Miscarriage – diagnosis and management

Target audience	Primary and secondary care
Patient group	Individuals with a positive pregnancy test up to 11+6 weeks of gestation

Summary

The Lanarkshire Early Pregnancy Assessment Service (EPAS) supports all women with early pregnancy concerns up to 11+6 weeks of gestation.

This guideline relates to the investigation, management and provision of support for individuals with a positive pregnancy test and symptoms of bleeding and/or pain.

Individuals contacting the service will be triaged to receive telephone advice or face-to-face review in EPAS.

Those attending EPAS for face-to-face review will be assessed by history, examination and, where necessary, an ultrasound examination.

Transabdominal scan will be offered first and, if necessary, transvaginal scan performed. Serum beta human chorionic gonadotrophin (hCG) measurements are only performed if there is suspected ectopic, empty uterus or pregnancy of unknown location.

Follow-up scans may be required.

All women with suspected miscarriage should have a second scan on the same day by a different operator or should receive a return appointment at a later date for confirmation scan.

If miscarriage is confirmed, conservative, medical and surgical treatment under general or local anaesthetic should be discussed with the woman and her preferences accommodated where possible.

Follow-up support for any loss should be offered.

Contents

Introduction

The Lanarkshire Early Pregnancy Assessment Service (EPAS) offers advice, assessment of and treatment to patients with problems in early pregnancy up to 11+6 weeks of gestation. These services are provided by a dedicated team of healthcare professionals, with the necessary expertise to diagnose early pregnancy problems and who have training in sensitive communication.

Referral criteria

EPAS accepts self-referrals from patients and also other healthcare professionals including (but not limited to) general practitioners (GP), doctors, midwives and sonographers. Often referrals are made from private facilities. All referrals will be triaged by the early pregnancy specialist midwives to receive either telephone or face-to-face advice.

The referral criteria are:

- patients with pain and/or bleeding up to 11+6 weeks of gestation, with a positive pregnancy test
- asymptomatic patients who fit the criteria for an early viability ultrasound scan (USS) (see separate guideline here https://rightdecisions.scot.nhs.uk/media/jqnncgm2/viability-scans-in-early-pregnancy_referral-guidance.pdf

Clinical priority will be given to new patients and to patients with signs and symptoms suggestive of ectopic pregnancy (EP). In situations where resources are limited, elective and routine workload may be cancelled to allow clinical prioritisation of symptomatic patients who have not had any prior ultrasound scan (USS). This may result in temporary suspension of viability scans, and should be escalated to senior management.

Patients presenting with *painless* bleeding who are less than 6 weeks of gestation based on their last menstrual period (LMP), with a known and certain LMP date, and who have no risk factors for EP, should be advised to repeat their high sensitivity pregnancy test after 7 days and to contact EPAS if it remains positive. If the home pregnancy test is negative, then sadly the pregnancy has miscarried. Patients should be encouraged to report new or worsening symptoms and they should be reassessed, with consideration given to diagnoses other than miscarriage.

Women with mild, crampy lower abdominal pain should be advised to take paracetamol (check for allergies and contraindications) and observe the effect. If worsening, they should be invited for review.

Patients who seek early pregnancy advice regarding pain or bleeding on more than one occasion within 24 hours should be advised to attend the same day for medical review.

Initial assessment

All patients referred to EPAS will be triaged (by telephone) by EPAS midwives who are experienced in assessing early pregnancy symptoms and providing advice or arranging further assessment where necessary.

Those patients who require further assessment should be evaluated in EPAS where there are dedicated facilities to perform early pregnancy ultrasound scans, appropriate measurement and interpretation of serum beta hCG and confirming rhesus status.

Patients presenting out of hours should be assessed in the maternity triage department at University Hospital Wishaw (UHW) when EPAS is closed.

Unstable patients should attend the emergency department (ED) for resuscitation, and will be assessed by medical staff for the following to occur:

- A full history should be obtained including current symptoms, with consideration given to risk factors for EP (previous ectopic, intrauterine contraceptive device (IUCD) in-situ, previous sexually-transmitted infection (STI)).
- The first date of the LMP should be recorded along with the date of the first positive pregnancy test and the date of any negative tests.
- Assess general wellbeing and record observations.
- Perform a venous thromboembolism (VTE) risk assessment for all patients.
- Perform a pelvic examination if indicated (eg. a history of vaginal bleeding).
- When indicated, arrange an ultrasound scan to assess the early pregnancy at the first available appointment; use clinical judgement to arrange timeous assessment – patients with moderate to severe pain or bleeding without haemodynamic instability should have a medical assessment in EPAS within 4 hours.
- Serum hCG measurements should ONLY be performed AFTER an USS to further assess a pregnancy of unknown location (PUL), to direct management of EP and for suspected molar pregnancy.

Ultrasound scan

An ultrasound scan may be offered to assess the location of the pregnancy, presence of fetal pole (FP) and presence of the fetal heartbeat (FH). This scan will be performed by a healthcare professional who is experienced in early pregnancy scanning, and who is able to identify an EP.
The EPAS uses transabdominal ultrasound scans (TAUSS) and transvaginal ultrasound scans (TVUSS) to accurately assess the early pregnancy, however TVUSS offers additional detail for pregnancies less than 10 weeks of gestation, so should be offered as routine when no FH is visible within the FP. Patients should be advised at the time of telephone consultation that a TVUSS scan may be offered. Where this is unacceptable to patients, it should be explained that TAUSS has limitations and further

USS may be necessary with longer time intervals before any diagnosis can be reached, with this discussion clearly documented in the BadgerNet record.
When performing an USS to determine the viability of an intrauterine pregnancy, record the following:

- Firstly, look to identify a FH.
- If this is present, document its presence and measure the fetal crown-rump length (CRL) and retain an image.
- If a FH is not present, measure the CRL and retain an image.
- If there is no FP, record the presence or absence of a yolk sac (YS) and retain an image.
- Only measure the mean sac diameter (MSD) if the FP is not visible. This should be done in three planes. Retain an image.
- Record the location of the pregnancy and retain images in the longitudinal and transverse planes.
- Assess both adnexae and retain images.

Interpreting scan findings

Patients with bleeding and a confirmed intrauterine pregnancy with a fetal heartbeat should be advised that

1. If the bleeding gets worse, or persists beyond 14 days, further assessment is required.
2. If bleeding stops, continue with routine scheduled antenatal care.

Where a regular intrauterine gestational sac (GS) is seen measuring <25mm, with a double decidual reaction present, but there is no FP or YS, explain to the patient that EP is possible but unlikely, and ensure they have the relevant contact telephone numbers for further advice or medical review if required. **Serum beta hCG is not indicated in this scenario unless there are additional signs or symptoms that are suggestive of EP and this should only be arranged following discussion with a senior clinician experienced in early pregnancy care.** The scan should be repeated in 14 days, or sooner if the clinical picture changes.

Where a regular intrauterine GS and YS is seen, the USS should be repeated in 11 days to assess viability.

Scans should not be repeated at intervals of less than 7 days unless clinically warranted.

A TAUSS is accepted to diagnose missed miscarriage when the CRL measures >18mm or approximately 8 weeks of gestation and there is no visible heartbeat, where the views are clear and there is no diagnostic uncertainty. If the first TAUSS shows a CRL of <18mm and no FH, a TVUSS should be offered. If TV scan is declined, repeat the TA scan in 14 days before reaching a diagnosis of missed miscarriage.

If an intrauterine pregnancy with visible heartbeat is identified on ultrasound scan by the on-call team, then there is no indication for a routine repeat EPAS scan, and the patient should be reassured and antenatal care should resume.

If an intrauterine pregnancy with visible heartbeat is identified on ultrasound scan and the patient has a further scan for whatever reason at a later date and the heartbeat is no longer present, the patient has had a likely miscarriage. Absence of the heartbeat should be confirmed by another sonographer prior to definitive management, either on the same day or later. There is no requirement to wait for two weeks to repeat the scan in this scenario.

It is essential that only medical staff who are qualified in early pregnancy scanning, with relevant RCOG (Royal College of Obstetricians and Gynaecologists) SITM (Special Interest Study Module) and scanning modules should scan out of hours. Medical staff must complete the standard ultrasound report in BadgerNet for any scan they perform and document the findings, retaining pertinent images for scanning into the BadgerNet record (long and transverse views of the uterus, CRL or MSD, presence of yolk sac, both adnexae).

Additional points for clinicians:

- Do not use gestational age from LMP alone to determine whether the fetal heartbeat should be visible.
- An empty uterus on ultrasound scan, in the absence of a previous scan confirming intrauterine pregnancy, must be treated as pregnancy of unknown location until confirmed otherwise. Serum beta hCG tracking should be arranged with follow-up arranged via EPAS until a definitive diagnosis is reached – see further clinical guidance on PUL / EP.
- Women must always be offered a further ultrasound scan by a different practitioner to confirm the absence of the fetal heartbeat at all gestations, and this is encouraged before commencing any treatment for missed miscarriage.
- Scans performed in private facilities will be not be accepted by EPAS as the first scan and any diagnosis of miscarriage must be based on findings of the local EPAS scan department with appropriate follow-up scans.

Diagnosis of miscarriage

Ultrasound scans will only be performed by healthcare professionals who are trained in the identification of early pregnancy problems. Medical staff will only be deemed competent in early pregnancy scanning on completion of the relevant RCOG training modules.

The diagnosis of miscarriage using one USS cannot be guaranteed to be 100% accurate and there is a small chance that the diagnosis may be incorrect, particularly at very early gestations. Patients should be advised that waiting for a repeat ultrasound scan (if the miscarriage cannot be confirmed by a second operator on the day) has no detrimental effects on the pregnancy and clinicians must not feel pressured into making any diagnosis if there is diagnostic doubt or clinical uncertainty.

Miscarriage is diagnosed on TVUSS when:

- There is no fetal heart activity and the CRL ≥ 7mm.

- There is an empty gestational sac with MSD ≥ 25mm (no yolk sac or fetal pole present).
- There is no evidence of a fetal pole with a heartbeat or a yolk sac 14 days following an initial scan showing a gestational sac <25mm but no yolk sac.
- There is no evidence of a fetal pole with a heartbeat 11 days following an initial scan showing a gestational sac (of any size) with a yolk sac.
- There is no evidence of a live intrauterine pregnancy where one has previously been seen.

A miscarriage can be diagnosed and management offered on a single visit if the above criteria are met, and a second practitioner qualified in miscarriage diagnosis is able to confirm the findings during the initial real time ultrasound scan, or during a further ultrasound scan. It is not acceptable to confirm the diagnosis based on images presented alone. If a second opinion is not available, or if the patient prefers, a further scan can be offered in 7-14 days to confirm the diagnosis.

If a miscarriage is suspected on a TAUSS, then a TVUSS should be offered to confirm the findings. If TVUSS is declined, then this should be clearly documented in the medical record and the patient should be advised regarding the limitations of TAUSS in the early pregnancy setting. A repeat confirmatory ultrasound scan should be arranged at least 14 days later if the CRL <18mm (8+0 weeks of gestation).

Patients who have inconclusive ultrasound scan findings should be advised regarding the possibility of miscarriage with onset of pain and bleeding whilst awaiting follow-up scan. Written information should be provided with clear advice regarding worsening or worrying symptoms, along with 24-hour contact telephone numbers to access advice and care if the clinical situation changes.

Management of miscarriage

First trimester miscarriage is thought to occur in approximately 20% of pregnancies. In the majority of cases no cause is found, however it is believed that most are likely due to chromosomal abnormalities. The risk of miscarriage increases with age, and there are known associations with lifestyle factors (eg. smoking) and medical co-morbidities (eg. maternal diabetes).

Threatened miscarriage

Threatened miscarriage is when a patient with a confirmed first- or second-trimester intrauterine pregnancy with a fetal heartbeat experiences vaginal bleeding and the cervical os remains closed on examination. In this situation, the pregnancy may be unaffected and continue, or may result in miscarriage.

The management of threatened miscarriage depends on the severity of the vaginal bleeding and past obstetric history.

If the bleeding has settled, or is now mild or moderate, and there is no sign of haemodynamic compromise:

- A ultrasound scan should be offered within 24-48 hours to assess the early pregnancy.
- If the patient is clinically well and in agreement, with a companion able to remain present, she can be discharged home with written information and contact details for maternity triage in the event of heavy vaginal bleeding or unacceptable or severe pain, or if she is feeling unwell.
- She should be advised to contact 999 in the event of collapse.

In the event of severe bleeding:

- If the cervical os appears closed but the blood loss is severe or has been severe, then the patient should be admitted for observation.
- IV access should be obtained and bloods sent for full blood count (FBC), coagulation screen (coag) and group and save (G&S) depending on whether bleeding is ongoing and the haemoglobin result.
- IV fluids should be commenced.
- If the patient is haemodynamically unstable or if the blood loss does not settle quickly then prompt senior medical input is necessary. Full ABCDE assessment is required alongside resuscitation. Examination to assess the cervix and passage of products is necessary. An ultrasound scan may be indicated to ascertain viability.

If an ultrasound scan confirms an intrauterine fetus with a heartbeat and the vaginal bleeding stops or is mild/moderate, then the patient can be reassured and advised to contact her community midwife to arrange a booking appointment:

- She should be advised to return to EPAS for medical assessment if her bleeding continues or persists beyond 14 days.
- If the patient has a previous history of miscarriage then vaginal micronised progesterone should be considered as per the Use of Progesterone Therapy in Pregnancy Guideline (see relevant guideline on the Right Decisions Service app).
- Anti-D should be considered in cases of recurrent episodes of heavy bleeding as per local guidance.

Inevitable miscarriage

Inevitable miscarriage is when a patient presents with pain and / or bleeding in the first- or second-trimester of pregnancy, and the cervical os is open.

The clinical diagnosis is reached based on symptoms and signs:

- Positive urinary pregnancy test
- Cramping pain
- Vaginal bleeding +/- clots
- Abdominal tenderness
- Open internal cervical os +/- passage of products of conception

Following assessment, patients should be sensitively advised that she appears to be miscarrying the pregnancy. Where products of conception are seen at the cervical os, they should be removed gently using sponge-holding forceps. The products of conception should be sent for histological analysis by pathology and consent should be sought for this, along with completion of a Sensitive Disposal form (SD7).

In the event of heavy vaginal bleeding it may be appropriate to administer ergometrine, syntometrine or misoprostol to control bleeding and reach resolution of the miscarriage. Surgical intervention may also be required if the bleeding is not controlled. In these clinical scenarios input from a senior clinician is required.

If the patient is clinically stable then conservative management can be considered, as it is safe and effective. Patients opting for conservative management can be discharged home if well with appropriate advice on when to return for medical reassessment if the bleeding or pain increases. Written information should be provided along with contact telephone numbers for EPAS and maternity triage.

Missed miscarriage

Missed miscarriage is where a patient presents with no or minimal symptoms and is found to have a missed miscarriage on ultrasound scan.

Patients should be offered the choice of conservative, medical and surgical management following the diagnosis of a miscarriage.

Use the gestation determined by ultrasound rather than the menstrual dates to assess eligibility for treatment.

Anti-D should be administered to non-sensitised rhesus negative patients in accordance with current local guidelines.

Expectant management

Expectant management for 7-14 days is recommended in NICE (National Institute for Clinical Excellence) guideline as first-line management for patients with confirmed missed miscarriage.

Alternative options should be explored if:

- The patient is at increased risk of haemorrhage (eg. she is in the late first-trimester) or she has a previous adverse and/or traumatic experience relating to pregnancy loss (eg. stillbirth, miscarriage or antepartum haemorrhage).
- The patient is at increased risk from the effects of haemorrhage (eg. if she has coagulopathies, is taking an anticoagulant, has anaemia or Hb <10g/dL or is unable to have a blood transfusion).
- There is evidence of uterine infection with pyrexia or foul-smelling vaginal discharge.

Oral consent should be taken by attending midwife and documented in BadgerNet. Written information should be provided detailing the anticipated symptoms during the period of conservative management.

The normal miscarriage process will involve lower abdominal cramps and the onset of vaginal bleeding, which will normally begin to ease following passage of the miscarriage. If the symptoms become severe or persist beyond 14 days then the patient should reattend EPAS for medical assessment.

A container should be provided if the patient wishes for histopathology testing of her miscarriage tissue, or if she wishes the hospital to arrange for sensitive disposal.

Patients who have bleeding as expected as part of expectant management process will require a high-sensitivity pregnancy test to take after 3 weeks, which will determine whether further assessment and treatment is required. If this is positive, or if there is no history of bleeding, she should contact EPAS for advice – if the miscarriage has not passed then the patient can consider a further 7-day period of conservative management as long as she remains clinically well, or alternatively she can opt for medical or surgical treatment. Those patients who have not passed the miscarriage after 28 days of expectant management should have a medical review to discuss ongoing treatment options.

Those who no longer wish to continue with conservative management can change to medical or surgical treatment at any stage during the process.

A patient will only require further ultrasound scan and medical review if:

- There has been no pain or bleeding within the 14-day period of conservative management or
- Pain and bleeding have persisted beyond 14 days, suggestive of incomplete miscarriage or
- The high-sensitivity urine pregnancy test is positive after 3 weeks.

Outpatient medical management

Patients with missed miscarriage who meet the eligibility criteria may be offered medication to self-administer at home at a time that is convenient to them.

Assess eligibility criteria:

- Age > 18 years and no safeguarding or social concerns, and willing to attend for follow-up if required.
- Gestation ≤9+6 weeks of gestation based on ultrasound scan.
- A responsible adult at home on the day of misoprostol administration.
- Within easy reach of the hospital, ideally with access to transport.
- Hb >10g/dL
- No contraindications to the medications used during the treatment:
    - Adrenal, hepatic or renal impairment.

- Severe asthma, or a history of hospitalisation for exacerbation of asthma within the preceeding 12 months.
- Prosthetic heart valve or history of endocarditis.
- Haemorrhagic disorders or anticoagulant therapy.
- Previous allergic reaction to mifepristone or misoprostol.

Complete Medical Management of Miscarriage written consent and the associated documents.

Prescribe the following:

- Mifepristone 200mg orally to be taken in hospital (repeat dose if vomits within 30 minutes of swallowing).
- Misoprostol 800mcg as an initial vaginal or sublingual dose to be taken 36-48 hours following mifepristone.
- Misoprostol 400mcg to be given after 3 hours if there has been no bleeding in response to the initial dose.
- Analgesia

Advise that a urine pregnancy test should be taken after 3 weeks to determine if the treatment has been successful.

If there has been no bleeding after 7 days, if the clinical picture changes, or if the urinary pregnancy test remains positive after 3 weeks, the patient should contact EPAS directly to arrange medical assessment and a further ultrasound scan.

Patients who are breastfeeding should be advised that misoprostol is safe and no discontinuation of breastfeeding is required.

Inpatient medical management

Patients at less than 11+6 weeks of gestation may opt to have medical management of their miscarriage in the EPAS setting if they prefer, or if they do not meet the eligibility criteria for treatment at home.

Ensure patient meets eligibility criteria for medical management of miscarriage:

i. No Adrenal, hepatic or renal impairment (caution)
ii. No severe asthma, or a history of hospitalisation for asthma exacerbation within the preceeding 12 months (caution)
iii. No prosthetic heart valve or history of endocarditis
iv. No haemorrhagic disorders or anticoagulant therapy (caution)
v. No previous allergic reaction to mifepristone or misoprostol

Complete the written consent form for Medical Management of Miscarriage and complete the associated documentation.

Complete the Sensitive Disposal of Fetal Remains form (SD7).

Prescribe:

- Mifepristone 200mg orally to be taken in hospital then wait 36 – 48hours.

- Misoprostol 800mcg as a sublingual or vaginal dose 36 – 48 hours after mifepristone.
- Misoprostol 400mcg to be given as a further dose after 3 hours if the miscarriage has not passed.
- If gestation between 10+0 and 11+6 weeks then a third dose of 400mcg misoprostol should be prescribed and administered 3 hours after the second dose if the miscarriage has not completed.
- Analgesia (e.g. co-codamol 30/500)

If products of conception are passed during admission then the patient can be allowed home after 2 hours provided they are clinically well and observations are satisfactory.

If no products of conception have passed within 3 hours following the last dose of misoprostol then the patient may go home if she wishes if it is deemed appropriate (ensure no contraindications to treatment at home, can attend hospital quickly if necessary, has a responsible adult at home). Advise the patient that the miscarriage is likely to occur at home and provide a pregnancy test to be taken after 3 weeks, with advice to return to EPAS after 7 days if there has been no bleeding or if the pregnancy test is positive. Written information and contact telephone numbers should be provided.

For those between 10+0 and 11+6 weeks of gestation, if the patient wishes to remain inpatient in hospital until after the miscarriage has occurred, or if the miscarriage is incomplete, then there should be a medical review with clinical examination including speculum exam, and 2 further doses of 200mcg misoprostol can be repeated at 3 hourly intervals up to 5 doses in total.

If the miscarriage has not occurred for those over 10+0 weeks of gestation following 5 doses of misoprostol then a senior review is necessary and further management options should be discussed to include repeat medical treatment after 24 hour rest or surgical intervention.

It is recommended that products of conception are sent for histopathological analysis following miscarriage, and for genetic analysis in the case of recurrent miscarriage (please see separate guideline for inclusion criteria). This testing and also sensitive disposal of pregnancy tissue should be discussed with the patient, and consent obtained for the relevant testing with documentation in the clinical notes. A Sensitive Disposal of Fetal Remains form (SD7) should be completed and sent to the laboratory with the sample along with a pathology request form.

Patients who are breastfeeding should be advised that misoprostol is excreted transiently and at low levels in human breast milk, and it is reasonable to counsel women that milk should be expressed and discarded within 5 hours of the misoprostol dose.

Surgical management

Surgical options for management of miscarriage include general anaesthetic (GA) in theatre up to 12+6 weeks of gestation, and local anaesthetic (LA) in the EPAS setting (manual vacuum aspiration – MVA) up to 9+6 weeks of gestation. Surgical management should not be offered routinely to patients with miscarriages over 12+6 weeks of gestation unless other methods have failed.

The indications for surgical management include:

- Patient request.
- Failed conservative or medical management.
- Septic miscarriage – cover with IV antibiotics for 24 hours preoperatively unless too unstable to wait.
- Haemodynamically unstable due to heavy vaginal bleeding.
- Suspected molar pregnancy.

Complete the Surgical Management of Miscarriage written consent form specifying whether the procedure will be performed under local or general anaesthetic.

Complete the Sensitive Disposal of Fetal Remains form (SD7) and obtain consent for histopathological analysis of products of conception +/- genetic analysis if applicable.

Obtain bloods for FBC and G&S.

Organising surgical management:

- For GA procedures, EPAS midwifery staff should liaise with administrative staff regarding theatre 11 availability.
- For emergency GA procedures - if the patient is clinically unwell the case should be booked onto CEPOD, by on-call gynaecology staff, with telephone notification to the theatre coordinator and duty anaesthetist and submission of a written CEPOD form to theatre reception. If patient is unstable and CEPOD unavailable, on-call gynaecologist to discuss use of theatre 12 with the maternity coordinator. Patient should remain under care of gynaecology team even if theatre 12 used.
- For MVA procedures under LA – the EPAS midwifery staff will book the next available slot on the routine weekly MVA wednesday morning list. See relevant guideline for further information. Suitable patients may self-administer misoprostol 2 hours pre-procedure and there is no need for pre-procedure fasting.

Prescribe the following:

- Misoprostol 400mcg administered sublingually or vaginally 2 hours prior to surgery for cervical priming.
- Doxycycline 100mg BD for 7 days as chlamydia and surgical prophylaxis (if recent negative chlamydia swab then this can be reduced to 100mg BD for 3 days).

Provide written information on surgical management of miscarriage that includes preoperative instructions (e.g. fasting prior to general anaesthetic) and information

about the expected post-operative recovery along with contact telephone numbers should complications arise.

It is recommended that, where possible, products of conception are sent for histopathological analysis following miscarriage, and for genetic analysis if eligibility criteria are met. This testing and also sensitive disposal of pregnancy tissue should be discussed with the patient, and consent obtained for the relevant testing with documentation in the clinical notes. A Sensitive Disposal of Fetal Remains form (SD7) should be completed and sent to the laboratory with the sample along with an examination request form.

Anti-D is required for all rhesus negative patients having surgical management of miscarriage – see relevant local guidance on rhesus D prophylaxis for further guidance.

Spontaneous miscarriage

Patients may present to EPAS having had heavy vaginal bleeding with clots and tissue seen, which is in-keeping with miscarriage. This may arise following a diagnosis of missed miscarriage on ultrasound scan or whilst awaiting a further ultrasound assessment of an inconclusive scan.

Patients should be advised that a miscarriage is likely to have occurred and that the symptoms of pain and bleeding should resolve spontaneously. An ultrasound scan is not required to confirm complete miscarriage in patients whose symptoms are easing, however this should be considered in the event of worsening pain or bleeding, or symptoms that persist beyond 14 days.

Written information should be provided along with contact telephone numbers in the event of worsening symptoms, prolonged bleeding beyond 14 days or if a high sensitivity pregnancy test is positive after 3 weeks.

Incomplete miscarriage/retained products of conception (RPOC)

Following miscarriage, it is normal for women to experience bleeding for up to 2 weeks, however if this is prolonged or if the high sensitivity urinary pregnancy test is positive after 3 weeks then the patient should be advised to attend EPAS for USS and senior medical review to determine ongoing management.

Exercise caution in patients who have had no prior USS confirming the presence of an intrauterine pregnancy. If there is no previous ultrasound scan then serial beta hCG's should be taken and the patient managed as a PUL until diagnostic clarity can be achieved.

The differential diagnosis of prolonged bleeding following miscarriage includes

- Incomplete miscarriage – RPOC refers to fetal or placental tissue that remains in-situ within the uterus following a pregnancy. The presence of RPOC defines incomplete miscarriage.
- Endometritis (with or without persisting RPOC) – this is a type of uterine sepsis that can be severe such that admission for resuscitation is required, with intravenous fluids and antibiotic therapy. Senior medical review is required in this scenario and surgical intervention with antibiotic cover may be necessary.
- Gestational trophoblastic disease (GTD) – can arise after any pregnancy and pathological analysis should be expedited if possible to reach or refute the diagnosis. Though rare, consideration should be given to the symptoms of metastatic GTD (abnormal bleeding, uterine mass on USS, haemoptysis, cough, chest pain, focal neurological symptoms). A negative pregnancy test or serum beta hCG excludes the diagnosis, however hCG remains elevated in the weeks following miscarriage so early presentations can cause clinical confusion.
- AV malformation – this is a very rare complication of pregnancy loss and is usually diagnosed on ultrasound scan and confirmed with MRI.
- Heterotopic pregnancy – also very rare but should be considered particularly in patients who have had treatment for subfertility (eg. ovulation induction or assisted conception treatments).

Investigations to consider:

- High sensitivity urine pregnancy test.
- Speculum examination to exclude RPOC within endocervical canal.
- High and/or low vaginal swabs (HVS/LVS).
- TVUSS – use maximum antero-posterior (AP) diameter to guide management.
- Serum beta hCG.
- FBC, C-reactive protein(CRP), coag and G&S if indicated.

A cut-off AP measurement of <15mm may be used to diagnose complete miscarriage. Where the AP diameter is ≥15mm, colour flow doppler during ultrasound scan can identify vascular RPOC which informs management since vascular RPOC are less likely to resolve spontaneously and more likely to result in prolonged bleeding.

The decision to treat must take into consideration the clinical findings and the patient's wishes.

Expectant management for RPOC

Patients who are found to have RPOC early in the miscarriage process, have minimal RPOC, or who are asymptomatic can opt to have conservative management. This may be as effective as medical management and leads to spontaneous resolution in the majority of patients with no further intervention required. Advice about signs of infection should be provided along with contact telephone numbers in the event of becoming unwell.

Medical management for RPOC

Patients with RPOC may be offered a single dose of misoprostol 800mcg administered sublingually or vaginally, which can be self-administered at home or in hospital. If there has been no vaginal bleeding within 7 days then a follow-up EPAS appointment should be offered.

Advice about signs of infection should be provided along with contact telephone numbers in the event of becoming unwell.

Surgical management for RPOC

Surgical management of RPOC is rarely necessary as expectant and medical management are usually successful. Surgical management can be performed with local or general anaesthetic, and any tissue retrieved should be sent for histological analysis.

Maximum AP diameter	Management	Follow-up
≤ 20mm	Conservative	UPT 3 weeks, notify EPAS if positive
20 – 50mm	Conservative – mild bleeding and clinically well	UPT 3 weeks, notify EPAS if positive
	Medical – moderate bleeding or patient choice	UPT 3 weeks if treatment at home, notify EPAS if positive
	Surgical – moderate bleeding or patient choice Heavy bleeding with haemodynamic compromise Suspected infection or molar pregnancy	Tissue for HPE
>50mm	Surgical	Tissue for HPE
	Consider medical in hospital setting if patient clinically stable and bleeding acceptable – senior review required	Tissue for HPE
Septic Miscarriage	Surgical under USS guidance, ideally with 24h antibiotic cover preop	Tissue for HPE

Anti-D immunoglobulin prophylaxis

Anti-D should be offered at a dose of 250iu (international units) to all rhesus-negative women who have a surgical procedure to manage their miscarriage or ectopic pregnancy.

There is limited evidence about the risks of isoimmunisation after medical management of miscarriage between 10+0 and 11+6 weeks of gestation and the guidance is under review by the British Society of Haematology. The current recommendation is that women having medical management of miscarriage between 10+0 and 11+6 weeks of gestation should receive anti-D (please see separate guideline). A discussion should take place outlining the potential benefits in this scenario, which are relevant for women who wish a future pregnancy.

Do not routinely offer anti-D prophylaxis to patients who:

- Receive solely medical management for an ectopic pregnancy or miscarriage under 10 weeks or
- Have a threatened miscarriage, unless there are repeated episodes of bleeding or
- Have a complete miscarriage or
- Have a pregnancy of unknown location.

Do not use a Kleihauer test for quantifying feto-maternal haemorrhage.

Contraception

Discussion about contraception should be sensitively initiated, as not all patients wish to consider contraception at the time of pregnancy loss and others may wish to pursue another pregnancy soon after completion of miscarriage.

Those who do wish to discuss contraception should be offered information about all their contraceptive options, without any pressure to pursue a particular method.

Advice can be given on the greater efficacy and duration of long acting reversible contraceptives (LARC) and of their safety.

All contraceptive methods can be started at the time of surgical management of miscarriage.

All contraceptive methods (except for IUD) can be started at the time mifepristone and/or misoprostol is taken for medical management of miscarriage. An IUD can be inserted at the time of passage of products of conception during medical management of miscarriage.

If a patient's chosen method of contraception is not available, an alternative bridging method should be provided that can be started immediately, and an onwards referral to sexual health services can be made.

References

1. NICE Guideline NG126 Ectopic pregnancy and miscarriage: diagnosis and initial management. April 2019 (Updated August 2023)
2. ACOG Practice Bulletin Number 200: Early Pregnancy Loss. November 2018
3. J Trinder et al. Management of miscarriage: expectant, medical or surgical? Results of randomized controlled trial (Miscarriage treatment MIST trial) BMJ 2006;1235-1240
4. Qureshi H et al. BCSH guideline for the use if anti-D immunoglobulin for the prevention of haemolytic disease of the fetus and newborn. Transfus Med; February 2014.

Clinical governance

Lead author:	L Beaton
Current responsible author:	L Beaton
Endorsing body:	Maternity Clinical Effectiveness Group
Version number:	3
Approval date:	1.6.25
Review date:	1.6.28

Consultation/distribution record	
Contributing authors:	E Ferguson, S Hughes
Consultation process:	EPAS MDT Consultant group MCEG (emergency meeting) CGCEG group
Distribution:	All in maternity via RDS app

Change record			
Date	**Lead author**	**Change**	**Version**
Aug 2024	L Beaton	Initial document	1
Feb 2025	E Ferguson	Additional comments on process if fetal heart present then subsequently absent	2
1.6.25	E Ferguson	Timing of repeat scans to confirm miscarriage	3