

Miscarriage: Management

1. Purpose

Miscarriage is usually a distressing experience. Emotional support and care is essential throughout the course of assessment, decision-making and treatment.

For many women who have been diagnosed with a miscarriage, the options of care are: expectant management, medical management or surgical management. The patient's care should include information and advice about their option(s) which are medically appropriate for each woman's particular situation, together with support in order to aid the patient's decision. In many circumstances a decision is not clinically urgent; so a woman can be given time to come to terms with the diagnosis and reach a decision about mode of management.

The purpose of this document is to guide clinicians in the care of women who have been diagnosed with a miscarriage (for assessment and diagnosis refer to [Appendix 3: Pain and Bleeding in Early Pregnancy](#)).

2. Definitions

Early pregnancy: gestation up to 13 weeks and 6 days. (Note: Women with a pregnancy of gestation ≥ 14 completed weeks should usually be referred to the obstetric team for assessment.)

(R)POC: (Retained) products of conception; this term may be used with colleagues but another expression, such as 'pregnancy tissue' should be used with women and their families.

NSAIDs – Non-Steroidal Anti-Inflammatory Drugs

Miscarriage: The recommended medical term for pregnancy loss under 20 weeks is 'miscarriage' in both professional and direct care contexts. The term 'abortion' should not be used. Types of miscarriages are outlined below.

US: Ultrasound scan

ASUM: Australian Society for Ultrasound in Medicine

UCG: urinary human chorionic gonadotropin

BHCG: Beta human chorionic gonadotropin

3. Responsibilities

Staff caring for a woman with miscarriage should follow this guideline.

Early Pregnancy Assessment Service (EPAS) clinicians provide clinical consultations, assessment, advise, management plans, treatment and monitoring for of the women experiencing early pregnancy loss.

Emotional and psycho-social support for these women (and partners) during this period is an important part of the service provided by EPAS nurses. Support is assessed and individualised to meet each women's needs with ongoing referrals made as required.

4. Guideline

4.1 Clinical presentation and diagnosis

For assessment refer to [Appendix 3: Pain and Bleeding in Early Pregnancy](#).

The diagnosis of miscarriage is based on the confirmed passage of POCs or ultrasound findings consistent with ASUM criteria for miscarriage diagnosis.

Missed miscarriage: confirmed ultrasound diagnosis of miscarriage with no passage of POC and an intact intra-uterine gestational sac. : Missed miscarriage includes 'early fetal demise' and an embryonic pregnancy. The ASUM criteria for miscarriage diagnosis are: a good quality vaginal US showing no fetal heart activity with fetal pole $> 7\text{mm}$ **or** a gestational sac $> 25\text{mm}$ without fetal pole **or** the lack of sac/fetal growth over defined time

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period, no less than 7 days.

Incomplete miscarriage: some POC have passed but some POC remain in the uterus. There is typically a history of pregnancy symptoms followed by an episode of heavy bleeding with the passage of clots with or without recognized POC. If definite POCs have been passed vaginally, management may be based on clinical grounds.

Complete miscarriage: This refers to a previously sited intrauterine pregnancy which is deemed to be completely evacuated. Ultrasound is not always necessary, for example a presumptive diagnosis can be made after viewing the POC which were passed and on a clinical basis of resolution of symptoms. POC should be sent to histopathology for confirmation

Hydatidiform mole is diagnosed by ultrasound examination or histology. It should be managed by the gynaecology team and requires suction curettage, histopathology specimen and consultation with the oncology team regarding follow up.

Septic miscarriage: any type of miscarriage accompanied by evidence of intrauterine infection; urgent treatment is required (see 6.1)

4.2 Selecting an appropriate management method

Factors to consider:

Clinical symptoms and signs:

- Active pain and/or bleeding usually warrant surgery, regardless of type of miscarriage, unless the miscarriage is in progress and POC can be removed from cervix at speculum examination and this leads to the resolution of symptoms
- Signs suggestive of an intrauterine infection such as uterine tenderness or purulent discharge indicate prompt evacuation of the uterus; usually by surgical means with antibiotic treatment
- Increasing bleeding or pain and/or concerns with expectant or medical management may also lead to the consideration of surgery.

The treatment choice. In the absence of pain, heavy bleeding, or evidence of an infection, can be based on several factors (below) and consideration of patient preferences

Note: these suggested guidelines based on published experience with miscarriage and medical termination of pregnancy rather than conclusive evidence.

Type of miscarriage

Missed miscarriage

- Sac >30-35mm, embryo >~25mm (pregnancy size equivalent to 9+0 weeks): with an increased sac and fetal size, pain and bleeding with passage of POC are likely to be more significant, so surgery is recommended. Alternative methods may still be considered subject to informed choice
- Sac 15-35mm, embryo <25mm, (pregnancy size equivalent to 7-9+0 weeks): medication, surgical or expectant management may be considered according to woman's preference
- A sac <15-20mm (pregnancy size <7 weeks); expectant or medication management generally preferable.

Incomplete miscarriage

- RPOCs <15mm expectant management generally preferable, because there is a high likelihood of spontaneous expulsion without intervention
- RPOCs >15-35mm, medical or expectant management are reasonable options. Surgery should generally only be considered if there is a specific indication
- RPOCs>35-50mm, with increasing volumes of RPOC, usually surgical management. If a medical path is chosen:
 - Admission should be considered so as to observe for a few hours until the majority of the POC has

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passed and bleeding settled to an acceptable level

- Remaining POCs are likely to pass within 24 hours. If no resolution with misoprostol, surgery is indicated, speculum examination should be done prior to a decision for surgical evacuation of the uterus or discharge, as POCs may already be in the vagina.

Complete miscarriage (empty uterus):

- Surgical and medical interventions to evacuate the uterus are contraindicated if this is a certain diagnosis
- If there is any doubt as to the location of the pregnancy, (due to no previously sited pregnancy on USS or a doubt regarding the nature of the tissue passed) then serial HCG levels and gynaecology review may be needed to exclude ectopic pregnancy and ensure pregnancy resolution.

Treat according to symptoms: expectant management is usually appropriate:

- An ultrasound is not routinely needed; however if symptoms such as persistent bleeding, with no further POC visible on speculum examination, or a non-resolving BHCG suggest an ultrasound may be prudent.

Note: well-developed decidua or fibrous clot can resemble POCs. If there is any doubt at all, ensure histology is performed and followed up arranged to exclude ectopic pregnancy. Serial BHCG's are recommended to ensure resolution.

Woman's preference / options

Surgery:

- wants planned procedure
- acceptance of the potential surgical and anaesthetic risks.

Medical management:

- desire to avoid surgery and anaesthesia
- tolerance of uncertain timeline and outcome
- preparedness to cope with anticipated pain and bleeding at time of passage of POCs.

Expectant management:

- as for medical management
- preference to avoid medicine
- tolerance for longer timeline and greater uncertainty than with medical management.

Table summary of management choices

Clinical scenario	Treatment Options
Sac or POCs <15mm	Usually expectant management
Sac or POCs 15-35mm, CRL<25mm	Expectant, medication or surgical management reasonable
Sac >30-35mm, POCs>50mm, CRL>25mm	Usually surgical management
Failed expectant management	Usually medication, sometimes surgical management
Failed medication management	Usually surgical management, sometimes repeat medication
Heavy bleeding or evidence of infection	Usually surgery unless POC in vagina

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4.3 Management modalities

Expectant management

Outpatient management

Advantages

- allows spontaneous passage of POC
- avoids potential surgical and anaesthetic risks.

Disadvantages

- unpredictable time frame and results (allow up to 2 weeks for spontaneous resolution)
- expect ongoing pain and bleeding over this time
- potential need for an emergency suction and curettage

Indications

Suitable treatment option if:

- Sac or POCs <15mm
- Sac or POCs 15-35mm, CRL<25mm all management options - expectant, medication or surgical management are reasonable

Anticipated outcome

Randomized Control Trials (RCT) have quoted a success rate of up to 80% with expectant management for a pregnancy up to 6 weeks' gestation. Resolution rates are higher if a period of 2 weeks is allowed for resolution, the miscarriage was incomplete rather than missed and there is a low volume of uterine POC (diameter <50mm).

Indications:

- Incomplete miscarriage with POC diameter on US up to 35mm
- Missed miscarriage with sac size up to 35mm (embryo size <25mm equivalent to < 9+0 weeks' gestation).

Preconditions

- no significant bleeding or infection
- absence of medical contraindications such as the patient having a bleeding diathesis (including being on anticoagulants)
- woman's preference
- ensure the patient is aware of the risks of pain and bleeding at home
- have emergency contact details and a /plan for emergency care
- patient is aware of uncertain time frame, and the possible need for later surgical intervention -
- support at home
- access to phone and medical care
- willing to participate in follow up at 1 week and 2 weeks.

Treatment regimen

- Prescribe analgesia and anti-emetics to take home, such as metoclopramide, NSAIDS, and paracetamol with or without codeine. Medicines should be prescribed based upon assessment of patient needs and identified allergies
- allow to eat and drink
- Provide a medical certificate as required
- Anti-D as indicated (see [Anti-D Immunoglobulin Use in Maternity Patients in appendix 1](#))

Follow up

- Ensure contraception/future pregnancy plans discussed
- Provide contact numbers, and check the woman's contact number.
- Review one week, face to face consult or by telephone as appropriate. Make follow up appointment accordingly in EPAS clinic of EPAS telephone clinic.

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- If POCs are not passed, consider ultrasound confirmation and medical or surgical treatment options depending on the woman's choice.
- If POCs have passed (or very likely on the basis of the history), follow up at two weeks: if UCG negative and woman asymptomatic, an ultrasound is not needed. If the UCG is positive, further management depends on the ultrasound findings. If the woman has concerns arrange for a review
- Recommend follow up appointment with local medical doctor within 4 to 6 weeks or sooner if needed.

Medical Management

Out- patient management / in patient day admission

Advantages

- Allows women to avoid the potential surgical and anaesthetic risks.
- Option for treatment at home if desired and suitable

Disadvantages

- Unpredictable time frame and results (allow up to 2 weeks for spontaneous resolution)
- Concerns with ongoing pain and bleeding
- Potential for the need of suction curettage (5%)
- Potential side effects: nausea, vomiting, diarrhoea (up to 40%).

Indications

Suitable treatment option if:

- missed miscarriage with sac diameter on US <35mm & embryo size <25mm (size equivalent to < 9+0 weeks' gestation)
- incomplete miscarriage with POCs up to around 35mm diameter
- no contraindications to prostaglandins such as allergy, severe uncontrolled asthma
- No medical contraindication such as anticoagulant therapy /bleeding disorder/severe anaemia.
- This is more likely to be acceptable with sac/POC size on US< 15-20mm; less likely with sac/POC size on US >35mm.

Consider for larger size uterine contents *only if* the woman has a strong preference for this and a clear understanding of the likely unpleasant pain and bleeding and potential haemorrhage risk. In patient care maybe more appropriate for this patient group.

Anticipated outcome

- Misoprostol, a prostaglandin analogue, is used to induce/hasten the expulsion of POC's from the uterus
- RCTs have quoted a success rate between 70 -90% with medication management over a two week period; however selection criteria and management protocols vary widely. Resolution rates are higher than expectant management, but lower than surgical management.

Preconditions

- no significant bleeding or infection
- woman's preference
- ensure the woman is aware of risks of pain and bleeding at home
- have emergency contact details and a plan for emergency care
- aware of the uncertain time frame and possible need for later surgical intervention
- support at home
- access to a phone and medical care
- willing to participate in follow up at 1 and 2 weeks.

Treatment Regimen

- Complete Medication Miscarriage Care Map
- Registrar/resident to obtain informed consent
- Consider tests for chlamydia and bacterial vaginosis
- Allow to eat and drink

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- Provide a medical certificate as required
- Anti-D as indicated (see [Anti-D Immunoglobulin Use in Maternity Patients in appendix 1](#))

Outpatient

- Prescribe: misoprostol 800mcg (4 x 200mcg tablets) buccal followed by a repeat dose of 400mcg (2 x 200mcg tablets) 4 hours later if required. Ensure that patients are aware of any side effect or allergic reactions and how to seek medical advice / care immediately should they arise (refer to Appendix 2)
- Prescribe analgesia and anti-emetics to take home, such as metoclopramide, NSAIDS, and paracetamol with or without codeine, Medicines should be prescribed based upon assessment of patient needs and identified allergies
- If using medical management after 9 weeks gestation, consideration should be given to ultrasound examination after passage of POCs.

Patients who may require admission:

- If the woman has a strong preference to be treated within hospital.
- If the woman is not well supported
- If larger gestational sac or RPOC.

Inpatient

- Registrar/ resident to make admission booking
- Plan management of other medical complications e.g. latex allergy, insulin regimen for diabetic.

Information to be provided to the patient:

- Admission time and place.
- Completed admission sheet.
- If patient is an inpatient and POCs have not passed after 6 hours, review the plan with the registrar. Discharge is appropriate if woman has sufficient support at home and is aware of the likely outcome when POC do pass. Surgical management prior to discharge may be offered in some cases.
- Anti-D as indicated (see [Anti-D Immunoglobulin Use in Maternity Patients in appendix 1](#))
Provide a medical certificate as required

Follow up

- Ensure contraception/future pregnancy plans discussed
- Provide contact numbers, and check woman's contact number
- Arrange EPAS support telephone call follow-up. Patients should receive a minimum of 2 support phone calls.
 - Arrange telephone support phone call within 48 hours (2 days) of EPAS consultation and the administration of Misoprostol. Where possible a telephone call will be arranged on the day the patient self-administers the medication.
 - A second phone call will be arranged at 7 days.
 - Earlier and / or additional phone calls or follow-up review is to be arranged as clinically appropriate.
- If POCs not passed in one week, consider ultrasound confirmation. Consider repeat medical management or surgical management.
- Recommend follow up appointment with local medical officer within 4 to 6 weeks or sooner if needed

Surgical Management

Day admission (DSU) for suction curettage

Advantages

- Allows planned procedure with predictable time frame
- Immediate relief from symptoms
- Less blood loss and shorter duration of bleeding than expectant/medical management.

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Disadvantages

- Risks of surgery
- Risks of anaesthesia.

Indications

Recommended treatment option if:

- hemodynamically unstable
- evidence of infection (surgery under antibiotic cover)
- unacceptably heavy bleeding
- woman's preference (discourage if RPOC <15mm unless symptomatic)
- >9+0 weeks' gestation on US (sac>35mm, embryo >25mm).

Suitable treatment option if:

- missed miscarriage with sac diameter on US 15-35mm (size equivalent to 7-9+0 weeks' gestation)
- Incomplete miscarriage with POCs at least 15-20mm diameter.

Anticipated outcome

Suction curettage has almost 100% success rate.

Preconditions

- Meets criteria indications (above)
- Woman's preference

Procedure

The miscarriage lists will be managed by the gynaecology registrars, who need to be informed of all patients booked and discussed as appropriate with the consultant.

Registrar / Resident to assess patient and organize the theatre booking

- Perform tests for chlamydia and bacterial vaginosis if not already done
- Include a discussion of contraception/future pregnancy plans, as long acting reversible contraception (LARC) such as intrauterine contraceptive devices (IUCD) or etonogestrol (Implanon NXT® can be inserted at time of procedure if appropriate or desired.
- Obtain written informed consent
- If indicated, prescribe misoprostol 400mcg (2 x 200mcg tablets) PV or buccal 90 minutes before the procedure, PRN analgesia and anti-emetic; should be considered and a single dose of paracetamol 1g and ibuprofen 400mg orally may also be prescribed and administered with the misoprostol
- Anti-D as indicated (see [Anti-D Immunoglobulin Use in Maternity Patients in appendix 1](#))
- Check results of infection tests; ensure follow-up/treatment occurs.

Priming of the cervix preoperatively

- Priming of the cervix with misoprostol is recommended for all nulliparous patients, previous exclusively caesarian deliveries and those with gestational size 10 weeks or more
- If indicated, prescribe misoprostol 400mcg (2 x 200mcg tablets) buccal 90 minutes pre op); some patients will be eligible for home/self-administration. Misoprostol is available in the emergency department impress cupboard.

Registrar/ resident to make admission/theatre booking:

- Plan management of other medical complications e.g. latex allergy first on list, insulin regimen for diabetic women etc.

Information to be provided to the patient:

- Admission time and place.
- Completed admission sheet;
- Fasting and any other specific instructions and provide 'Day Surgery Information Sheet'.
- Provide a medical certificate as required

Follow up

- Ensure contraception/future pregnancy plans discussed
- Advise review appointment with local medical doctor in 4 to 6 weeks.
- Histology and results to be reviewed by the treating team.

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Please NOTE: If at any time management of miscarriage is initiated outside of the EPAS clinic then the above process should be followed and the EPAS team notified of the patient to ensure appropriate follow up. The appropriate internal referral form/ documentation should be completed and forwarded to the clinic.

5. Evaluation, monitoring and reporting of compliance to this guideline

Reiterative audit within EPAS and involving quality and safety registrar.

6. References

1. Bourne T, Condous G. Handbook of Early Pregnancy Care. Informa Healthcare, 2006.
2. Neilson JP, Hickey M, Vazquez J. Medical treatment of early fetal death(less than 24 weeks).Cochrane Database of Systemic Reviews 2006, Issue 3.Art. No.:CD002253.DOI:10.1002/14651858.CD002253.pub3
3. Royal College of Obstetricians and Gynaecologists. NICE Guideline Ectopic pregnancy and Miscarriage : Initial management in Early pregnancy of ectopic pregnancy and miscarriage . Dec 2012.
4. Guidelines for the Performance of First Trimester Guidelines. ASUM Guidelines, Policies & Statements,D11. Revised August 2014

7. Legislation/Regulations related to this guideline

Not applicable.

8. Appendices

Appendix 1: Guideline - [Anti-D Immunoglobulin Use in Maternity Patients](#)

Appendix 2: Consumer information - Refer to the Women's fact sheets:

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Miscarriage all fact sheets

Consumer information sheets for the Medical Management of Miscarriage pathways at home or when admitted as an inpatient are found on the [EPAS intranet page](#).

Appendix 3: Guideline - [Pain and Bleeding in Early Pregnancy](#)

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