood pressure) should be taken and recorded on the MVA treatment proforma (appendix 1.).

- Ensure preoperative medicines have been taken at least one hour before the procedure.

- The woman should be asked to void shortly before the procedure; urinary bladder catheterization is not recommended.

- The equipment should be prepared prior to the woman undressing for the procedure (appendix 2).

- Complete a checklist with the woman (appendix 3.)

- The woman should be allowed some privacy to remove her underwear, undress from “the waist down” or be provided with a gown.

- The woman should be placed onto a treatment couch in the lithotomy position and kept covered until procedure is about to start.

- Vulvovaginal swabs (VVS) for Chlamydia and Gonorrhoea should be performed if not already done.
Uterine Evacuation

- Wash and dry your hands, put on a waterproof apron and non-sterile gloves.

- Perform gentle bimanual examination to assess the size, consistency and position of the uterus, to check for tenderness and to determine if the cervix is dilated.

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

- Wash and dry your hands and put on sterile gloves

- Insert Cuscos speculum.

- Clean the vagina and cervix with an antiseptic solution. Remove any protruding products of conception and place into kidney bowl.

- Inject local anaesthetic using a dental needle and syringe.
  
  - Inject ~2 mL local anaesthetic at the site where the tenaculum will be placed (usually 12 o’clock).
  - Place the tenaculum at the anesthetised site. Use slight traction to move the cervix and define the transition of smooth cervical epithelium to vaginal tissue.
  - Perform an Intra-cervical block using local anaesthetic (e.g. 3% Plain Scandanest using a dental syringe at 2, 4, 6 and 10 o clock. Inject slowly to decrease pain of injection. Inject to a depth of 1-1.5 inches as this has been found to be more effective than superficial injections.

  ![Diagram of tenaculum and injection sites](tenaculum.png)

  - Minimize the risks of side effects such as disorientation and seizures, due to unintentional intravascular injection buy using the lowest anaesthetic dose possible, usually 10-20mls.

- Assess the need to dilate the cervix. If dilatation is necessary (when the cervical canal will not allow passage of cannula appropriate to the uterine size), the cervix should be dilated to the minimum necessary to insert a cannula of the appropriate size.
Choose the appropriate cannula size. The cannulae range from sizes 4 to 12 mm in diameter. Generally, the size of the cannula used would match the gestational age in weeks. However, experienced operators are usually able to successfully and completely evacuate the uterus with cannulae of smaller diameter with the advantages of avoiding the need for cervical dilation and a more comfortable experience for the woman.

- Charge the 60 ml self-locking Aspirator.
- Attach the charged aspirator to your chosen cannula.
- Insert the cannula gently through the cervix into the uterine cavity until it gently touches the fundus and then withdraw it slightly. Rotating the cannula with gentle pressure often helps ease insertion through the cervical canal.
- Do **NOT** grasp the syringe by the plunger arms after the syringe has been charged.
- Open the valves so that the vacuum is applied to the uterine cavity.
- Rotate the aspirator while withdrawing it from the uterine cavity until the cannula is fully out of the cervix.

**Withdrawn the cannula apertures beyond the cervical os will cause the vacuum to be lost. If the cannula becomes clogged and must be removed or if it passes the os accidentally, the aspirator must be emptied and “recharged.”**

- Dispose of the products into the kidney bowl. Recharge the aspirator and repeat the evacuation process until no further tissue is seen passing through the cannula. This normally takes between 3-5 passes.
- Signs of a complete aspiration:
  1) No further products of pregnancy seen within the cannula
  2) Pinkish foam is seen passing through the cannula
  3) Gritty sensation is felt as the cannula passes over the surface of the evacuated uterus
  4) Uterus contracts around the cannula
- Document what has been visualised.
- If indicated, insertion of an intrauterine contraceptive device / Mirena IUS or a contraceptive
implant should take place after evacuation of the uterine cavity deemed to be complete.

- If concerned that perforation has occurred then:
  o STOP procedure immediately
  o Call for help (another medical person e.g. Consultant Gynaecologist or senior gynaecology registrar).
  o Consider anaesthetist attendance
  o Manage and observe Airway, Breathing and Circulation as appropriate ensuring oxygenation, venous access and IV fluid administration as a minimum
  o Make urgent arrangements for transfer to theatre for laparoscopy, +/-laparotomy and completion of evacuation under direct vision

**Post-procedure care**

- Discuss and, where appropriate, offer postoperative analgesia e.g. Ibuprofen 400mg, codeine phosphate 30mg

- If indicated, Anti-D immunoglobulin should be provided on the day of treatment.

- When the doctor confirms that the procedure is complete, the woman should be allowed to dress and taken to a chair to recover.

- As a minimum, one set of post-procedure observations should be recorded in the case notes.

- Give information about miscarriage counselling groups

- Offer a patient satisfaction survey to complete prior to discharge.

- Advise a pregnancy test in 3 weeks’ time.

- When the woman is fully recovered, she can be discharged home.

- On discharge ensure that emergency contact details given for the early pregnancy unit, written information about procedure and postoperative advice.

- Complete a paper discharge note for the GP.

**EMERGENCY MANUAL VACUUM ASPIRATION**

Manual vacuum aspiration may be used in an emergency setting where a woman is experiencing severe vaginal bleeding:

- Confirmed/known miscarriage
- Likely ongoing miscarriage (Positive pregnancy test, severe vaginal bleeding and haemodynamic instability)
MVA should only be performed by trained staff and with appropriate equipment.

Verbal consent should be sought prior to proceeding and this must then be documented.

Emergency departments at LTHT should consider holding equipment to provide MVA in stock.

Manual evacuation of the womb should not take priority over normal resuscitative measures.

**Algorithms**

Provenance: Dr E Cadogan, Dr H Chipeta, Mittal Patel, Mr B A Gbolade

Target professional group: Medical, nursing and axillary team involved in the assessment, counseling, provision and postoperative care of women eligible for Manual Vacuum Aspiration

**Evidence Base: References**

Evidence levels:
A. Meta-analyses, randomised controlled trials/systematic reviews of RCTs
B. Robust experimental or observational studies
C. Expert consensus.
D. Leeds consensus. (where no national guidance exists or there is wide disagreement with a level C recommendation or where national guidance documents contradict each other)

References


Appendix 1. **MVA Treatment Proforma**

<table>
<thead>
<tr>
<th></th>
<th>DATE</th>
<th>Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>First name:</td>
<td></td>
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<tr>
<td>Second name:</td>
<td></td>
<td></td>
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<tr>
<td>DOB:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital number:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgeon Name/grade:</td>
<td></td>
<td>Chaperone Name/grade:</td>
</tr>
<tr>
<td>Indication for MVA:</td>
<td></td>
<td>Hb / Blood Group:</td>
</tr>
<tr>
<td>Consent (circle appropriate):</td>
<td>Yes/ No</td>
<td>Written/ Verbal</td>
</tr>
<tr>
<td>Parity:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestation:</td>
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**Pre-operative medication**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Misoprostol 600 mcg</td>
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<tr>
<td>Paracetamol 1g</td>
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<tr>
<td>Ibuprofen 400mg</td>
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</tr>
<tr>
<td>Codeine phosphate 30mg</td>
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<tr>
<td>Codydramol</td>
<td></td>
</tr>
<tr>
<td>Ofloxacin</td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td></td>
</tr>
<tr>
<td>Metronidazole</td>
<td></td>
</tr>
<tr>
<td>Cyclizine</td>
<td></td>
</tr>
<tr>
<td>Doxycycline</td>
<td></td>
</tr>
<tr>
<td>Ibuprofen 400mg</td>
<td></td>
</tr>
<tr>
<td>Paracetamol 1g</td>
<td></td>
</tr>
<tr>
<td>Codeine phosphate 30mg</td>
<td></td>
</tr>
<tr>
<td>Paracetamol</td>
<td></td>
</tr>
<tr>
<td>Doxycycline</td>
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**Preoperative Observations**

<table>
<thead>
<tr>
<th>BP:</th>
<th>Pulse</th>
<th>( O_2 ):</th>
<th>RR</th>
</tr>
</thead>
</table>

**Vaginal Examination findings**: .................................................................

<table>
<thead>
<tr>
<th>LVS / VV swab taken?:</th>
<th>Yes/ No</th>
</tr>
</thead>
</table>

**Type of local anaesthetic**: .................................................................

<table>
<thead>
<tr>
<th>Amount used:</th>
<th>__mls</th>
</tr>
</thead>
</table>

**Site of anaesthetic**: Use diagram

**Intraoperative medication**

<table>
<thead>
<tr>
<th>Entonox</th>
<th>Top up local anaesthetic</th>
<th>Vocal Local</th>
</tr>
</thead>
</table>

**Size of curette**: .................................................................

**Number of evacuation attempts until uterus empty**: ............

**POC seen in evacuate?**: Yes/ No

**EBL**

**Tolerance of procedure**: Good/ fair/ poor

**Postoperative medications**

<table>
<thead>
<tr>
<th>Paracetamol</th>
<th>Codydramol</th>
<th>Cyclizine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diclofenac</td>
<td>Tramadol</td>
<td>Ondansetron</td>
</tr>
<tr>
<td>Codeine phosphate</td>
<td>Oromorph</td>
<td>Anti D 250IU</td>
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</table>

**Postoperative Observations**

<table>
<thead>
<tr>
<th>BP</th>
<th>Pulse</th>
<th>( O_2 )</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC for histology Y N</td>
<td>POC for cytogenetics Y N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Follow up Plan**
Appendix 2.  

**MVA Equipment list**

**Equipment list (to be checked before clinic appointment):**

- 2x Inco pads. One to put under patient’s buttocks. One to put into the treatment couch’s bowl.
- 1x sheet to cover lap of the patient whilst in lithotomy
- 1x trolley with two shelves
- 1x MVA pack
- 1x dental syringe
- 1x medium speculum
- 1x sterile gloves

Local anaesthetic - usually 5x vials (25ml) of Scandonest 3% Plain/ or lidocaine 1-2% 20ml

Cleaning solution
- 1x dental needle
- 1x 60ml Manual vacuum aspirator
- A selection of cannulae- 1 of each size (size 6, 7, 8, 10)
- Uterine dilators- 1 of each size (size 3-4, 5-6, 7-8)
- 5x gauze swabs (10x10) Xray.
- 1x apron
- 1x vulvovaginal swabs

**Preparation (to be done before patient undressed):**

- Clean the two layers of the trolley
- Open the MVA pack onto the top shelf
- Open out the dental syringe, local anaesthetic, sterile gloves and speculum into the sterile field of the MVA pack
- Place all other items into the lower shelf

**Preparation (to be done once patient undressed and in lithotomy):**

- Non-sterile assistant- when prompted:
  - pour cleaning solution into the gallipot in the sterile field of the MVA pack
  - attach a dental needle to the dental syringe in the surgeon’s hand
  - open the uterine dilators if required
  - open the MVA syringe and the cannula size asked for by the performing clinician
### Pre-procedure Checklist for MVA

*To fill out before starting the procedure*

| Patient details | Clinician Performing:...........................................  
|-----------------|----------------------------------------------------------------  
|                 | Supervisor/Assistant:.............................................  
|                 | Nurse/HCA:..........................................................  
| Patient name and date of birth confirmed | Yes / No  
| Allergy status |  
| Ensure that patient has emptied bladder | Yes / No  
| Confirm that patient has or will get analgesia at home | Yes / No  
| Vulvovaginal swabs to be done? | Yes / No  
| Instrument check completed | Yes / No | Yes / No  
| Gauze swab check (number) |  
| Needle check (number) |  
| Local anaesthetic checked | Yes / No  
| Name of person filling form: |  
| Signature of person filling form: |  

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Appendix 3. Surgical management of miscarriage under local anaesthetic (MVA)

Patient Satisfaction Survey

We are constantly striving to improve patient care and your feedback is an essential part of this. We would appreciate five minutes of your time to complete the following survey. Anything you fill in below is completely anonymous. It will be used to help us find out what we are doing well and what we need to change to provide a better service for you.

Details about you:

Your age (in years)

Your ethnicity (please circle appropriate one)

- White
- Black African
- Black Caribbean
- Indian
- Pakistani
- Bangladeshi
- Chinese
- Black other
- Other………………………

How were you referred to the unit? (Please circle appropriate one)

- Early pregnancy unit
- Gynaecology assessment unit
- Other (please specify): ………………………………………..

1) Overall how did you find your experience today? (Please tick your answer)

- Excellent
- Good
- Satisfactory
- Poor
- Very poor

2) What did you think of the following?

- The waiting room
- The room where you had your procedure
- The recovery area
- The toilets/bathrooms (if applicable)

2) What did you think of the staff in our unit?

- The receptionist
- The nurse/auxiliary nurse
- The doctor
- Attitude of the staff
- Confidence you had in the staff
- Information given to you by the staff about the procedure
3) How would you rate your level of abdominal pain before the procedure (0 is no pain/ 10 is the worst pain imaginable)?

0 1 2 3 4 6 7 8 9 10

4) How would you rate your level of pain during the procedure?

0 1 2 3 4 6 7 8 9 10

5) How would you rate your level of pain a few minutes after the procedure?

0 1 2 3 4 6 7 8 9 10

6) Overall would you recommend this service to your family or friends?

Yes No

7) Do you have any further comments in relation to your experience today? Please feel free to write below.

Thank you for your time.
Appendix 5. Referral Letter to MVA clinic (to be faxed to the Early Pregnancy unit at St James Hospital)

- DATE

Patient Name
DOB
NHS number

- Name of referrer:
- Grade/ job title of referrer

- Parity -
- Gravida -

- Indication for MVA (please tick appropriate):

<table>
<thead>
<tr>
<th>Indication</th>
<th></th>
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<tbody>
<tr>
<td>missed miscarriage &lt;12 weeks gestation size</td>
<td></td>
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<tr>
<td>incomplete miscarriage &lt;12 weeks gestation size</td>
<td></td>
</tr>
<tr>
<td>failed expectant or medical management of miscarriage &lt;12 weeks gestation</td>
<td></td>
</tr>
<tr>
<td>haematometra</td>
<td></td>
</tr>
<tr>
<td>retained products of conception (&lt;5cm in size)</td>
<td></td>
</tr>
</tbody>
</table>

- All women must have a Full Blood Count (FBC) performed prior to the procedure. FBC performed (please circle appropriate)?
  - Yes
  - No (FBC must be performed)

- All women must have a blood group known prior to the procedure. Is the blood group known (please circle appropriate)?
  - Yes and stated as ........................................
  - No and sample taken today
• Allergy Status
• Past Medical and Surgical History (please look at cautions and contraindications of MVA in the standard operating procedure)

• Please tick to say a scan confirming miscarriage or retained products has been performed within LTHT

Name of referrer:

Signature: