Gynaecology: Management of Miscarriage

University Hospitals of Leicester NHS Trust

Trust ref: C30/2013

"Currently UHL utilises the terms ‘woman’ and ‘women’ within their gynaecology, obstetric and maternity guidelines but these recommendations will also apply to people who do not identify as women but are pregnant or have given birth."

Contents

1. Introduction and who the guideline applies to:

The aim of this guideline is to advise practitioners of the benefits and risks of all of the methods of managing patients with missed/ incomplete/threatened miscarriage and to give them the facts needed to assist patients in their decision-making.

Related UHL Documents:

- **Ectopic Pregnancy UHL Gynaecology Guideline**
- **Imaging Reporting - Gynaecology UHL Imaging Guideline**
- **Imaging Referral – Gynaecology UHL Imaging Guideline**
- **Anti D Immunoglobulin UHL Obstetric Guideline**
- **Fetal Remains Up To 16 Weeks Gestation - Sensitive Disposal UHL Policy**
- **Antimicrobial Summary UHL Womens Guideline**

Background / Introduction:

Miscarriage of a pregnancy in the first 12 weeks is thought to occur in approximately 20% of pregnancies[1]. In the majority of cases no cause of miscarriage is found, however it is thought that most first trimester miscarriages are most likely to be due to chromosomal abnormailities[2]. The risk of miscarriage increases with age, lifestyle factors such as smoking and some maternal disease such as diabetes. Miscarriage is not labelled as "recurrent" unless 2 consecutive miscarriages occur with the same partner.

There are three management options for Miscarriage.

1. Expectant or Conservative
2. Medical management of miscarriage
3. Surgical management of miscarriage (surgical evacuation of retained products of conception (SERPC - EVA) or manual vacuum aspiration (MVA)).

Some clinical situations dictate a particular method of management of miscarriage but the majority of cases can be managed in a way most acceptable to the patient.

2. Ultrasound diagnosis of miscarriage:

- The diagnosis of miscarriage using one ultrasound scan cannot be guaranteed to be 100% accurate and there is a small chance that the diagnosis may be incorrect, particularly at very early gestational ages.
- patients should be offered a confirmatory USS

Transvaginal scan, first scan	Offer treatment	Rescan	Second opinion at rescan
CRL< 7mm or MSD (no FP) <25mm	No	7-10days	Yes – since it's a second scan, to confirm miscarriage If viable IUP, 2nd opinion not required
CRL ≥ 7mm and no FHB or MSD ≥25mm and no fetal pole	Need a second opinion to confirm viability/diagnosis of miscarriage and/or Offer repeat scan if patient requested	7-10days	Yes, to confirm miscarriage
Transabdominal scan, first scan	Offer treatment	Rescan	Second opinion at rescan
If no FH visible, measure CRL and document	No	14days	Yes – since it's a second scan, to confirm miscarriage If viable IUP, 2nd opinion not required
If not fetal pole visible, measure gestational sac diameter and document	No	14days	Yes – since it's a second scan, to confirm miscarriage If viable IUP, 2nd opinion not required

- Deviation from these intervals must be discussed with the consultant.

Important points for clinicians:

- Do not use gestational age from the last menstrual period alone to determine whether fetal heartbeat should be visible.
- Give women the contact details for EPAU/GAU so they can speak to someone with experience of caring for women with early pregnancy complications and can advise on appropriate care.
- An empty uterus on an ultrasound scan, in the absence of a previous scan confirming an intrauterine pregnancy, must be treated as a pregnancy of unknown location. Arrange follow up for serum BhCG levels and further review until a definitive diagnosis is made.
- Women must always be *offered* a further scan at the specified intervals to confirm the absence of fetal heart *at all gestations*/CRL measurements. This is to be encouraged before commencing any treatment for missed miscarriage.
- If scan done in private sector reports missed miscarriage, repeat Trust scan should be performed and diagnosis confirmed before offering treatment.

3. Management of Threatened miscarriage

Management of Threatened miscarriage – where a patient with a confirmed intrauterine pregnancy with a fetal heartbeat presents with vaginal bleeding and the cervical os remains closed.
The management differs depending on the patient's previous obstetric history:

- If the woman has no history of a previous miscarriage:
  - Offer a scan to check for the viability of the pregnancy as soon as practical
  - If an ultrasound scan confirms an intrauterine pregnancy with a fetal heartbeat present, the patient can be reassured and discharged.
  - Advise her to start or continue routine antenatal care.
  - Advise her to call for further advice or assessment if the bleeding worsens or persists beyond 14days.
- If the woman has a history of previous miscarriage:
  - Offer vaginal micronized progesterone 400mg twice daily*.
  - Offer a scan to check for the viability of the pregnancy as soon as practical
  - If a fetal heartbeat is confirmed on a scan, continue this progesterone until 16 completed weeks gestation.

The need for Anti-D will be assessed in line with trust guideline.

Threatened marriage: when a woman less than 16 weeks of pregnancy with an intrauterine pregnancy with a heartbeat, confirmed on ultrasound, experiences vaginal bleeding and on examination of her cervix the os is closed. In this situation the pregnancy may continue onto term or result in miscarriage.

The management of women less than 16 weeks gestation who present with vaginal bleeding and on examination the cervix appears closed, depends on the **severity of bleeding** and the woman's **previous obstetric history**. See flow chart for summary, appendix 1.

No further/mild/moderate bleeding • For women who have no further/mild/moderate loss and are haemodynamically stable, the next available ultrasound scan should be offered. • If the patient is in agreement, she can be discharged home with open access to the ward. • The patient should be given contact details for the ward and advised that in the event of heavy bleeding, unacceptable or severe pain or she feels unwell, she should contact GAU by telephone and return to the ward directly. • The woman should also be advised to call 999 in the event of collapse.	*Severe bleeding* • If the cervical os appears closed but blood loss is severe or has recently been severe, then the patient should be admitted for observation. • IV access should be obtained and bloods sent (FBC, clotting screen, G&S/crossmatch). • IV fluids should be given. • If the patient is haemodynamically unstable or the blood loss does not settle quickly, senior medical input should be promptly sought.

❖ *No previous miscarriage(s):*
- Offer an ultrasound scan as soon as practically possible.
- If an ultrasound scan confirms an intrauterine fetus with a heartbeat then the patient can be reassured and advised that if her bleeding gets worse or persists beyond 14 days she should return for reassessment. If the patient's bleeding stops, she can resume routine antenatal care[1].
- Advise the patient to book with the community midwife

❖ *Previous miscarriage(s):*
- If the patient has a history of a previous miscarriage, offer **vaginal micronized progesterone (*Utrogestan*) 400mg twice daily**.
- Offer an ultrasound scan as soon as practically possible. The vaginal progesterone however can be initiated prior to the ultrasound as long as a previous ultrasound scan has shown an intrauterine pregnancy with a heartbeat.
- If an ultrasound scan confirms an intrauterine fetus with a heartbeat then the patient should continue this progesterone until **16 completed weeks of pregnancy**.

- The patient can be reassured and advised that if her bleeding gets worse or persists beyond 14 days she should return for reassessment. If the patient's bleeding stops, she can resume routine antenatal care[1]. Advise the patient to book with the community midwife
  Recent evidence[16] suggests benefit (an increase in number of live births) in women with early pregnancy bleeding and a previous miscarriage for those women taking micronized progesterone. However, there was no benefit in women with early pregnancy bleeding but no previous miscarriage, nor in women with previous miscarriage but no early pregnancy bleeding.

If bleeding occurs over 12 weeks of gestation or occurs on more than one occasion at 11+/40weeks, Anti-D prophylaxis needs to be considered, please refer to the trust guideline.

4. Management of Inevitable miscarriage

Management of Inevitable miscarriage – where a patient presents with pain and /or bleeding under 16/40 gestation and the cervical os is open.
Patient will be assessed and informed sensitively that she will miscarry / is miscarrying the pregnancy. Where products of conception are seen at the cervix they should be removed gently with sponge holding forceps. Further management will be discussed on case by case basis. Pregnancy tissues will be disposed of following local policy on sensitive disposal of fetal remains.

Clinical diagnosis of inevitable miscarriage – most of which will be incomplete is made on the basis of symptoms and signs:

- Positive urine pregnancy test
- Pain (usually crampy)
- Bleeding (usually heavy period type +/- clots)
- Abdominal tenderness
- Open **internal** cervical os (i.e. not multips os) +/- passage of products of conception.

Where a patient is actively miscarrying / bleeding heavily it may be appropriate to give Ergometrine, Syntometrine or Misoprostol or even perform an emergency surgical ERPC. Medical support should be urgently sought from a registrar or above.

If clinically stable, **expectant management** is an effective and acceptable method to offer women who miscarry[3]. Women may wish to continue expectant management or consider a medical or surgical approach at a later date if required. Expectant management for incomplete miscarriage is highly effective[3].

On discharge, give contact details of EPAU/GAU to the patient with safety net advice.

5. Management of Missed miscarriage:

Management of Missed Miscarriage – where a patient presents with no or minimal symptoms and is found to have a missed miscarriage under 16/40 gestation on ultrasound. Expectant management is recommended for the first 7-14 days unless there is increased risk of bleeding/infection/previous bad experience. Following this she may be offered further conservative management, medical or surgical management depending on clinical circumstances and patient preference.

Once a miscarriage is diagnosed, always offer choice of clinically appropriate options and **e**xplain pros/cons of each option in context of the individualised patient's circumstances

- **Conservative management (recommended first line) in the first instance or**
- **Medical management** – can be carried out at home/in hospital as appropriate
- **Surgical (EVA or MVA)** methods should be reserved for those who are less than 12 weeks size on scan and:
    - Make a specific request for surgical management
    - Change their mind during the course of conservative management

    - Have heavy bleeding/are haemodynamically unstable
    - ➢ Have evidence of infected tissue – procedure must be covered with antibiotics 12-24hrs pre-operatively so long as haemodynamically stable – refer to **Antimicrobial Summary UHL Womens Guideline**
    - Where molar pregnancy is suspected on scan
- Give patient a contact number for GAU / EPAU and explain open access.
- See comparison of management options in Appendix 5

Management of RPOC / Incomplete Miscarriage – where a patient presents with continued bleeding after 3 weeks or heavy bleeding +/- continued pain, incomplete miscarriage and or endometritis may be suspected or more unusually AVM/GTD/Heterotopic.

6. Management of RPOC/ Incomplete miscarriage

Following miscarriage, it is normal for a woman to experience uterine bleeding of up to three weeks.
A patient should be advised to do a urine pregnancy test, three weeks after the miscarriage. If this is positive, advise them to call GAU or EPAU for further review.

PATIENTS DO NOT REQUIRE ROUTINE RESCANNING FOLLOWING MISCARRIAGE.
Only patients with:
- Prolonged (>3/52) or heavy bleeding (usually associated with pain)
- Positive urine pregnancy test after 3/52

…need to be referred for senior review and consideration of a scan.

❖ **Differential Diagnosis of prolonged or excessive bleeding after miscarriage:**
- *Incomplete miscarriage* – retained products of conception (RPOC) refers to fetal or placental tissue which remains in the uterus following a pregnancy. The presence of RPOC defines incomplete miscarriage.
- *Endometritis* – with or without concurrent RPOC. If a woman is clinically unstable, she needs admission for resuscitation with IVI, IV/IM antibiotic therapy and senior review. Surgical management under US guidance and antibiotic cover may be required.
- *Gestational trophoblastic disease* – may follow any pregnancy. Consider symptoms of metastatic GTD (eg. Abnormal bleeding, vaginal mass, chest: haemoptysis, dry cough, SoB, chest pain, focal neurological symptoms). A negative pregnancy test and serum BhCG effectively excludes GTD.
- *AV malformation* – very rare, diagnosed on USS, confirmed on MRI imaging.
- *Heterotopic pregnancy* - to be considered if history of clomifene for ovulation induction and /or assisted conception treatment.

❖ **Investigations to consider:**
- Urine pregnancy test (UPT)
- Speculum examination – remove any POC from cervix
- HVS
- TV US – AP diameter is the measurement required for assessment.
- Serum BhCG if UPT positive
- FBC, CRP, clotting and G&S.

NB. Organised clot and POC appear very similar on US. It is therefore very important that the clinical situation is considered when interpreting the scan findings.

There is no agreed measurement of RPOC which necessitates treatment – **this is a clinical decision based on symptoms alone**. The USS is only a guide.
Expectant management for incomplete miscarriage is highly effective[2]

- In 79% of cases of **incomplete miscarriage** where **AP diameter of POC = <50mm,** the POC will pass spontaneously in 3 days. Success rates are higher with prolonged follow-up.

❖ Ultrasound diagnosis and management of incomplete miscarriage

ET or Intrauterine tissue AP diameter	Preferred management	F/U	
≤20mm	Conservative	UPT in 3/52, call EPAU with result	ANY RPOC <20mm are unlikely to be clinically significant. Likely to be reabsorbed slowly or passed spontaneously at next menstruation ** Complete miscarriage
20-50mm	Conservative – if bleeding is not too heavy and patient clinically well.	EPAU telephone call in 1-2/52. UPT in 3/52	Patient should be involved in decision of management choice
	Medical – if bleeding moderate or patient choice	UPT in 3/52	
	Surgical (SERPC or MVA) – if bleeding moderate or patient choice SERPC if patient is unstable or suspicion of infection or GTD	UPT in 3/52	Consider the need for antibiotics if suspicious of infection
>50mm with open cervical os	Surgical (SERPC or MVA)	UPT in 3/52	
	Consider medical management if clinically stable and bleeding not heavy, d/w SpR or consultant	UPT in 3/52	
Septic miscarriage = infected tissue present/suspected in the uterine cavity	SERPC under US guidance and with antibiotic cover (ideally 12-24hr pre-operatively)	UPT in 3/52	

**A scan diagnosis of complete miscarriage is only if a previous scan showed an IUP or products of conception have been seen. If no previous scan showing IUP or no definite POC seen and sent for histology, exclude ectopic pregnancy with serial serum BhCG.

RECOMMENDATION 6A: Conservative management of Incomplete or Missed miscarriage

- ❖ **Conservative/expectant management** is an effective and acceptable method to offer women who miscarry[3].
  - This is suitable providing there are no signs of infection (signs such as: offensive vaginal discharge and pyrexia/fever/rigors).
- ❖ Patient will have open access to EPAU/GAU. The duration to completion of a **missed miscarriage** may be as long as 6-8weeks[4], so patient counselling is important particularly in women with an intact sac who wish to adopt a conservative approach. For these women, overall efficacy rates are lower.

- Follow up for conservative management: - telephone call at 10-14days from EPAU
  - Review clinical situation to determine likelihood of completion of miscarriage
  - Arrange F/U at EPAU if necessary
  - Consider a rescan only if necessary – "will it change the management?"
  - If the patient wishes to continue conservative management, arrange a further F/U with EPAU 10-14days later
  - If after one month, completion of miscarriage is thought unlikely, arrange review by SpR or consultant and consider medical or surgical management.

RECOMMENDATION 6B: Medical management of Incomplete/Missed miscarriage

Gestation here refers to the size of the fetus (CRL) or sac (MSD) measured on scan, not gestation by LMP.

- **Efficacy:**
  - Various rates have been quoted with medical management in non-viable pregnancies. The efficacy is greatest for those pregnancies of less than 10weeks gestation by scan measurements (92%).[8] Women may choose to take the treatment at home where <9/40 by scan measurement.
  - Patients with gestations >9/40 should be informed that the procedure may take longer, with further doses being required and may need an overnight stay. Women over 9/40 should undergo treatment in hospital.

Misoprostol (Cytotec) is used in the medical management of missed and incomplete miscarriage. This is an unlicensed use, however is used universally in the management of miscarriage and is recommended by NICE.

The suggested regime is single dose Misoprostol 800mcg PV/PR/PO/SL (same formulation is used for all routes of administration).

- Dose for both incomplete and missed miscarriages >9/40 = Misoprostol 800mcg (further doses may be given for more advanced gestations – see flow chart in Appendix 2).
- The maximum dose of *Misoprostol* in 24h is 2,400mcg.
- It may be given vaginally or orally and is most effective if administered vaginally (95% versus 87% respectively)[7].
- There is also substantial evidence for its use rectally, particularly if bleeding is heavy with an incomplete/inevitable miscarriage.
- Breastfeeding — *Misoprostol* is excreted transiently and at low levels in human breast milk. It appears that the levels rise and decline within three to five hours of administration. It is reasonable to counsel women who receive *Misoprostol* while breastfeeding to pump and discard all milk produced within five hours after each dose.[12]

Alternatively, *Syntometrine* 1ml IM (*Ergometrine* 500mcg+oxytocin 5 IU per ml) or *Ergometrine* 500mcg IM can be used for inevitable miscarriage where surgical ERPC might be avoided (avoid in hypertensive patients or with cardiac/renal/liver disease).

- **Increased Risk of Uterine Rupture**[12]

The following patients may be at increased risk of uterine rupture with **Misoprostol** and a **lower dose of 400mcg** should be used with any subsequent doses required being 200mcg:

- **Scarred** uterus undergoing **second trimester** management of miscarriage (>14/40) - risk 0.3%
- Previous classical or T-shaped uterine incision or extensive transfundal uterine surgery
- Grandmultiparity (P≥5)
- Concurrent use of Oxytocin
- ≥3 LSCS - there is no good evidence that even multiple previous LSCS poses a significant risk of rupture with the use of *Misoprostol* in the first trimester. However it may be prudent to be cautious and recommend a lower dose with patients with ≥3 LSCS or a significant scar defect or reduced residual myometrial thickness on TV US.

Contraindications to Misoprostol	
Absolute	**Relative**
Allergy	Severe asthma
Hypertension/hypotension	Anaemia (<80g/L)
Adrenal insufficiency	Suspected molar pregnancy
Long term glucocorticoid therapy	
Haemoglobinopathies	
Anticoagulant therapy	
Porphyria	
Glaucoma	
Mitral stenosis	
Presence of IUD – remove first	

Outpatient management for incomplete miscarriage (AP 20-50mm RPOC):

- Single dose of **Misoprostol 800mcg** (PO,SL or PV)
- If patient is haemodynamically stable, not in too much pain or bleeding heavily.
- Can go home if has a competent adult is able to stay with her
- Open access to EPAU/GAU
- UPT in 3/52 and call EPAU with result
- Advise patient next period may be heavier than usual

Outpatient management for missed miscarriage:

- For women <9/40
- Single dose of **Misoprostol 800mcg** (PO,SL or PV)
- **The same as OP management of incomplete miscarriages**

- If bleeding has not started within 24hrs, to contact EPAU/GAU for individualised care:
- Options include:
  1. A further dose of Misoprostol 800mcg
  2. Consider surgical management
  3. Consider repeating cycle preceded by Mifepristone 200mg PO

Procedure for Medical management of miscarriage (missed or incomplete)

1. Arrange admission to GAU

- Check FBC, G&S (consider sickle test). Consider IV access if actively bleeding or at increased risk of bleeding.
- Take **written consent** using consent form 1 (pre-printed sticker available). Verbal consent is acceptable for the medical management of incomplete miscarriage as an emergency admission.
- Take consent for sensitive disposal of fetal remains if appropriate timing.

2. In the case of a pregnancy occurring with an IUD in situ, the device should ideally be removed before the administration of misoprostol but can proceed if this is not possible.
3. Prescribe:
    - ***Misoprostol*** **(Cytotec) 800mcg tabs PV, PO, SL** (or PR if significant bleeding)
    - Reduce dose to 400mcg if increased risk of uterine rupture – see guideline.
    - A further dose of 400mcg (200mcg if increased risk of rupture) may be given after 3h if there has been no response.
    - NB. It is quite common to have a raised temperature or diarrhoea following Misoprostol treatment.
    - ***Diclofenac*** **100mg PR or 50mg PO** or alternative analgesia
    - If pregnancy by scan measurements is >9/40 (CRL ≥23mm/MSD≥38mm), prescribe up to ***4 further doses of Misoprostol 400mcg PO 3hours*** apart until POC passed.
    - Prior to giving further doses, the need for further doses should be assessed clinically in terms of pain and bleeding.
    - Consider speculum examination to exclude present of POC in cervical os.
4. Patient to use commode rather than WC, to ensure passage of POC can be documented by the nursing staff.
5. Inspect all tissue/clots passed.
6. Any products that are obtained should be sent for histological examination and document whether whole sac or POC seen.
7. If patient becomes dizzy, unwell, bleeds excessively, has excessive pain or is haemodynamically unstable at any time during treatment she should be reviewed urgently by medical staff for resuscitation, speculum and vaginal examination. Any tissue in the cervical os should be removed with sponge holding forceps. It may be appropriate to perform an ERPC.
8. Administer ***Anti-D 250 IU IM*** to all non-sensitised Rh-negative women undergoing medical management as per Anti-D policy. *
9. If POC are not passed after completion of doses as detailed, if clinically well allow patient home after minimum of two hours from last dose and arrange telephone follow up by EPAU after 7-10 days to assess whether or not patient gives a good history of completing the miscarriage
    - ➔ If a clear history of passing POC is given by the patient on the telephone, the patient can be asked to perform a UPT after 3/52 from the date the POC passed.
    - ➔ If there is doubt that the POC have passed a review in EPAU will be required with USS.
    - ➔ Recommended options for failed medical management would include a further dose of Misoprostol 800mcg **PV/PO/SL** or consideration of SERPC or repeating a complete cycle of medical management preceded by Mifepristone PO 200mg.
10. Follow up:
    - The patient should telephone EPAU with the result of a home PT after 3 weeks.
    - If UPT negative and bleeding and pain are settling the patient can be discharged.
    - EPAU review is arranged if patient becomes unwell or pregnancy test remains positive 3 weeks following treatment. See guideline for the management of RPOC/incomplete miscarriage.

RECOMMENDATION 6C: Surgical Evacuation of Retained Products of Conception (SERPC/MVA)

- **Surgical management** should be offered under 13 weeks gestation by USS. MVA may be offered <9/40 by USS
- Indications for surgical management:
  - Patient request[11]
  - Has very heavy bleeding / haemodynamically unstable
  - Septic miscarriage – procedure must be covered with antibiotics 12-24 hrs preoperatively unless too unstable / septic to wait. Consider US guided SERPC.
  - Has a suspected molar pregnancy on ultrasound scan – avoid use of oxytocic agent if
  - possible
- Routine use of a sharp curette after suction curettage is not required[9].
- Use of Oxytocin is associated with a statistically significant (but not clinically significant) difference in median blood loss (17.6 ml versus 24.5 ml).
- Check Rh status and prescribe Anti D if negative to SERPC patients at all gestations. See appropriate guideline.

Studies suggest that 10% of women who miscarry fall into categories with unstable vital signs or infected tissue[4].

Risks of SERPC[13]:

Common complications	Risk		Serious complications	Risk
Bleeding	Lasting up to 2/52: common Heavy bleeding: uncommon 1-3/1000		Uterine perforation	1/1000
Retained POC	40/1000		Significant injury to cervix	<0.1/1000
Pelvic infection	40/1000			
Development of intrauterine adhesions	190/1000 (58% mild adhesions) Clinical significance of adhesions - unknown			

Additional procedures that may become necessary intra-operatively: laparoscopy +/- laparotomy – if injury is suspected or to repair damage.

The following women may have increased risks associated with surgical management of miscarriage:

- Obesity
- Significant pre-existing conditions
- Previous surgery

Methods of surgical management:

Surgical evacuation retained products of conception (SERPC)
< 13/40
- Under GA
- If patient is haemodynamically unstable, not in too much pain or bleeding heavily.
- Can perform under US guidance (if septic miscarriage/increased perforation risk)

Manual vacuum aspiration (MVA)
- <9/40
- Using LA
- To avoid GA risks
- For patients with significant risks associated with GA
- Shorter hospital stay
- Patient selection is important

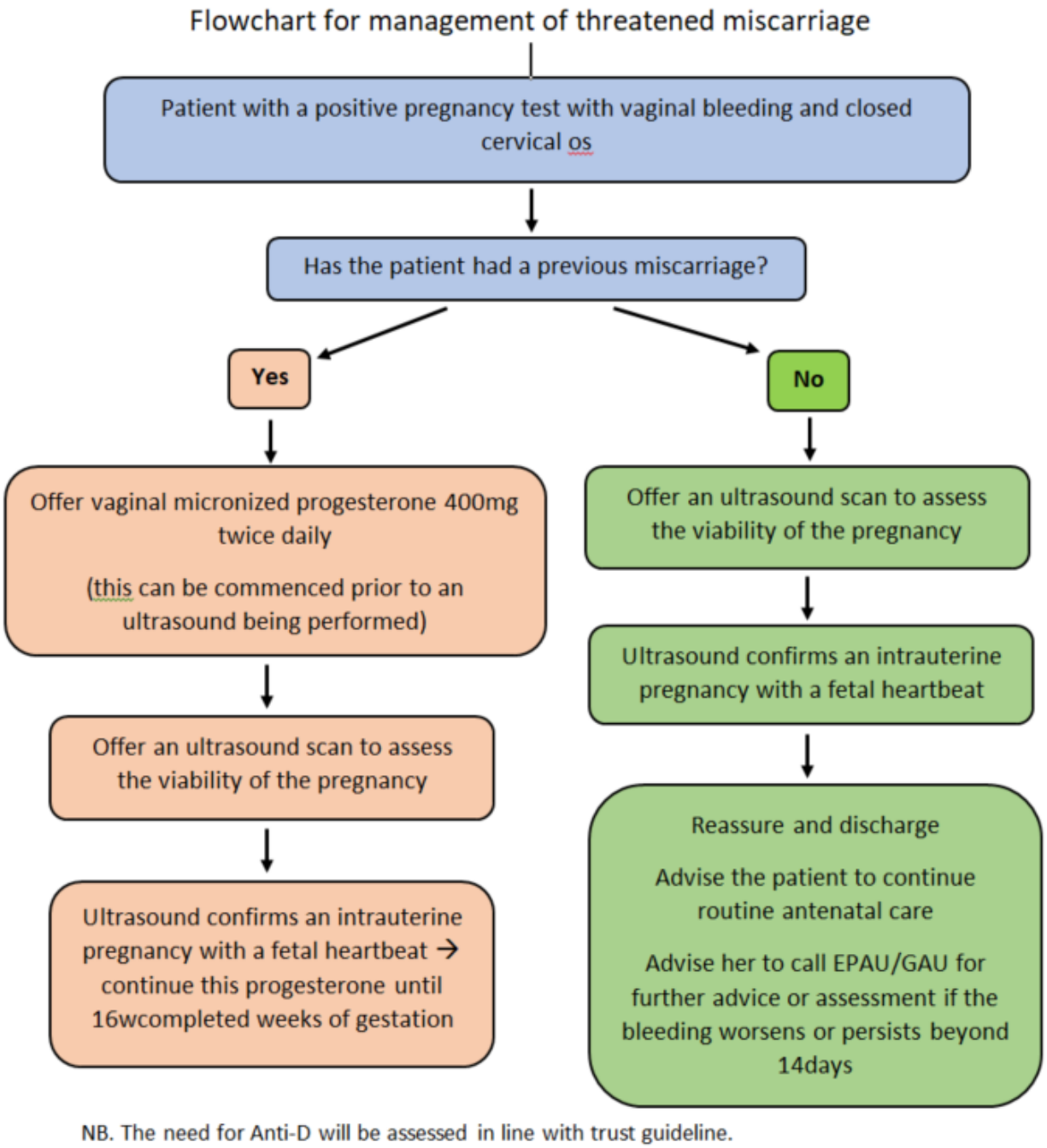
➔ **Cervical Preparation**

- Prior to SERPC / MVA for missed miscarriage, all patients should receive cervical preparation, unless otherwise contra-indicated. Cervical preparation reduces the risk of trauma to the cervix and uterus, dilation force, haemorrhage and failure to dilate the cervix adequately[8] – this is extrapolated to SERPC.
- **Misoprostol 400mcg PV/PO/sublingual is given a minimum of one hour prior to procedure**
- Intra-operatively, the tablets are normally still visible and can be salvaged and replaced in the vagina at the end of the procedure as they will continue to work for several hours.
- Cervical preparation should be explained to patients when consent is taken for the procedure. **The patient should be warned that if the procedure is delayed for any reason, the pregnancy tissue may begin to pass and therefore an inadvertent MERPC may ensue.**

Preparing a Patient for Surgery/MVA

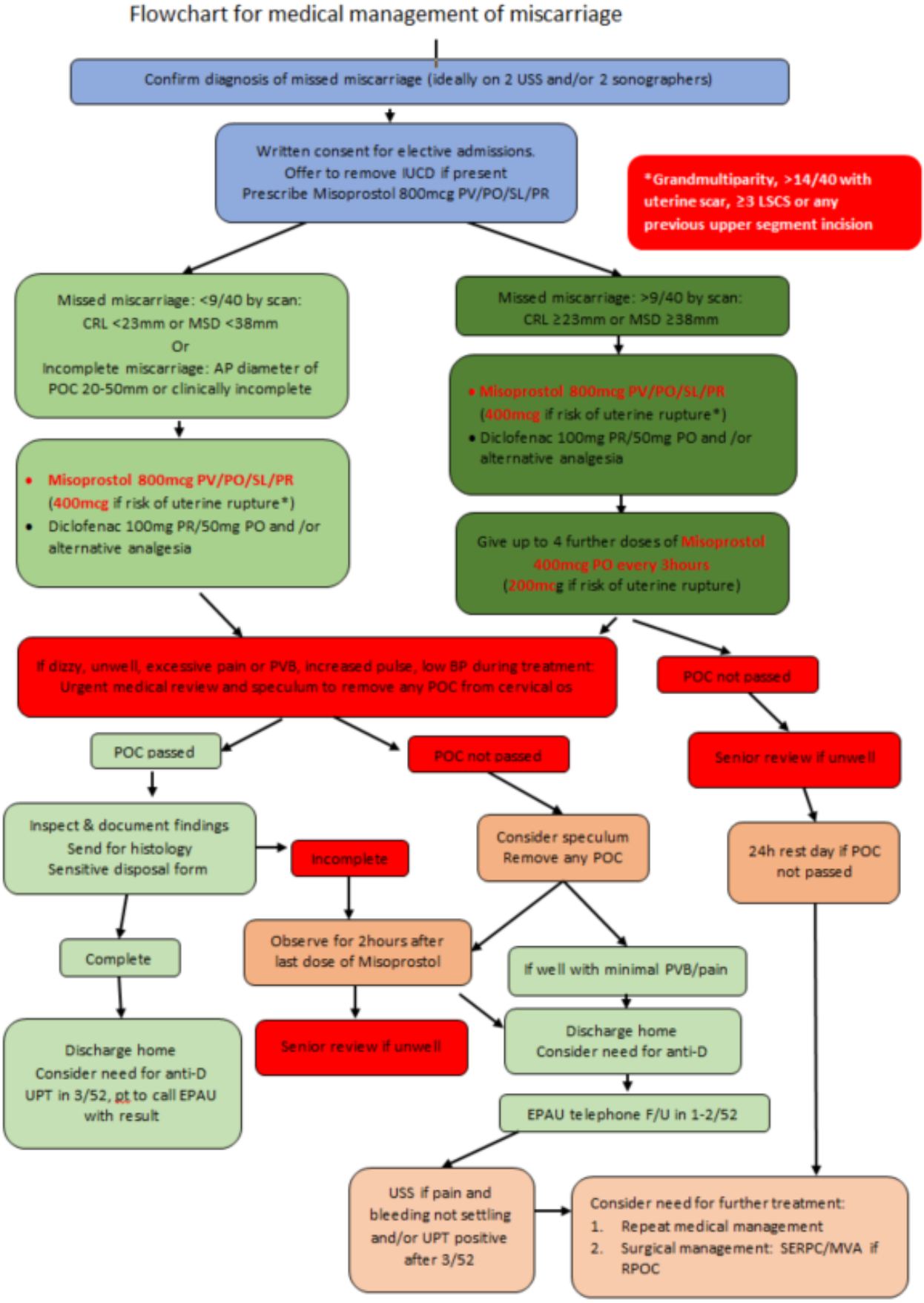
- SERPC Emergency cases: to be booked with COD via the theatre coordinator 07971097878 . If booked for the next day, the case will need to be booked via the theatre coordinator overnight (after 00:00 on the day of the planned SERPC).
- Semi-Elective SERPC (P1 CAT 6 {Expedited}) under GA for stable patients will be performed on the Urgent Gynaecology daycase list at LGH on Wednesday afternoons. Liaise with the GAU ward clerk/nurse in charge to book this.
- MVA patients will be booked via the MVA booking folder – usually carried out on Tuesday and Thursday mornings or ad hoc where staffing allows.

Appendix 1: Flowchart for management of threatened miscarriage

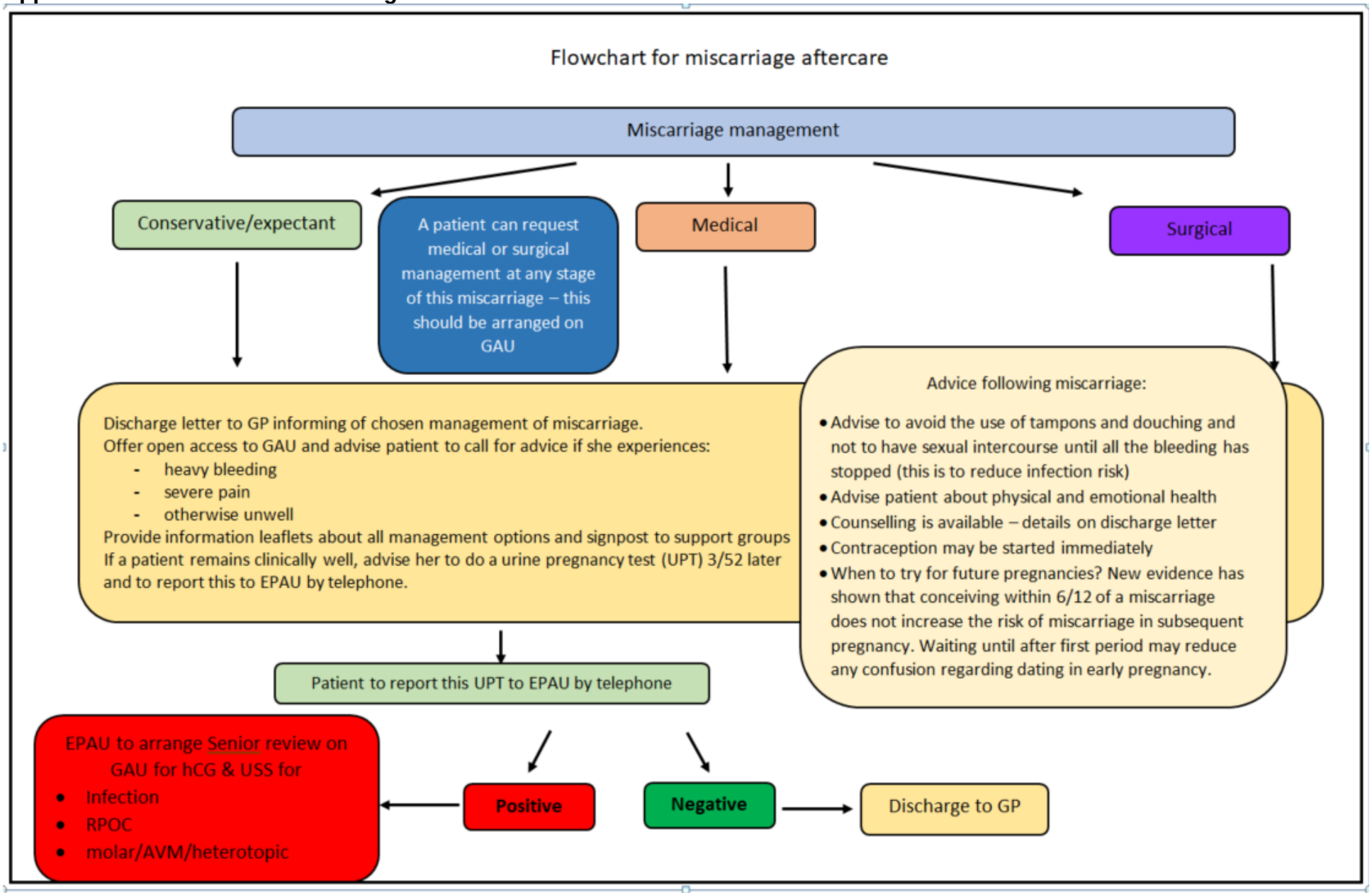


NB. The need for Anti-D will be assessed in line with trust guideline.

Appendix 2: Flowchart for medical management of miscarriage



Appendix 3:Flowchart for miscarriage aftercare



Appendix 4: Quick guide to early pregnancy management

Ultrasound appearance	Diagnosis	Plan of management
Intrauterine gestation sac (MSD) and fetal pole with FH seen	**Viable IUP**	Back to GP/Midwife for community led care or referral to ANC if risk factors
If actively bleeding or pain	**Threatened miscarriage –** if cervical os is closed	Depends on severity of bleeding and history of previous miscarriages
If haematoma seen[4]	Will not influence management	Reassure- back to GP/ Midwife
If >12 weeks with bleeding		Check the need for Anti-D
Gestational Sac MSD <25mm – no fetal pole or yolk sac	**Intrauterine pregnancy of uncertain viability (IUPUV)** i.e. **eccentrically placed** gestation sac seen with **Double Decidua Sign**	- Consider serum serial ß hCG if ?pseudosac or "sac-like area" and rescan 7-10 days later if satisfactory rise in hCG, and asymptomatic - If clear IUP, rescan 7-10 days later (14 if was TA USS) - If doubt about IUP, monitor with serial hCG and ultrasound scan
MSD <25mm and yolk sac seen inside but no fetal pole	**IUPUV - NOT ectopic**	Rescan in 7-10 days (14 if TA USS)
MSD >25mm – no fetal pole	**Intrauterine pregnancy of uncertain viability (IUPUV).** Probable missed/delayed anembryonic miscarriage	- Rescan 7-10 days later - If no change on second scan discuss management (see under management of non-viable pregnancy).
Crown Rump Length (CRL) <7mm Fetal Heart Activity (FH) not demonstrated	**Intrauterine pregnancy of uncertain viability (IUPUV)**	Rescan 7-10 days (14 if TA USS) later
CRL >7mm FH not demonstrated	**Missed miscarriage**	- 2nd opinion to confirm findings - Offer rescan 7-10 days later – not strictly necessary - If no change on second scan discuss management (see under management of missed miscarriage)
Empty uterus No adnexal abnormality No symptoms	**Early morning urine pregnancy test negative** ***complete miscarriage or never pregnant***	No follow-up (Consider serum ß hCG if any doubt – e.g. very dilute urine)
	Pregnancy test positive = Pregnancy of Unknown Location (PUL) possibly early pregnancy or ectopic pregnancy or complete miscarriage	- Serum serial ß hCG. - Rescan 7 days or sooner if new symptoms (see guidelines for PUL and Ectopic pregnancy). - Open Access GAU. - Warn of possibility of ectopic pregnancy and give contact numbers. To come in if any pain / change in symptoms

Empty uterus with adnexal mass, fluid in POD and pain	**Bleeding or Ruptured Ectopic pregnancy/ Tubal abortion**	- Serum ß hCG. - Discuss with SpR/Consultant. - Admit for ?laparoscopy/ laparotomy
Empty Uterus, adnexal mass <3.5cm No other findings/symptoms	**Unruptured ectopic pregnancy**	- Serum serial ß hCG. - Discuss management with consultant – conservative / medical / surgical (see guidelines management of ectopic pregnancy)
Endometrium/AP diameter <20mm History of cramps and heavy bleeding - clinically likely to have had a miscarriage	**Complete miscarriage** (if previous USS showed IUP or conclusively POC seen)	- POC passed, pain and bleeding resolving - Discharge to GP with a pregnancy test in 3 weeks. - Check need for Anti-D - If pain and heavy bleeding continue consider incomplete miscarriage
	Not a proven IUP → (no previous USS showing IUP or POC not proven) →**NEED TO EXCLUDE ECTOPIC PREGNANCY – TREAT AS PUL**	- Serum serial ß hCG, 48 hours apart if clinically thought to be complete miscarriage (history of heavy vaginal bleeding with cramping and an open cervical os) but products not seen (to exclude ectopics) - If falling >50%[1], advise PT in 3/52 - Ward review if bleeding persists >3/52 or PT remains positive Otherwise treat as Empty Uterus, no adnexal abnormality as above
Endometrium/AP diameter >20mm	**Incomplete miscarriage**	Discuss management options depending on symptoms and signs (see guidelines on management of incomplete miscarriage)
Heterogeneous, grape-like tissue within the uterus (cystic not vascular appearance with or without a fetal pole)	**Suspected trophoblastic disease (molar pregnancy)**	**Baseline β hCG assay** Surgical evacuation (see guidelines for trophoblastic disease)

Adequate time should be allowed for women to make decisions. It is imperative to know that patients will vary in their response to information at the time. If not receptive, rescan should be arranged for one week. If the patient displays clear understanding and wishes to know about further management, appropriate options can be discussed.

Remember – First cause no harm.

Fetuses with CRL smaller than expected or no growth noticed after one week, tend to be chromosomally abnormal. However growth and hCG rise is not entirely linear.

Appendix 5. Comparison of management options

Risk	Conservative	Medical	Surgical
Duration of bleeding (days) - Hb not significantly different between groups)	10-21	10-21	~1day less than conservative and medical
Infection (%)	3	2	3
Risk of unplanned SERPC (%)	39	5-15	NA
Morbidity of intervention	Unpredictable – can take weeks until discharged	Usually completed the same day, occasionally overnight stay required (1.7%)	Overall 6.6%[9] GA, uterine performation, haemorrhage, incomplete evacuation, cervical damage, intrauterine adhesions
Subjective pain	Middle	Most	Least (under GA)
Duration to resolution	Longest Usually 1-2/52, could be 6-8/52	Middle	Shortest

7. Education and Training:

Miscarriage association website - https://www.miscarriageassociation.org.uk/

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9. Keywords:

Missed/ incomplete/threatened miscarriage, Misoprostol

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

Contact and review details			
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Details of Changes made during review:			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
2013	**1**		
2019	**2**	Mayura Nisal, Clare Jordan June	
2020	**3**	Neelam Potdar, Olivia Barney and Raji Aravindan	General update and Covid-19 advice added. Layout amended.
2022	**4**	Philippa Dann Olivia Barney	Women with threatened miscarriage with previous miscarriage may be offered Micronised progesterone Risks of SERPC have been updated Addition of option of Outpatient medical management of miscarriage under 9 weeks Addition of option of MVA Option of Addition of Mifepristone to regime if repeated MMM is needed