

# Early pregnancy loss

Clinical Guideline Presentation v3.0



45 minutes

Towards CPD Hours

**References:**

The Queensland Clinical Guideline *Early pregnancy loss* is the primary reference for this package.

**Recommended citation:**

Queensland Clinical Guidelines. *Early pregnancy loss* clinical guideline education presentation E17.29-1-V3-R22  
Queensland Health. 2017.

**Disclaimer:**

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

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# Learning objectives

- Identify clinical assessments for women with suspected early pregnancy loss (EPL)
- Identify criteria for establishing location and viability in suspected EPL
- Recognise treatment and care options appropriate to diagnosis
- Identify psychological supports for the woman and her family



# Definitions

## **Early pregnancy loss**

- Within the first 20 completed weeks of pregnancy

## **Ectopic pregnancy**

- Located outside of the uterus, usually in the fallopian tubes, but may be in the cornu, cervix, caesarean section scar, ovary or other sites

## **Expectant management**

- No specific intervention. await spontaneous passage of products of conception (POC)

## **Medical management**

- Use of drugs to aid expulsion of POC

## **Surgical management**

- Surgical intervention to remove POC

# Assessment of EPL

## What are the usual symptoms of EPL?

- PV bleeding
- Pain (abdominal, shoulder tip, diaphragmatic, back)
- Postural syncope
- Vomiting
- Passage of POC

## Ask about:

- Menstrual history/LNMP
- Date of positive pregnancy test
- Obstetric/gynaecological history
- Any USS or quantitative  $\beta$ -hCG in this pregnancy

## Do you need to confirm pregnancy?

Yes for all women with symptoms of EPL (regardless of reproductive age, LNMP, history of sterilisation, reported sexual inactivity or contraception) :

- Serum  $\beta$ -hCG (preferred)
  - If delay in reporting likely, urinary  $\beta$ -hCG acceptable

## Other investigations?

- FBC, group and antibody screen
- Mid stream urine for MC+S
- STD screen if indicated

# Haemodynamic instability

## What if clinically unstable?

Urgent intervention is required. Presume ruptured ectopic, incomplete miscarriage with cervical shock or massive haemorrhage

- Resuscitate—standard procedures
- IV access (x 2 large gauge)
- Speculum examination (remove any POC visible)
- Indwelling catheter to empty bladder
- Urgent FBC group and hold



## Is surgery always indicated?

Unstable haemodynamics is a clinical indication for:

- Surgical evacuation of uterus
- Laparoscopy/laparotomy for removal of ectopic

If ectopic **is excluded** and bleeding continues, consider:

- Ergometrine maleate  
250 micrograms IV or IM
- Misoprostol  
800–1000 micrograms PR
- Critical bleeding protocol activation

# Physical exam

## What do you look for?

### Baseline observations

- Temperature, heart rate, respiratory rate, BP

### Abdominal examination

- Tenderness (rigidity/guarding)
- Distension
- Size of uterus relative to dates

### PV blood loss

- Pad change frequency/volume of loss
- Check current pad

## Vaginal examination (individualise)

### Speculum examination

- Source and amount of bleeding
- POC in the os? (remove if visualised and send for histology)

### Bi-manual examination

- Cervical motion tenderness
- State of internal cervical os
- Adnexal masses (ectopic or other mass)



# β-hCG

## What is normal?

Serum β-hCG is first positive at 9 days post-conception (> 5 IU/L confirms pregnancy)

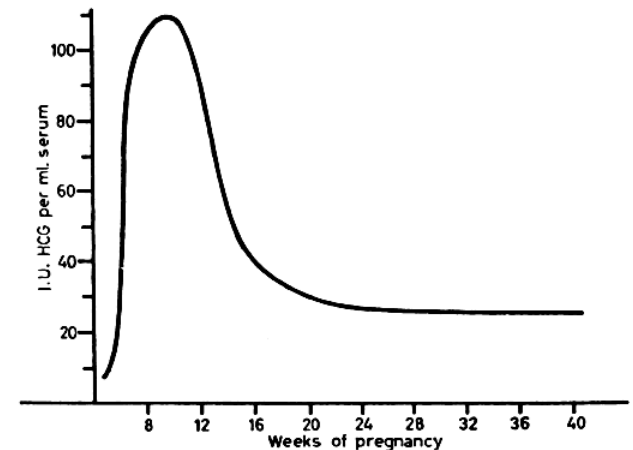
## Up to 6–7 weeks

(for potentially viable IUP)

- Mean doubling time is 1.4–2.1 days
- Every 48 hours:
  - 85% show rise of at least 66%
  - 15% show rise between 53–66%
  - Slowest ever recorded rise is 53%

## Viable or not?

- A single β-hCG value does not differentiate between a viable and non-viable pregnancy
- Serial β-hCG are required to see the direction of change





# Ultrasound scan

## Is TVS or TVA preferred?

TVS by an experienced sonographer is the gold standard in the first trimester and is preferable where available

## Diagnosis of complete miscarriage?

Can only be confirmed conclusively after identification of a yolk sac

If no prior report of an IUP, an 'empty uterus' is not diagnostic of a complete miscarriage

Requires follow-up with serum  $\beta$ -hCG until negative +/- TVS to exclude ectopic

**TVS:** Transvaginal ultrasound **TAS:** transabdominal ultrasound **IUP:** intrauterine pregnancy **MSD:** mean sac diameter **CRL:** crown rump length

## When is an IUP usually visible?

- Gestational sac when MSD  $\geq 3$  mm (from 4 weeks and 3 days after LNMP)
- Yolk sac by 5.5. weeks or MSD of 8–10 mm
- Fetal pole by 5–6 weeks
- Cardiac activity routinely detected by 6–6.5 weeks
- CRL at 6 weeks + 0 days = 4 mm



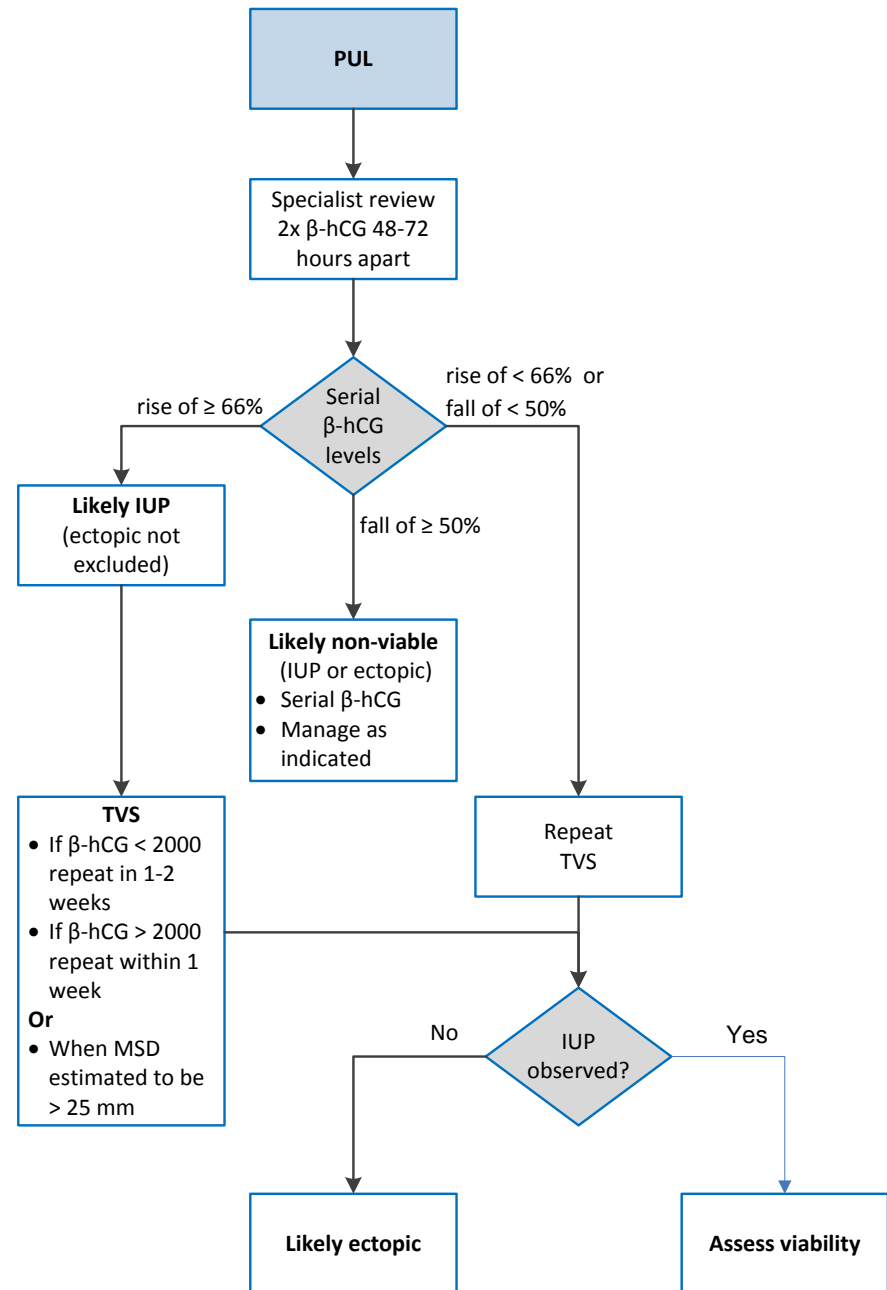
# PUL

## Pregnancy of unknown location (PUL)

It may not be possible to confirm if pregnancy is intrauterine or extrauterine at the first visit

### Requires:

- Specialist review
- Close follow-up
- Serial  $\beta$ -hCG and TVS



# Diagnosis of non-viable IUP

## Has the diagnostic criteria changed?

Yes. Previously accepted criteria for excluding a viable pregnancy has been shown not to be stringent enough to avoid false positive diagnoses of non-viable IUP.



## Criteria for diagnosis (TVS)

- MSD > 25 mm and no fetus present
- Fetus with CRL  $\geq$  7 mm visible, but no fetal heart movements after observation of  $\geq$  30 seconds
- Absence of embryo with heartbeat  $\geq$  2 weeks after a scan that showed a gestational sac without a yolk sac
- Absence of embryo with heartbeat  $\geq$  11 days after a scan that showed a gestational sac with a yolk sac

# Case study: ectopic pregnancy

Athena, a 41 year old woman presents to emergency department with a history of abdominal pain and spotting over the last 2 days. She has a history of infertility and has never achieved a pregnancy despite multiple IVF attempts. She smokes 15 cigarettes per day.

## What risk factors alert you to the possibility of ectopic pregnancy?

Athena has known risk factors for an ectopic pregnancy (40+ years old, history of infertility, current smoker)

She also has symptoms consistent with an early pregnancy loss (pain and bleeding)



## Given the above, what else might you ask Athena?

- When was her last period?
- Has she had a pregnancy test in the last few weeks?
- Does she know about any specific problems in relation to her infertility (e.g. tubal pathology)?
- Further details about the nature of her pain and bleeding

# Management of ectopic

Athena's observations are normal. Her initial serum  $\beta$ -hCG is 2020 IU/L. Routine bloods are normal. TVS reveals an ectopic pregnancy of 3 cm in the right fallopian tube. No fetal heart motion is detected. No free fluid is seen in the pelvis. Athena states that although the pain is getting worse, she would like to have 'wait and see' treatment.

## What do you discuss with Athena in relation to expectant management?

Usually only suitable if:

- Initial  $\beta$ -hCG < 1500 IU/L and falling
- Ectopic is small (< 3 cm in size)
- The woman has no pain

Rupture of the ectopic is a very serious complication and could be life threatening

Expectant management would not usually be recommended for Athena

## What management options can be recommended to Athena?

Both medical and surgical management options can be recommended to Athena



# Surgical management for ectopic

Athena decides to have surgical management of her ectopic pregnancy. She asks you what appointments and tests she will need afterwards.

## What do you advise Athena about follow-up care?

- GP follow-up ~ 2 weeks after surgery
- Further blood tests and scans not routinely required
- Urinary  $\beta$ -hCG about 3 weeks after the surgery to confirm level falling
- Offer Athena the Queensland Clinical Guideline information sheet about ectopic pregnancy



Tubal ectopic pregnancy

# Pregnancy of unknown location

Isha presents with PV bleeding. She thinks she is about 5 weeks pregnant with her first baby. Her  $\beta$ -hCG is 5600 IU/L. An intrauterine pregnancy is not seen on initial TVS. Isha asks if she has lost the baby.

## What can you tell Isha?

- Bleeding in early pregnancy doesn't always mean a miscarriage is/will happen
- Sometimes it can be difficult to see an early pregnancy on ultrasound
- It is not certain a miscarriage has occurred just because the uterus appears empty at this stage
- A repeat serum  $\beta$ -hCG in 48 hours will help identify what is happening more clearly and when another TVS is best performed



# Medical for non-viable IUP

Unfortunately Isha's repeat  $\beta$ -hCG and TVS reveal that the criteria for diagnosis of a non-viable IUP have been met. You tell Isha that sadly, there is no hope of the pregnancy continuing and discuss management options. Isha wants medical management.

## What do you advise Isha about medical management?

- Misoprostol is the drug of choice
- Reported 80–99% effective in achieving complete miscarriage
- Treatment can be offered as outpatient or day procedure
- Surgical management can be chosen later if desired

## Risk and benefit

- Effective alternative to surgical evacuation in first trimester
- More effective for missed miscarriage than expectant management
- If incomplete miscarriage, no significant difference between medical and expectant management for rates of complete miscarriage or need for surgical evacuation
- Bleeding is heavier and more prolonged after medical treatment with misoprostol than with curettage





# Medical for non-viable IUP

Isha has the first dose of misoprostol in the early pregnancy assessment unit. She says she would like to go home to be with her family and asks you what she can expect.

## Can Isha have misoprostol by mouth instead of vaginally?

Oral administration is an acceptable alternative to vaginal or buccal route

## When is another $\beta$ -hCG required?

$\beta$ -hCG is recommended on Day 1 (day of first misoprostol) and Day 8 to ensure levels are falling.

## When is TVS recommended?

Repeat TVS is not routinely required. Consider if symptomatic, to assess for retained POC or if  $\beta$ -hCG has not fallen more than 90% over 7 days



# Medical for non-viable IUP

Isha asks what she can expect with regards to bleeding and side-effects from the misoprostol. She also asks when she can get pregnant again. What can you advise her?

## Bleeding?

- Expect bleeding heavier than menses
- Cramping may accompany bleeding
- If bleeding not commenced within 24 hours, contact EPAS (or equivalent)
- If soaking more than one pad within 60 minutes, seek emergency assistance

## Side effects of misoprostol?

- May include pain, diarrhoea and vomiting
- Offer analgesia and anti-emetics

## Conception interval?

There is no evidence about conception interval after a miscarriage. Pregnancy can be attempted whenever the couple desire .



# RhD negative women

Isha is RhD negative. What advice can you give Isha about RhD immunoglobulin?

## Is RhD-Ig indicated for Isha?

Yes, RhD immunoglobulin is indicated for RhD negative women following a miscarriage at any gestation

## Is a Kleihauer test indicated?

No, quantification of feto-maternal haemorrhage is not required after a sensitising event at less than 13 weeks gestation.

## What dose of RhD-Ig is recommended for Isha?

- RhD-Ig 250 IU IM is recommended for a singleton pregnancy between 1 and 12+6 weeks gestation
- RhD-Ig 625 IU IM if multiple pregnancy, gestation > 13+0 weeks (or thought to be > 13+0)



# Emotional support

Isha returns on Day 8 and physically seems well. Bleeding is diminishing she has no pain. However, she is crying uncontrollably and says she is having trouble sleeping. She can't talk to her partner about things, and isn't eating. She says she feels very low.

## What do you discuss with Isha?

- Her current feelings and reaction to loss
- Her unique situation and context around her EPL including any risk factors for psychological morbidity (e.g. history of mental illness)
- Unique challenges of EPL

## What support can you offer Isha?

- Express sorrow for her loss
- Provide opportunity for Isha to openly discuss her feelings
- Express genuine concern and demonstrate emotional awareness
- Counsel regarding potential to experience symptoms of grief, depression and anxiety
- Provide information about accessing additional support and community based support organisations
- Refer to mental health services if required