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Management of Miscarriage Guideline

Introduction and Aim
To outline the Early Pregnancy Service
How to diagnose and manage its patients

Objectives

- **Outline of the Early Pregnancy Service**
- **How to diagnose a miscarriage**
- **Management of miscarriage**
- **Management of retained products of conception (RPOC)**

Scope
This policy applies to all healthcare professionals in all locations including those with honorary contracts

Equality Health Impact Assessment	*An Equality Health Impact Assessment (EHIA) has not been completed.*
Documents to read alongside this Procedure	*Disposal of Fetal remains*
Approved by	*Gynaecology Professional Forum*

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Disclaimer
If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author Or the Governance Directorate.

Summary of reviews/amendments

Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
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Management of Miscarriage Guideline

Cardiff and Vale University Health Board

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Early pregnancy assessment services

The Early Pregnancy Assessment Unit offers assessment, treatment and advice to women with problems in early pregnancy. These services are provided by a dedicated team of healthcare professionals competent to diagnose problems with expertise and training in sensitive communication.

Referral criteria to EPAU

EPAU accepts referrals from health care professionals (GPs, doctors, advanced nurse practitioners, midwives and sonographers).

Referrals from private facilities will be accepted with the completion of the appropriate referral form (Appendix 1).

The referral criteria are:

1. Women with pain and/or bleeding between 6 and 16+6 weeks gestation, with a positive pregnancy test
2. Women with a history of recurrent miscarriages who are between 6 and 16+6 weeks pregnant (can also self refer)
3. Women with a history of ectopic pregnancy who are 6 weeks or more gestation. (Can self refer)
4. Women with a history of molar pregnancy who are 6 weeks or more gestation (can self refer)

Women who do not meet these criteria may also be seen on an individual basis after discussion with the EPAU professionals.

Priority will be given to new patients and to patients with clinical signs of an ectopic pregnancy. New patients will be offered an appointment in the next available EPAU clinic.

Women presenting with painless bleeding who are less than 6 weeks pregnant should be advised to repeat their pregnancy test in 7-10 days and to contact the unit if it remains positive. If the pregnancy test is then negative, then sadly the pregnancy has miscarried.

Appointments will not be offered to women to confirm the dates of an early pregnancy. We are unable to provide ultrasound scans for reassurance in women who do not meet our referral criteria.

Women who have complications of terminations of pregnancy and who are clinically well should be assessed in the Pregnancy Advisory Service clinic.

Using ultrasound for diagnosis

Women who attend the EPAU will be offered an ultrasound scan to identify the location of the pregnancy and whether there is a fetal pole and heartbeat. This will be performed by a trained professional who is able to identify an ectopic pregnancy.

Transvaginal ultrasound scan is the standard scan performed for women who are 13 weeks or less gestation. Women should be made aware of this, preferably at the time of appointment booking. In cases where this is unacceptable to the woman, a transabdominal scan (TAS) may be performed, explaining the limitations of this method of scanning and the need for repeat scanning if an abnormality is detected. This discussion should be clearly documented in the clinical record.

When performing an US to determine the viability of an intrauterine pregnancy, first look to identify a fetal heartbeat. If there is no visible heartbeat but there is a visible fetal pole, measure the CRL. Only measure the MSD if the fetal pole is not visible.

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

- If her bleeding gets worse, or persists beyond 14 days, she should return for further assessment.
- If the bleeding stops, she should start or continue routine antenatal care.

Where an intrauterine gestation sac (GS) is seen, but there is no fetal pole or yolk sac (YS), explain to the patient that ectopic pregnancy is possible but unlikely and ensure that they have EPAU contact details. Serum hCGs are not required in this situation unless there are other symptoms or signs that suggest an ectopic pregnancy. The scan should be repeated in 7 - 10 days.

Where a regular intrauterine GS and YS is seen repeat scan in 14 days to confirm Viability. Scans will not be repeated at an interval of less than 7 days unless the clinical signs have changed significantly.

Probe decontamination and maintenance of ultrasound equipment will be performed in line with the UHB protocol. Again I was trying to get rid of these gaps!

Miscarriage Diagnosis

Ultrasound scans will only be performed by trained health professionals who are qualified to assess early pregnancy problems.

A miscarriage is diagnosed on transvaginal ultrasound scan if

There is no fetal heart activity visible and the CRL>7mm

The mean sac diameter (MSD) is >25mm without a visible fetal pole

There is no evidence of an embryo with a heartbeat 14 days after initial scan showing a GS without a YS

There is no evidence of an embryo with a heartbeat 11 days after initial scan showing a GS and a YS

There are retained products of conception within the endometrial cavity.

There is no evidence of an intrauterine pregnancy where one has previously been visualized on an NHS ultrasound scan an empty uterus or RPOCs<15mm)

A miscarriage can be diagnosed, and management offered on a single visit if the above criteria are met and a second opinion ultrasound or trained practitioner confirms the findings. If this is not possible, or if the patient prefers it, a repeat TVS should be offered in 7 days to confirm the diagnosis.

If a miscarriage is suspected on TAS, a TVS should be offered to confirm the findings. If TVS is declined, a repeat confirmatory scan should be arranged for a minimum of 14 days later.

The patients should be made aware of the suspected diagnosis and warned about the possibility of spontaneous miscarriage between these appointments. The patient should be offered written information ward and EPAU contact information and advice about the possible outcome and when to seek medical review.

Women should be made aware that the diagnosis of miscarriage using 1 ultrasound scan at a very early gestation cannot be guaranteed to be 100% accurate and there is a small chance that the diagnosis may be incorrect. Waiting for a repeat scan has no detrimental effects on the outcome of the pregnancy.

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Management of miscarriage

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

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

Anti D should be administered to rhesus negative women in line with the current Rhesus Prophylaxis trust guideline.

Expectant management

Expectant management (conservative or wait-and-see) for 7±14 days can be offered as the first-line management strategy for women with a confirmed diagnosis of miscarriage.

Explore other options if:

1. the woman is at increased risk of hemorrhage (for example, she is in the late first trimester) or
2. she has previous adverse and/or traumatic experience associated with pregnancy (for example, stillbirth, miscarriage or antepartum hemorrhage) or
3. she is at increased risk from the effects of hemorrhage (for example, if she has coagulopathies or is unable to have a blood transfusion) or
4. there is evidence of infection.

If a woman has expectant management of miscarriage, she will need a urine pregnancy test at the end of 3 weeks of the diagnosis of miscarriage. If this is positive, or she has not bled she will need to contact EPAU.

A woman will need a repeat scan only if:

1. after the period of expectant management (14 days) pain and bleeding have not started or
2. pain and bleeding have continued beyond 14 days suggesting miscarriage is incomplete.

Medical Management

At home

Women who meet the eligibility criteria may be offered medication to take away from the hospital and to administer at home at a time convenient to them.

1. Assess Eligibility Criteria
   - Age > 18yrs, Gestation < 10 weeks on scan,
   - A responsible adult at home and within easy reach of the Hospital
   - No allergies to prostaglandins
   - Hb not < 10gm/dl
   - No contraindications to medical management
     - Adrenal, hepatic or renal impairment
     - Severe asthma
     - Prosthetic heart valve or history of endocarditis
     - Hemorrhagic disorders or anticoagulant therapy (caution)
2. Complete Medical Management of Miscarriage written consent form 3b and Medical Management of Miscarriage pathway documents

3. Prescribe
    a. Misoprostol 800mcg as an initial vaginal dose
    b. Misoprostol 400mcg to be given after 3 hours if there has been no bleeding after the first dose
    c. Analgesia e.g. Co-codamol 30/500 one to two tablets four times as a day as required and/or ibuprofen 200mg tds

4. Advise that a urine pregnancy test should be done in three weeks
5. If she has had no bleeding after one week or if the urine pregnancy test remains positive after 3 weeks, arrange follow-up in the EPAU for clinical evaluation and to discuss further management

In Hospital

Women may opt to have medical management in hospital if they prefer or if they do not meet the criteria for an at-home treatment.

If < 10/40 gestation on ultrasound scan

1. Ensure meets eligibility criteria for medical management
    a. No allergies to prostaglandins
    b. No medical contraindications
        i. Adrenal, hepatic or renal impairment
        ii. Severe asthma
        iii. Prosthetic heart valve or history of endocarditis
        iv. Hemorrhagic disorders or anticoagulant therapy (caution).
2. Complete the written consent for Medical Management of Miscarriage and the Medical Management of Miscarriage in Hospital Pathway.
3. Complete Sensitive Disposal of Fetal Remains form.
4. Prescribe
    a. Misoprostol 800 micrograms to be given as a vaginal dose
    b. Misoprostol 400mcg to be given as a vaginal dose after 3 hours if there has been no bleeding after the first dose
    c. Co-codamol 30/500 one to two tablets to be given as required up to four times per day.
5. The patient can be discharged after 6 hours if well, even if no products have been passed. Warn the patient that the miscarriage is likely to occur at home and advise a pregnancy test in 3 weeks. Ensure that she has contact details for the ward.
6. If there has been no bleeding after 1 week, arrange EPAU follow-up to discuss further management.
7. If the patient prefers to remain in hospital until the miscarriage has occurred, further doses of Misoprostol can be given at intervals as described in the pathway for gestations over 10/40.
8. If there a medical concerns about the safety of a miscarriage at home (e.g. cardiac disease, bleeding tendency, on anticoagulants etc.), arrange senior review if no bleeding after second dose. Further doses of Misoprostol may be given, or surgical treatment arranged.
9. Consider sending products of conception for cytogenetics (POC and maternal blood sample in EDTA bottle in purple genetics request form) for women with three or more consecutive miscarriages and refer to Recurrent Miscarriage clinic.

If >10/40 and less than 16+6/40 on ultrasound scan

1. Ensure meets eligibility criteria for medical management (as stated above)
2. Complete the written consent for Medical Management of Miscarriage and the Medical Management of Miscarriage in Hospital Pathway
3. Complete Sensitive Disposal of Fetal Remains form
4. Prescribe
    a. Misoprostol 800 micrograms to be given as a single vaginal dose, followed by Misoprostol 400 micrograms given via the buccal or vaginal route every 3 hours for a total of 5 doses
    b. Co-codamol 30/500 one to two tablets to be given as required up to four times per day
    c. Pethidine or tramadol may also be prescribed as required for additional analgesia. An antiemetic (e.g. cyclizine) should also be prescribed.
2. The patient should be observed on the ward until a complete miscarriage has been confirmed. If the fetus is passed without the placenta, and the patient remains stable, further doses of Misoprostol should be administered until the 5 doses have been given.
3. When complete miscarriage has been confirmed, the patient should be observed on the ward for a further 3hours prior to discharge. Adequate analgesia, ward contact numbers and contraception (if required) should be provided.
4. If the miscarriage has not occurred following 5 doses of Misoprostol, the patients should be reviewed by a senior registrar for a discussion about further management. Options include
    a. Further 3 doses of misoprostol on ward after a 12 hour rest period
    b. Repeat medical management. Mifepristone 200mg may be given 24hours prior to repeat treatment.
    c. Surgical management of miscarriage (ERPOC or MVA, as appropriate)

    The choice of further treatment will depend on gestation, patient wishes and risk factors.

5. Consider sending products of conception for cytogenetics (POC and maternal blood sample in EDTA bottle in purple genetics request form) for women with three or more consecutive miscarriages and refer to Recurrent Miscarriage clinic.

Surgical management

Where clinically appropriate or patient wishes surgical management, offer women the choice of surgical management of miscarriage under general anaesthetic in theatre or under local anaesthetic (MVA – manual vacuum aspiration) in Gynaecology Outpatient Department.

Consider sending products of conception for cytogenetics (POC and maternal blood sample in EDTA bottle in purple genetics request form) for women with three or more consecutive miscarriages and refer to Recurrent Miscarriage clinic.

General Anesthetic

1. Complete surgical booking form (HSQ) and send to pre-operative assessment if necessary.
2. Complete consent form Surgical Management of Miscarriage
3. Complete Sensitive Disposal of Fetal Remains form.
4. Take bloods for FBC and Group and Save.
5. Advise the Directorate Office Deputy Business Manager of the patient who will book her on a theatre list and contact the patient with the details.
6. If patient is unstable, she will need direct admission to Cl for senior review and emergency surgery on the CEPOD list.
7. Products of conception do not need to be routinely sent for histology unless molar pregnancy is suspected.

Manual Vacuum Aspiration

1. Complete consent form Surgical Management of Miscarriage
2. Complete Sensitive Disposal of Fetal Remains form
3. Take bloods for FBC and Group and Save.
4. Commence MVA for Miscarriage pathway
5. Arrange appointment on MVA list by booking on S Drive. Notes will need to be sent to the Gynaecology Nurse Practitioners Office
6. Products of conception do not need to be routinely sent for histology unless molar pregnancy is suspected.

Spontaneous miscarriage

Women may present to the EPAU having had a heavy bleed following a

- diagnosis of miscarriage on scan,
- a suspected miscarriage on scan awaiting confirmation or
- having passed recognizable products of conception

Advise women sensitively that a miscarriage is likely to have occurred. An ultrasound scan is not required to confirm a complete miscarriage as retained products of conception may be seen early in the miscarriage process, prompting unnecessary treatment or investigation.

The women should be offered written information and advised to contact EPAU if pain and bleeding persist after 14 days or if the urine pregnancy test remains positive after 3 weeks.

Counselling Guidance for Management of Miscarriage

Women can be reassured that the choice of management for a diagnosed miscarriage is largely a personal women, with low risks of adverse events with all options.

	Success rate	Risk of hemorrhage Requiring transfusion	Need for emergency SMM	Risk of infection	Rare complication
Expectant Management	79%	2%	44% (mostly patient request)	2-3%	
Medical Management	70-99% incomplete 60-83% missed	2%	13%	2-3%	
Surgical Management	Near 100%	<0.5%	N/A	2-3%	Uterine perforation <0.5% Scarring <0.5% Severe reaction to anaesthetic <1:10,000 Hysterectomy <1:30,000

Miscarriage Association Management of miscarriage 2019

J Trinder at al: Management of miscarriage: expectant, medical or surgical? Results of a randomised controlled trial (miscarriage treatment (MIST) trial). BMJ 2006;332:1235- 1240 (27 May)

Management of Retained Products of Conception

Retained products of conception may be seen on ultrasound during the process of miscarriage. This appearance should not prompt treatment unless

- there is clinical suspicion of infection
- the patient is symptomatic with pain and bleeding in excess of expected or prolonged for more than 14 days *or*
- the urine pregnancy test remains positive after 21 days (3 weeks)

A cut-off of an endometrial thickness of 15mm may be used to guide management. The use of colour Doppler on ultrasound scan can assist in the clinical assessment of RPOCs and inform management. Vascular retained products may be less likely to resolve without treatment and more likely to cause troublesome prolonged bleeding.

The decision to treat must take into account the clinical findings and the patient's wishes. Patients with a thinner endometrium and a defined small area of RPOCs may benefit from further treatment if they have significant symptoms

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Treatment options

Conservative

Women noted to have RPOCs early in the miscarriage process or who are asymptomatic have the option of expectant or conservative management. This may be as effective as medical management.
Advice about signs of infection and contact information for the ward and EPAU should be provided.

Medical

Women with RPOCS may be offered a single dose of vaginal Misoprostol 800mcg. This can be administered at home or in hospital.
They should be advised to contact EPAU to arrange a follow-up appointment if they have had no bleeding within 7 days or develop signs of infection.

Surgical

Surgical management of RPOCs is rarely necessary as expectant and medical management are frequently successful. Where medical treatment has failed, surgical evacuation under local or general anaesthetic will be offered. Hysteroscopy may be required to aid the assessment of chronic RPOCs (present for more than 3 months). In these cases, histology of the tissue is advised.
Surgical management in the presence of infection should be undertaken by a senior clinician.

Medical management of miscarriage

At Home
<10/40
No medical contraindication

Misoprostol 800mcg vaginal or buccal

Repeat dose of misoprostol 400mcg if no bleeding after 3 hours

In hospital
>10/40
Medical indication or patient preference

Misoprostol 800mcg vaginal or buccal

Misoprostol 400mg buccal or vaginal every 3 hours to a maximum of 5 doses

Fetus and placenta passed

Maternal observations including vaginal bleeding on ward for 3 hours

Discharge home with advice, ward contact number and contraception, if desired

Fetus and placenta **not** passed

Rest period of 12 hours

Senior review

Review medical comorbidities and gestation

Offer either

1. Surgical management or
2. Repeat medical treatment
    a. Advise interval of 24 hours
    b. Consider Mifepristone 200mg 24 hours pre-treatment