

## Miscarriage - Expectant, Medical and Surgical Management

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## 1. Purpose of guideline

The purpose of this guideline is to facilitate a streamlined management of patients within Auckland District Health Board (Auckland DHB) who are experiencing a miscarriage. The supervising clinician may elect to vary the management on an individual basis.

Conservative management may be either expectant or medication (with misoprostol). With both approaches the goal is the same: an empty uterus without the use of surgery.

Surgical management is offered where a patient chooses to have a surgical evacuation of the uterus (evacuation of retained products of conception (ERPOC)) under general anaesthetic.

## 2. Diagnostic criteria for a failed pregnancy (missed miscarriage)

The diagnosis of early pregnancy failure or miscarriage should be made by an experienced clinician on standardised criteria using clinical and ultrasound findings in the presence of a positive pregnancy test. Sonographers, registrars and sonologists performing antenatal ultrasound examinations should use the correct criteria regarding the diagnosis of missed miscarriage. Transvaginal ultrasound examination should always be performed for all first trimester ultrasound examinations for assessment of status of pregnancy.

### **Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) definitions**

Early pregnancy failure:

- Gestational sac with no fetus and mean sac diameter > 25mm (anembryonic pregnancy/a fetal sac/blighted ovum).
- Fetus present but no cardiac activity with crown-rump length (CRL)  $\geq$  7mm (missed abortion) or poor or absent growth of sac or fetus over one week.

As the diagnosis of a failed pregnancy cannot be made until the sac size is (or has failed to reach) 25mm, then it follows that the interval between scans is dependent on the MSD at initial presentation. A normal gestational sac grows at a rate of 1mm/day so a Mean Sac Diameter of 12mm should be rescanned no earlier than 13 days. Using this rule, maternal anxiety should be reduced by avoiding repeated inconclusive scans and also decreases the number of unnecessary scans.

**Note:** The exception to this is when the patient has had known In vitro fertilization (IVF) treatment. The embryo transfer and insemination dates are known and the records are available in the patient's Fertility Providers documents. Therefore this can be assessed earlier for failed pregnancy between six and seven weeks and earlier medical or surgical miscarriage management can be offered if that is the patient's preference.

If the site of the pregnancy is unknown, it should be managed as a suspected ectopic pregnancy (refer Ectopic Pregnancy guideline, see [Associated documents](#)).

### 3. Baseline procedure and information

#### **Anti-D for pregnancy 12/40 weeks or more**

The use of anti Rh gamma globulin is to inactivate fetal Rh positive cells which might pass the placental barrier and enter the maternal circulation.

Anti-D Immunoglobulin is offered to the Rh(D) negative patient following a sensitising event and should be given within 72 hours within the second trimester

A current group and hold is needed to confirm Rh factor.

250 IU can be used to provide protection for the Rh(D) negative patient following sensitising events during the first trimester of pregnancy. The exception is in multiple pregnancies where the standard 625 IU continues to be recommended.

Anti-D is a blood product and written consent is needed. To request Anti-D, fill in the blood components or product form and send it to the blood bank via Lamson tube.

Document in the patient's clinical record once the Anti-D has been administered.

#### **Decision for treatment modality**

Full counselling is given offering options of surgical versus expectant versus medication management and the risk versus benefit associated with each option discussed.

Studies show a longer duration of bleeding with conservative management, but the haemoglobin drop is no different.

The pain of passing the pregnancy tissue when undertaking expectant or medical management will often require pain relief medication to be taken. In the case of surgical management, the tissue is removed while the patient is under anaesthetic. She may need some postoperative pain relief.

Infection rates appear to be similar whichever regime is used.

Success is defined as an empty uterus without the need for secondary evacuation, and is probably higher after longer intervals. There is a two to four per cent risk of incomplete evacuation with surgery.

#### **Treatment options of early pregnancy failure (missed miscarriage/blighted ovum)**

- Expectant management (wait and see)
- Surgical management, evacuation of the uterus under anaesthetic –(EVAC)
- Medical management (administration of misoprostol and mifepristone).

#### **Incomplete miscarriage**

Expectant management has an 80 - 90% success rate, therefore should be recommended as the first line of treatment for incomplete miscarriage. There is no physical advantage to surgical or medical management for incomplete miscarriage providing all criteria are met.

Information to the patient about what to expect is crucial to the success of expectant management.

Any of the following patient presentations should be assessed and appropriate action taken:

- Haemodynamically unstable
- Acute abdomen
- Sepsis
- Abnormal full blood count (FBC)
- Empty uterus on scan
- Molar pregnancy
- Intrauterine contraceptive device (IUCD) insitu
- History of non compliance
- Lack of consent
- Breastfeeding
- Lack of phone
- Lack of transport
- Lack of English language.

#### 4. Initial assessment discharge checklist

Initial assessment discharge checklist for both expectant and medical management:

- FBC, group and antibody screen, serum Beta human chorionic gonadotropin (BHCG)
- The patient has information leaflets regarding:
  - Managing Your Miscarriage, Options for Your Care
  - Pregnancy Loss Service
  - Your guide to blood transfusion - Anti-D Immunoglobulin (where applicable).

The patient has had or been given:

- Discussion on options and if appropriate a prescription for pain relief and anti-emetics
- A follow up Early Pregnancy Assessment Unit (EPAU) appointment including a scan or without a scan+/- scan, FBC BHCG
- Contact phone numbers for EPAU and Womens Assessment Unit (WAU).

#### 5. Expectant management

Information about what to expect is crucial to the success of medication or expectant management. After deciding on expectant management the following should occur:

- Explanation of the information within the leaflet 'Managing your Miscarriage, Options for Your Care'
- Explanation of follow up
- Opportunity to ask questions
- Documentation
- Give Labtests form for BHCG in one week. Explain that there will be a phone call to follow up the result
- Book a follow up EPAU appointment for two weeks time (see Figure 1)
- Provide a storage pot and encourage collection/return of products of conception (POCs). These can be stored in refrigerator for up to three days but not frozen.

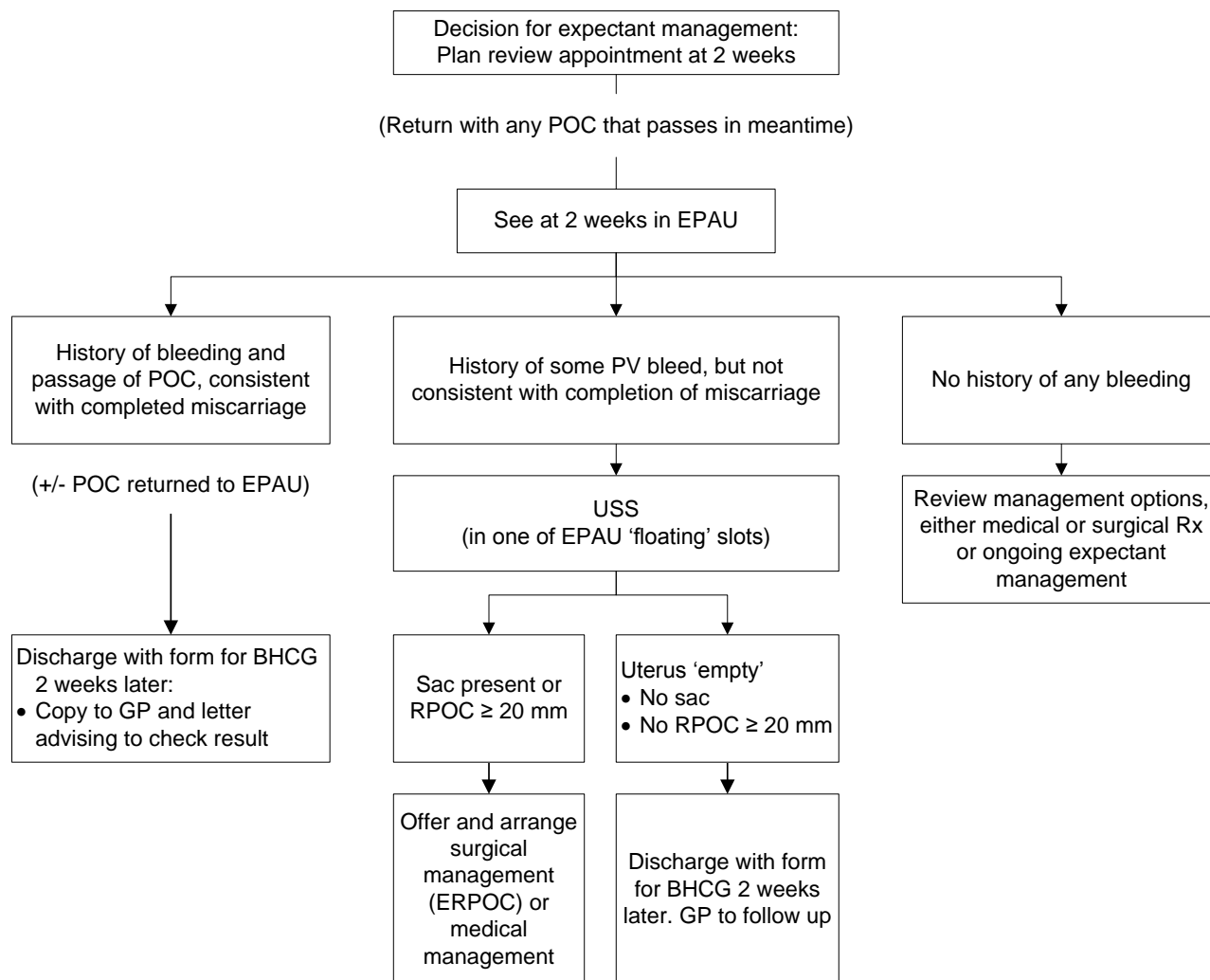


Figure 1: Expectant management two week follow up

- Expectant management timeframe is two weeks to allow sufficient time for POC to pass. Some patients may choose to wait beyond two weeks, or may change to medical and orsurgical management at any time.
- Once discharged from the expectant management pathway, the patient is advised to have a follow up BHCG blood test. The result is copied to the General Practitioner (GP) who is advised to continue with weekly tests until the BHCG is < 5 units.
- Ensure any histology report is viewed.

#### By four weeks

- Surgical evacuation or medical management if miscarriage not complete by four weeks or sooner at the patient's request.

## 6. Medical management with Mifepristone and Misoprostol

### 6.1 Nurse's Responsibilities

- Exclude patients with an allergy to misoprostol or prostaglandins,

- Contraindications:
  - Known allergy to prostaglandins, mifepristone or misoprostol
  - Pregnancy of unknown location, suspected ectopic or molar pregnancy
  - Known bleeding disorder, concurrent anticoagulants and or haemoglobin (HB) >80 g/L
  - Intrauterine device in place
  - Adrenal failure
  - Porphyria
  - Patient currently shows signs of:
    - haemodynamically unstable
    - shock
    - pelvic infection, sepsis.

Precautions:

- Asthma (avoid if severe/uncontrolled)
  - Ambivalent decision.
- Management is usually to be as an outpatient, coordinated from EPAU.
  - Baseline observations (temperature, pulse, Blood Pressure, oxygen saturation and pain score).
  - As directed by EPAU Standing Order:
    - *Mifepristone & Misoprostol - Early Pregnancy Assessment Unit (EPAU).*
  - Day 1: Administer mifepristone 200 mg PO at EPAU clinic and give pharmacy re-pack misoprostol 800 microgram to take (vaginal/buccal) at home 24 hours later.
  - Day2: Misoprostol 800 microgram self medicated at home ( vaginal/buccal).
  - Day 3 : if required, misoprostol 400 microgram to be given in EPAU Clinic Provide ‘Managing your Miscarriage, Options for Your Care’ and a container for POC.
  - The EPAU nurse to telephone the next day (day two) to assess the outcome of the misoprostol treatment.

Once prescribed, in accordance with the Auckland DHB ‘Medications - Prescribing’ policy, this medication should be administered and documented in accordance with the Auckland DHB ‘Medications - Administration’ policy (see [Associated documents](#)).

## 6.2 Follow up post medical management (Mifepristone & Misoprostol)

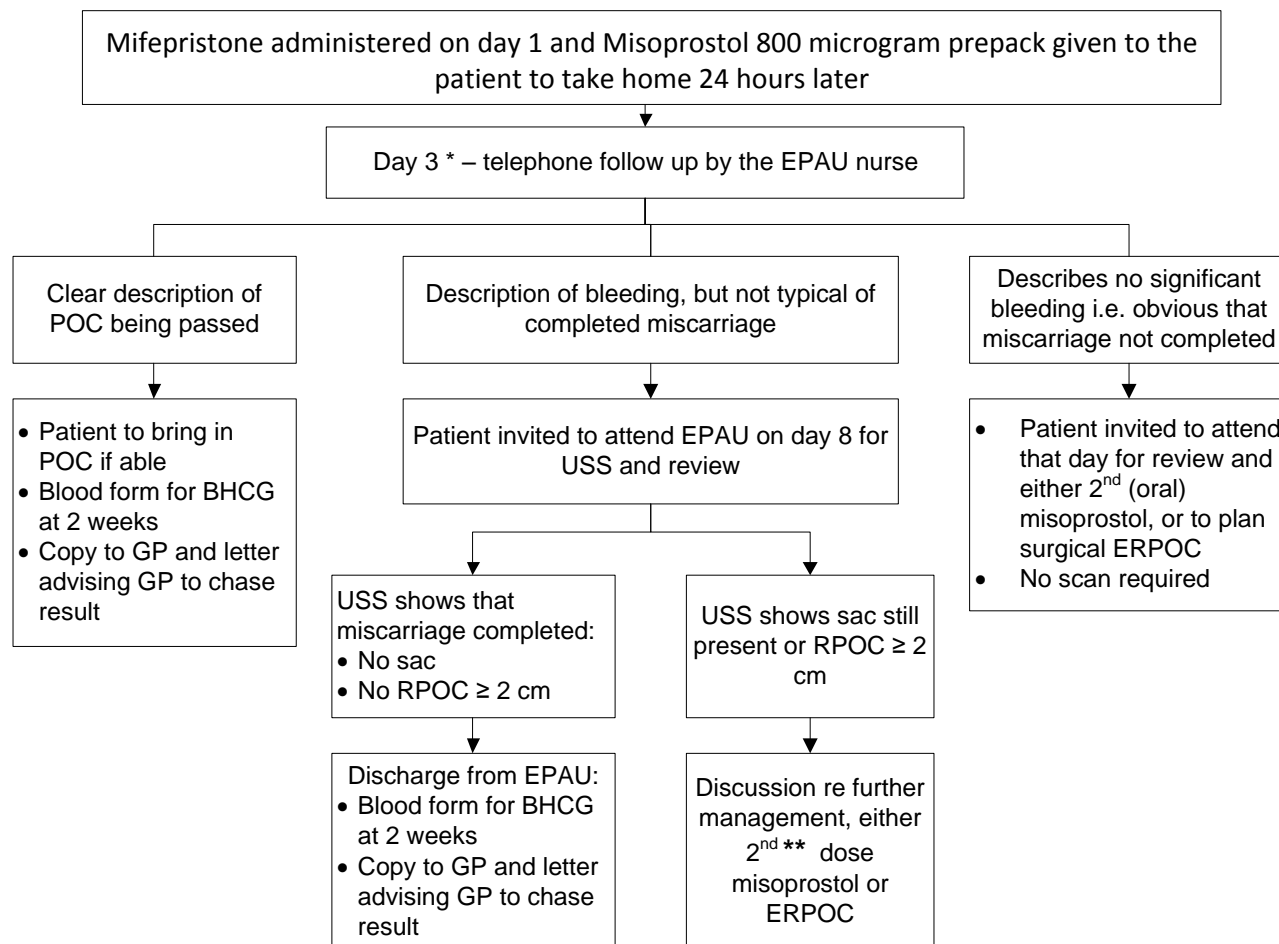
| Day of assessment in EPAU | Day two*  | Day three telephone call | Day 4 (if required) |
|---------------------------|-----------|--------------------------|---------------------|
| Monday                    | Tuesday   | Wednesday                | Thursday            |
| Tuesday                   | Wednesday | Thursday                 | Friday              |
| Wednesday                 | Thursday  | Friday                   | Monday              |
| Thursday                  | Friday    | Monday                   | Tuesday             |
| Friday                    | Monday    | Tuesday                  | Wednesday           |

\* If initial treatment on Friday, then follow up call will be on the next working day, i.e. Monday.

### 6.3 Day telephone call by registered nurse in EPAU

Telephone call the next morning (day from EPAU nurse to enquire whether POC have passed following the initial (specific clinical questions to be asked) (see Figure 2):

- If the patient clearly describes passage of POC then no further ultrasound scan is necessary. Nurse to arrange seven days follow up BHCG blood test and for delivery of any POC specimen to EPAU.
- If obvious that POC has not passed overnight then repeat appointment arranged that day for either second misoprostol dose (400 micrograms ) or to plan surgical ERPOC. After two unsuccessful doses of misoprostol the patient should proceed to surgical ERPOC.
- If the EPAU nurse is unable to ascertain from the telephone call whether the misoprostol treatment has been successful, there should be a follow up scan and review booked for day eight. Management thereafter will depend on USS result. If no sac or RPOC > 2cm, then misoprostol has been successful. Otherwise, options of further misoprostol or surgical ERPOC.



\* Or next working day if initial treatment on Friday

\*\* After 2 doses misoprostol, if still significant RPOC, then recommend ERPOC

Figure 2: Post medical management - day follow up

#### 6.4 EPAU follow up after day

If first was successful then the patient is discharged to her GP after day seven BHCG has shown 80% drop. She is given a Labtests form for a BHCG at two weeks and discharge letter asking her GP to chase the result. To assist with the understanding of BHCG level during pregnancy, refer to the National Women's Serial Serum Beta hCG form ([Appendix 1](#)).

If a second dose of misoprostol is used on day, then further telephone follow up to occur on day with similar options of care as those following initial misoprostol treatment.

#### 6.5 At two weeks - post discharge

BHCG checked using a Labtests form, with GP to check up on result.

Ensure histology report is reviewed to exclude gestational trophoblastic disease. If positive, refer to Gynae-oncology service.

### 7. Surgical management

- Assessment at EPAU
- EPAU nurse discusses the three options with the patient (expectant, medical and surgical)
- The patient is seen by the Resident Medical Officer (RMO) or EPAU Nurse and appropriate plan of care decided on
- If surgical management, RMO to explain procedure and complete consents (Senior House Officer to consult with their registrar if required)
- Confirm space availability for EVAC list with surgical booker
- Inform the patient of EVAC appointment, where and when to present
- The patient to return to GP for follow up care.

### 8. Patient information - summary of important points

Information to the patient after medication or expectant management (refer to 'Managing your Miscarriage, Options for Your Care' information leaflet):

- Expect bleeding for up to two weeks. If concerned regarding heavy or prolonged bleeding, patient to ring EPAU or WAU for advice.
- Side effects of misoprostol include: nausea, vomiting, fever, diarrhoea, headache, dizziness
- Expect pain during the passage of pregnancy tissue from the uterus. Take regular analgesia and advise the patient that if pain persists after tissue has passed, she should telephone EPAU (WAU if after hours) to speak with a gynaecology nurse.
- A sac or fetus may be seen in any tissue that is passed.
- Encourage the patient to keep any tissue passed for histology and bring back in pot provided. However sensitivity is required in giving this advice.
- Avoid intercourse, tampons, swimming and bathing for two weeks or for duration of bleeding
- If any signs of sepsis e.g. fever, per vagina (PV) discharge, undue pain, unwell, patient to ring EPAU or WAU for advice.
- Expect a normal grief reaction. Counselling should be offered to all patients.



- Call at any time to speak to a nurse (numbers provided).
- There is an 80% chance of avoiding a dilatation (of cervix) and curettage (of uterus) (D&C) with a good outcome.

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## 10. Associated documents

- Ectopic Pregnancy - diagnosis and management in Gynaecology and Maternal Fetal Medicine (MFM) services
- Informed Consent
- Medications - Administration
- Medications - Allergies & Adverse Drug Reactions (ADRs) Identification, Documentation & Recording
- Medications – Prescribing
- Medicines standing Order: Mifepristone & Misoprostol - Early Pregnancy Assessment Unit (EPAU)

### Patient information

- Your guide to blood transfusion - Anti-D Immunoglobulin
- Managing Your Miscarriage, Options for Your Care
- Miscarriage – Misoprostol and Mifepristone
- Miscarriage - Understanding Miscarriage
- Pregnancy Loss Service - NWH Social Work & Counselling Service

## 11. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

## 12. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed **before** the scheduled date, they should contact the owner or [Document Control](#) without delay.

## Appendix 1: National women's serial serum beta hCG



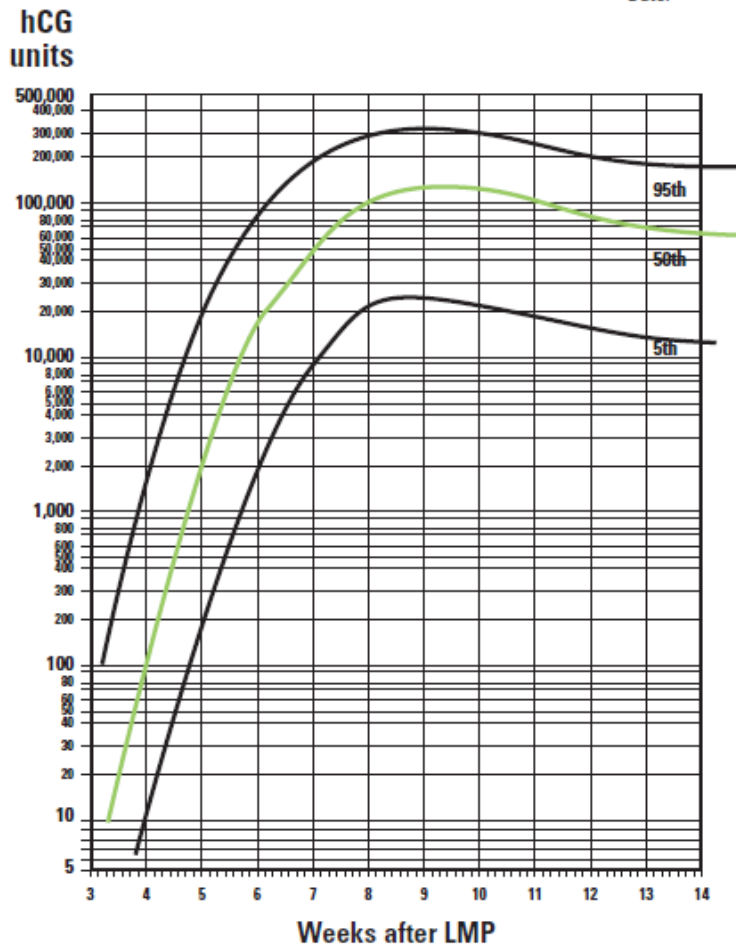
**MUST ATTACH PATIENT LABEL HERE**

SURNAME: \_\_\_\_\_ NHI: \_\_\_\_\_

FIRST NAMES: \_\_\_\_\_ DOB: \_\_\_\_\_

**Please ensure you attach the correct visit patient label**

Date: \_\_\_\_\_



**hCG in normal pregnancy**

The developing placenta begins producing hCG about 3 days after implantation. The sequence of events is:

|  | Gestation (Weeks) | Mean hCG (units) |
|--|-------------------|------------------|
| 1st day LMP (last monthly period)              | 0                 | 0                |
| fertilisation                                  | 2                 | 0                |
| implantation                                   | 3                 | 0                |
| placenta produces measurable hCG               | 3½                | 10               |
| 1st day of missed periods                      | 4                 | 100              |
| gestational sac becomes visible on ultra-sound | 5                 | 1,500            |
| peak hCG level                                 | 9                 | 120,000          |

S E R I A L S E R U M B E T A H C G

CR5731