

GUIDELINES 2007

I Organisationsal

II Clinical

III Supportive

Introduction

Early pregnancy problems form a major part of all gynaecological emergencies. In the past patients were admitted to the ward and waited for a considerable length of time before undergoing ultrasound scan and assessment. With the appearance of early pregnancy assessment units (EPU), an increasing number of women are being assessed and managed as outpatient attenders.

In recent years ultrasound diagnosis and improved understanding of problems related to early pregnancy have led to the introduction of medical and expectant management of miscarriage and selected cases of ectopic pregnancy.

It is anticipated that these guidelines will be useful for all providers of service provision within the EPU. Having undergone revision since their first introduction on the website (earlypregnancy.org.uk) in 2003. These revised guidelines were approved in 2007 and are to be reviewed in 2009.

The development of this updated version is aimed at providing the best practice guidelines drawn from evidence-based practice and standardising the care of women with early pregnancy problems.



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I Guidelines for Service Organisation

1. Site

- 🎧 The EPU should be located in a dedicated area.
- 🎧 The surroundings should be pleasant and comfortable with toilets nearby

Access

- 🎧 The gold standard is to have a unit open seven days a week from 8.00am until 5.00 pm
- 🎧 The minimum requirement would be to have a unit open for five days, mornings only from Monday to Friday.
- 🎧 Details of various early pregnancy units all over the UK, and their contact number may be found on AEPU Website (www.earlypregnancy.org.uk)

Facilities

- 🎧 Good quality ultrasound equipment
- 🎧 Urine pregnancy testing
- 🎧 Access to serum hCG assay with results within 24 hours
- 🎧 Other investigations such as FBC and rhesus grouping as required
- 🎧 Rhesus grouping and Anti-D considered if gestation is >12 wks
- 🎧 It is important to bear in mind that some patients may require other gynaecological procedures such as vaginal swabs and occasionally removal of coils

Staffing

- 🔊 Varies between units. Minimum requirement would be:
 - a receptionist/secretary
 - a midwife/nurse
 - a gynaecologist and/or sonographer
- 🔊 Attitude of the staff involved should be caring and sympathetic
- 🔊 Clear and consistent verbal and written information should be provided
- 🔊 Initial support and informal counselling should be provided by all health professionals involved
- 🔊 There should be access to formal counselling sessions where necessary (this may be needed by only a few)

2. Referral Guidelines

Who may be referred?

- Women in first trimester who have had a positive pregnancy test
 - and a) abdominal pain
 - b) vaginal bleeding
 - c) previous ectopic
 - d) previous tubal surgery
 - e) two or more previous miscarriages
 - f) IUCD in-situ
- Women with a non-viable pregnancy diagnosed in ante-natal booking clinic
- Those who are already booked in Antenatal Clinic may also be seen if they develop any complications before their anomaly scan, although they are generally encouraged to contact antenatal clinic
- Post evacuation (medical/surgical) with persistent bleeding

Sources of Referral

- Primary Care Doctors
- Practice Nurses
- Midwives
- Accident and Emergency Departments
- Consultants
- Wards
- Antenatal Clinics
- Self referral (subject to local policies)

Referral Procedure

- Patients can either be referred via their family doctor or by self referral to the Early Pregnancy Unit direct. In some hospitals there may be an *appointment book* or *electronic diary that should* be available on the gynaecology ward after 5.00pm to enter referrals
- Details of patient's name, address, date of birth, name of GP and reason for referral should be noted and an appointment time given
- Referring professionals to be advised to tell the patients that:
 - a) a transvaginal scan is likely and
 - b) as it is an emergency clinic the appointment time cannot be guaranteed and delays are likely
and
 - c) to send a referral letter either with the patient or by fax

A patient information leaflet on what to expect should be available in the waiting area. This can significantly reduce the anxiety regarding a transvaginal ultrasound scan to a great extent.

Caution

Women referred to an early pregnancy assessment unit (EPU) are, by definition, stable and therefore should be given an appropriate appointment for the next working day if they are seen in A&E or the emergency gynaecology unit outside normal working hours.

Women who are unwell, bleeding heavily or in whom an ectopic pregnancy is suspected should be advised to be admitted through the usual channels and not asked to wait for an appointment in an early pregnancy unit. There will also be a proportion of women who are frightened by the loss or who are geographically isolated and prefer admission.

II Clinical Guidelines

General Patient Management

- A brief history is taken on the standardised proforma or locally developed triage protocol (eg adapted, audited and validated Manchester Triage system) (see Appendix) in accordance with RCOG guidelines including:
 - i) Previous obstetric history, LMP, urine pregnancy test in this pregnancy
 - ii) Pain - description
 - iii) Bleeding - amount
 - iv) Passage of Products of conception (POC)
- Clinical examination should be considered if appropriate
- Transvaginal ultrasound scan (TVS) is performed if less than 7-8 weeks and also in some circumstances at more than 8 weeks, which provides the patient with the option of seeing what is visualised on the screen.
- The procedure and the reasons for the scan should be explained
- Patient's wishes should be respected if she strongly declines a TVS and where the gender of the professional is particularly important to the patient
- A clear explanation should be given by the Gynaecologist/Sonographer performing the scan as to the possible or likely diagnosis/diagnoses
- Appropriate pictures are taken for the patient's records. Pictures are not usually given to patients in EPAU unless requested by the patient
- All items on the proforma should be checked
- A plan of management should be formulated based on the guidelines
- A pregnancy test should be performed if a pregnancy is not clearly visible
- Consideration for serum hCG assay should be given if a pregnancy test is positive
- Support should be given where the pregnancy is non-viable or the woman is upset - A quiet room should be available (core standard)
- Follow up should be arranged before the woman leaves the clinic
- Appropriate written advice and telephone numbers for contact should be given

Standards in Early Pregnancy Care

Standard	Core	Aspirational
Patient Information	Designated Reception Area constantly staffed Universal use of clear, understandable terminology	Clear information on sensitive disposal options, pathology tests and postmortem results
Patient Choice of Management	Education of patient relevant to diagnosis and management Open explanation of expectant, medical and surgical options	Dedicated phone line for patient queries and electronic access to protocols from outside unit
Dedicated Quiet Room	Room for breaking bad news away from work area	Single-use room only with soft furnishing and absence of medical equipment
Availability of Service	5 day opening during office hours	7/24 opening and service provision with full staffing and daily scan support
Competence of Scanning	Recognised ultrasound training and RCOG/BMUS preceptor assessment and validation Register of staff competent at scanning	Lead Clinician Presence of RCOG/BMUS trainer in EPU Annual assessment of audited activity
Blood HCG level measurement	Laboratory access to blood HCG measurement and same day result	Two hour result with electronic link to laboratory
Written information leaflets	Visible open access to written information leaflets in EPU	Online external access to PIL
Acknowledgment of Privacy and Dignity	To provide individualised patient support and acknowledge confidentiality	Place one to one care as best practice at all times with training and ongoing support facility
Bereavement Counselling	All staff trained in emotional aspects of early pregnancy loss To enable access to counselling and provide immediate support	To provide all emotional and psychological counselling requirements within EPU and supported by dedicated staff and related agencies
Site of EPU	Geographically separate from all maternity areas	Own EPU entrance/exit

Chaperone

Transvaginal ultrasound scanning (TVS) is found to be extremely well tolerated as a technique by most women¹. In the presence of a female chaperon most women feel comfortable even if the person doing the scan is male². For most women the mannerism and expertise of a professional is more important than the gender. A junior member of the staff should always be supervised until he/she has attained the required level of expertise in scanning.

A chaperon can act as advocate for the women, offering reassurance and explanation of the procedure or examination. Women should be given privacy while undressing and dressing.

The woman's age and individual preference should be taken into account. These can be related to previous experiences which sometimes the women may disclose during consultation or examination. Keep the discussion relevant and avoid unnecessary personal comments³.

Whether a female chaperone should always be present during a transvaginal scan carried out by a male professional depends on the women's choice and the staff situation at the time of examination.

However the following general principles should be observed:

- Some women may prefer to undergo an examination without the presence of a chaperon. Women's wishes should be respected and their decision should be documented in their medical record.
- If a chaperon is not available, examination may be carried out with a member of the family or friend present.
- If for some reason one can not offer a chaperon, it should be explained to the patient and, if possible, delay the examination to a later date. The discussion and its outcome should be documented.

More details may be obtained from publications of the Royal colleges of Nursing⁴, Radiologists⁵ and Obstetricians and Gynaecologists⁶.

Guidance on Ultrasound Images

It is not necessary to seek separate permission from the patient to make the recordings of Ultrasound images. Nor is consent required to use them for any purpose, provided that, before use, the recordings are effectively anonymised by the removal of any identifying marks⁷.

References:

1. Basama FMS Audit: Women's perception of transvaginal sonography in an early pregnancy assessment unit. J Obstet Gynecol 2001;21:603-604
2. Russel M: Does patient Ethnicity or Sonographer Gender have any bearing on patient acceptability of transvaginal ultrasound? Ultrasound 2005;13:170-172
3. Intimate examinations. Guidance for Doctors. General Medical Council. 2001. www.gmc-uk.org
4. Using a chaperon in clinical practice. Standard letter. United Kingdom Central Council for Nursing, Midwifery and Health Visiting. 1999, London:UKCC
5. Intimate examinations, Royal College of Radiologists. 1998;98:5
6. Royal College of Obstetricians and Gynaecologists. Gynaecological Examinations: Guidelines for Specialist Practice, London: RCOG 2002
7. Making and Using Visual and Audio Recordings of Patients. Guidance for Doctors. General Medical Council. 2002. www.gmc-uk.org

Record Keeping and Data Collection

Unless computer based records are available data should be maintained in hand-written registers.

Accurate record keeping is needed to ensure that pregnancy outcome is recorded with sufficient detail and that feedback is comprehensive. Audit of documentation standards should be regularly performed in the EPU.

The training of appropriate support staff to maintain high standards of record-keeping is recommended.

Guidance on maintaining Registers

The monitoring of the management protocols in terms of acceptance and outcome can only be achieved through maintaining accurate registers. The following issues are important to establish the diagnosis and its management.

1. All first visit scans should be given a diagnosis and grouped under respective diagnostic groups, such as:

ViabLe pregnancy / Threatened miscarriage - if associated with bleeding,

Non-viable pregnancy:

- a) Complete Miscarriage
- b) Incomplete Miscarriage or
- c) Missed Miscarriage

Ectopic pregnancy

Hydatidiform mole

2. Those scans that do not fit into any of the above categories are grouped under:

- a) Pregnancy of Unknown Location (PUL) if an intrauterine or extrauterine pregnancy cannot be demonstrated on scan or
- b) Intrauterine Pregnancy (IUP) of Uncertain Viability if an early small sac is visible (with or without a yolk sac).

With a positive pregnancy test, there could be three reasons for a scan result to be classified as a 'Pregnancy of Unknown Location (PUL)':-

- a very early intrauterine pregnancy
- or
- a complete miscarriage
- or
- an early ectopic pregnancy

At subsequent follow-up visits the diagnosis may become clear. However, if it is not possible to place a pregnancy into one of the diagnostic groups in section 1, and symptoms and signs of pregnancy are resolving (including serum hCG levels), this can be classified as a 'resolving PUL'

3. A pregnancy in which an embryo measuring <6mm is visible, but cardiac activity is not demonstrable on TVS, is classified as an "IUP of uncertain viability"
4. An intrauterine gestational sac measuring less than 20mm is also classified as an "IUP of uncertain viability" until a repeat scan confirms: a viable pregnancy, a demised embryo or an empty gestational sac. The last is known as an anembryonic (empty sac) pregnancy (Farquharson et al, 2005). Blighted ovum is a term that is no longer acceptable as embryos seen on earlier scans frequently get absorbed leaving an empty gestational sac or some remnants within it. A missed miscarriage can therefore be simply classified as either fetal or anembryonic depending on the presence or absence of a measurable crown rump length within the gestational sac.

At a subsequent scan when a diagnosis becomes possible this will be recorded under the respective groups as mentioned above under section 1.

5. Scans that are performed after a diagnosis has been made are grouped under 'Rescans' to avoid repeated counting of the same patient in a diagnostic category.
6. All non-viable pregnancies - *Incomplete/Missed miscarriages* should be grouped according to the method of treatment and their outcome recorded.
7. All *ectopic pregnancies* should be grouped according to the method of treatment and their outcome recorded.
8. Monthly statistics should be entered on a Data sheet

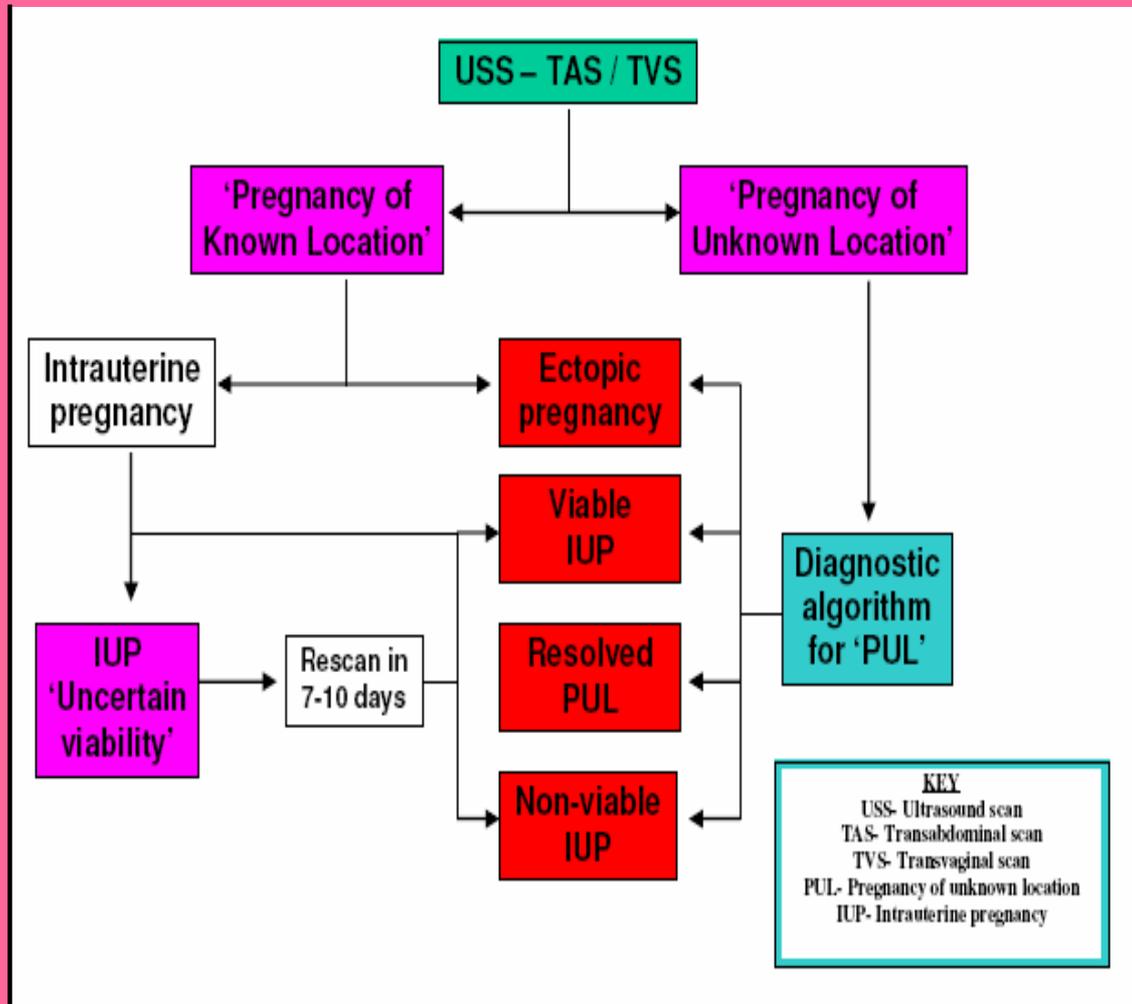
The RCOG greentop guideline (Hinshaw, 2006) contains a simplified assessment algorithm which encourages a simple classification system of ultrasound appearances into the following:

1. Viable IUP
2. Non-viable IUP (add type eg incomplete, missed etc)
3. IUP of uncertain viability
4. Ectopic pregnancy
5. Pregnancy of unknown location (PUL)

References

1. Farquharson RG, Jauniaux E and Exalto N. Updated and revised nomenclature for description of early pregnancy events. *Human Reproduction*, 2005, 20, 3008-3011.
2. Hinshaw K. The management of early pregnancy loss. RCOG Greentop Guideline. October 2006. RCOG Press, London. (www.rcog.org.uk/guidelines)

Basic diagnostic algorithm for early pregnancy loss



Guidelines for Ultrasound Scanning

RCOG Criteria¹

If the gestation sac has a mean diameter greater than **20mm**, with no evidence of an embryo or yolk sac, this is highly suggestive of a Missed miscarriage.

If the embryo has a crown rump length greater than **6mm**, with no evidence of heart pulsations, this is highly suggestive of a Missed miscarriage.

When the mean gestation sac is less than 20mm or the crown rump length is less than 6mm a repeat examination should be performed at least one week later both to assess growth of the gestation sac and embryo and to establish whether heart activity exists.

If the gestation sac is smaller than expected for gestational age the possibility of incorrect dates should always be considered, especially in the absence of clinical features suggestive of a threatened miscarriage.

In all of the above instances a repeat scan should be undertaken in 7 days. This is necessary to confirm the diagnosis.

All scans should be performed by experienced personnel.

The following individuals are suitably trained to perform ultrasound:

1. Radiographers/midwives/Nurses with the Diploma in Medical Ultrasound (DMU)/PGDip or those who have received training by a recognised Preceptor and Trainer and who have undertaken assessment and judged to be competent by the Lead Preceptor of the local EPU.
2. Radiologists with ultrasound training and experience as recommended by the Royal College of Radiologists.
3. Obstetricians and Radiologists who have completed the joint obstetric ultrasound training scheme of the Royal College of Obstetricians and Gynaecologists and The Royal College of Radiologists, or alternatively who have appropriate experience and training in obstetric ultrasound.

All personnel should have appropriate peer review of their ultrasound practice.

Information should be recorded including:

- i) number of sacs and mean gestation sac diameter
- ii) regularity of the outline of sac
- ii) presence of haematoma
- iii) presence of a yolk sac
- iv) presence of a fetal pole
- v) CRL measurement (mm)
- vi) presence of fetal heart pulsation
- vii) extra uterine observations – ovaries, adnexal mass, fluid in the P.O.D.

Ultrasound Features of Early Pregnancy

Gestational age	Anatomical landmarks	Comments
4 weeks 2 days	Eccentrically placed Gestational sac with GSD 2-3mm	May represent pseudosac 10-20% of ectopic pregnancies have an intrauterine pseudo GS
5 th week	DDS	Results from approximation of decidua capsularis and decidua vera. May be present in one third ectopics.
5 th week	GSD 5mm Yolk sac (YS) Size varies from 3-8mm (average 5mm)	Confirms IUP Large YS > 10mm – poor prognosis.
6 th week	GSD 10mm Embryo 2-3mm Cardiac activity (CA)	Confirms IUP Confirms viability (97% of embryos with CA have a normal outcome)
7 th week	GSD 20mm Head and trunk distinguishable	GS > 20mm, if no YS – poor prognosis
8 th week	GSD 25mm Head size = YS Limb buds Midgut herniation Rhombencephalon	GS > 25mm, if no embryo – poor prognosis
9 th week	Choroid plexus, spine, limbs	
10 weeks	Cardiac chambers, Stomach, bladder, Skeletal ossification	
11 weeks	Gut returning Most structures identified	

GSD Gestational sac diameter
 DDS Double decidual sign
 IUP Intrauterine pregnancy

A Brief Guide to Management of Early Pregnancy Features

Ultrasound appearance	Diagnosis	Plan of management
Intrauterine gestational sac (GS), embryo and cardiac activity (CA)	<i>Viable pregnancy</i>	Back to GP for referral to ANC
If actively bleeding		Admit for reassurance
If a significant haematoma noted		Rescan 1 week later
If > 12 weeks		Check the need for Anti-D immunoglobulin
GS <20mm – no fetal pole	<i>Early gestational sac (EGS)</i>	Rescan 1 week later
GS >25mm – no fetal pole	<i>Empty sac</i>	If any doubt Rescan 1 week later If no change on second scan discuss management (see under management of non-viable pregnancy)
Crown Rump Length (CRL) <6mm CA not demonstrated	<i>Pregnancy of uncertain viability (PUV)</i>	Rescan 1 week later
CRL >6mm CA not demonstrated	<i>Early fetal loss</i>	Rescan 1 week later if in doubt If no change on second scan discuss management (see under management of non-viable pregnancy)
Empty uterus No adnexal abnormality	<i>Pregnancy of unknown location (PUL)</i> <u>Serum hCG negative (<5)</u> <i>complete miscarriage or never pregnant</i> <u>serum hCG positive</u> <i>possible early pregnancy</i> <i>possible ectopic pregnancy</i> <i>possible complete miscarriage</i>	No follow-up Repeat serum hCG 48 hours later. Rescan if necessary (see guidelines for β -hCG) Warn of the possibility of ectopic pregnancy. Give contact numbers to report if any pain.
Empty uterus Adnexal mass Fluid in Pouch of Douglas (POD) Pain	<i>Ruptured ectopic pregnancy</i>	Admit for assessment: Observation laparoscopy/laparotomy
Empty uterus Adnexal mass <3cm	<i>Unruptured ectopic pregnancy</i>	Conservative/medical management

No other findings/symptoms		Follow up with serial hCG (see guidelines for hCG assay)
Endometrium/tissue diameter <u>≤15mm</u>	<i>Complete miscarriage</i>	Advice follow-up 2 weeks later if bleeding persists
Endometrium/tissue diameter <u>>15mm</u>	<i>Incomplete miscarriage</i>	Discuss management (see guidelines on management of incomplete miscarriage)
Homogeneous mass within the uterus	<i>Suspect trophoblastic disease</i> <i>Serum hCG assay</i>	Surgical evacuation (see guidelines for trophoblastic disease)
Pregnancy of Unknown Location (PUL)	Diagnosis by exclusion	Follow up with serial hCG See guidelines for 'Inconclusive scan'

Adequate time should be allowed for women to make decisions. After giving thorough explanation and answers to their queries, allow time in privacy. A quiet room would be more suitable for the woman with her partner/relative/friend. 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. On the other hand if the patient displays clear understanding and wishes to know about further management, appropriate choices are to be given. Women should also be encouraged to go home and ring later with their decision. They should be reassured that it will not be harmful to do so if they prefer to discuss this with their family and contact the unit at a later time.

Women should be informed that the exact cause of a miscarriage can not be determined and in majority of cases it is due to a random or one-time genetic abnormality within the conceptus that leads to a miscarriage.² Women should also be told that miscarriages, in general, are not linked to parental chromosomal abnormality. A brief explanation of the outcome of the fertilised ova may be helpful in understanding that not all fertilised ova end up in full term normal pregnancies.

References:

1. Royal College of Obstetricians and Gynaecologists. Guidance on ultrasound procedures in Early Pregnancy. Standing joint committee on obstetric ultrasound of RCR/RCOG. 1995.
2. Philipp T, Philipp K, Reiner A, Beer F, Kalousek DK. Embryosopic and cytogenetic analysis of 233 missed abortions: factors involved in the pathogenesis of developmental defects of early pregnancies. Human Reproduction, 2003, 18, 1724-32.

Rhesus Anti D Prophylaxis

Prophylactic Anti D is not routinely required for rhesus negative with women bleeding below 12 weeks gestation. There is minimal evidence that administering Rh immune globulin for first trimester vaginal bleeding prevents maternal sensitization or development of haemolytic disease of the newborn².

Threatened miscarriage:

Anti-D Ig should be given to all non-sensitised RhD negative women with a threatened miscarriage **after 12 weeks** of pregnancy. Where bleeding continues intermittently after 12 weeks' gestation, anti-D Ig should be given at 6-weekly intervals (send EDTT to check for anti bodies **prior** to administering) (RCOG *Grade C recommendation*).

However it may be prudent to administer anti-D where bleeding is heavy or repeated or where there is associated abdominal pain particularly if these events occur as gestation approaches 12 weeks (RCOG Grade C recommendation). The period of gestation should be confirmed by ultrasound. Review on an individual basis recommended.

Spontaneous miscarriage:

Anti-D Ig **should** be given to all non-sensitised RhD negative women who have a spontaneous complete or incomplete miscarriage **after 12 weeks** of pregnancy (RCOG Grade B recommendation).

The risk of immunisation by spontaneous miscarriage before 12 weeks' gestation is negligible when there has been no instrumentation to evacuate the products of conception and anti-D Ig is not required in these circumstances (RCOG Grade C recommendation).

Ectopic pregnancy:

Anti-D Ig **should** be given to all non-sensitised RhD negative women with a confirmed or suspected ectopic pregnancy (RCOG *Grade B recommendation*).

ERPC and Therapeutic termination of pregnancy:

Anti-D Ig **should** be given to all non-sensitised RhD negative women having a therapeutic termination of pregnancy, whether by surgical or medical methods, regardless of gestational age (RCOG *Grade B recommendation*).

Recommended Dose 250-500 i.u. given IM into deltoid muscle as injections into the gluteal region often only reach the subcutaneous tissues and absorption may be delayed. (Dose according to local policy).

Reference:

1. Use of anti-D immunoglobulin for Rh prophylaxis. RCOG 'Green-top' Guideline no. 22, 2002.
2. [Hannafin B](#), [Lovecchio F](#), [Blackburn P](#). Do Rh-negative women with first trimester spontaneous abortions need Rh immune globulin? Am J Emerg Med 2006 Jul; 24(4):487-9.

Guidelines for Viable Intra-Uterine Pregnancy

Definition: A normally sited gestation sac with clearly identified cardiac activity.

Demonstration of fetal heart activity is generally associated with a successful pregnancy rate of 85-97%¹, depending on the period of gestation.

About 25% of all pregnancies threaten to miscarry.

A **threatened miscarriage** is one in which:

- the women bleeds a little from the vagina
- cervical os is closed
- there is little abdominal pain and
- pregnancy is still viable.

All women attending EPAU receive a contact number.

Women will go back to GP for referral to ANC via the usual method.

Follow up appointment may be required in the following situations:

1. Significant vaginal bleeding and patient refusing to be admitted
2. A haematoma² is noted
3. Liquor volume is reduced
4. Fetal bradycardia
5. For reassurance at patient's request because of previous miscarriages
6. After IUCD removal in the EPAU

The Embryonic heart rate:

Theoretically, cardiac activity should always be evident when the embryo is over 2mm. However, in around 5-10% of embryos between 2 and 4 mm, it can not be demonstrated. Perform a follow up scan within one week.

At 6 weeks	60-150 bpm (mean 125 bpm)
6-9 weeks	175 bpm
Thereafter gradually decreases	
14 weeks	160 bpm (approximately)

Bradycardia has been found in pregnancies that subsequently miscarried. However, a single observation of slow heart rate does not necessarily indicate subsequent embryonic death, follow-up is therefore essential.

Reference:

1. Sotiriadis A et al. Threatened Miscarriage: evaluation and management. BMJ 2004; 329: 152-5
2. Johns J, Hyett J, Jauniaux E. Obstetric outcome after threatened miscarriage with or without a haematoma on ultrasound. Obstetrics and Gynaecology, 2003, 102, 483-7.

Management of Non-Viable Pregnancy

Women feel sensitive about the way we refer to pregnancy loss. As their loss is not out of choice, use of language like termination/abortion can be sometimes offensive to women at this vulnerable time. Hence documentation for management of early pregnancy loss should be worded appropriately.

At all times women should be supported in making informed choices about their care and management. Adequate explanation supplemented with written information should be given. Ample time should be allowed for making a decision and if necessary another appointment arranged

The grief reaction following first trimester miscarriage can be as profound as after stillbirth.

1. Complete Miscarriage

Ultrasound scan - Endometrial thickness <15mm

It is the morphology rather than the amount of tissue that matters. There may be very little pregnancy tissue giving bright echoes or a large amount of blood showing no echogenicity at all.

Advise to report if bleeding persists longer than 2/52.

2. Incomplete Miscarriage

Ultrasound scan - Intrauterine tissue diameter 15 - 50mm

Conservative method should be offered as an option provided the bleeding is not heavy and a rescan arranged 2 weeks later or advice may be given to the women to report if bleeding persisted after 2 weeks.

Alternatively, medical management may be offered if patient is not willing to wait.

Surgical evacuation is arranged if a patient has a strong preference it.

Surgical method should be reserved for those who:

1. make a specific request for it
2. change their mind during the course of conservative management
3. have heavy bleeding and/or severe pain
4. Tissue diameter of > 50mm
5. have infected tissue

Conservative management of Incomplete Miscarriage has excellent success rate and evidence suggests that it is associated with lower rates of infection than surgical management¹.

3. Missed Miscarriage (empty sac/fetal loss)

Since the introduction of TVS, 'missed miscarriage' (previously described as 'anembryonic pregnancy', absent fetal echo, 'blighted ovum' in the past) are felt to reflect different aspects or stages of the same clinical process. The absence of a identifiable fetal pole should be referred to as an '**empty sac**'.

A previously identified fetal heart action followed by absence of heart activity should be referred to as a **fetal loss**. There is an approximately 5% chance of this happening after fetal heart action is seen at 7 weeks gestation (Brigham et al, 1998) and increases with advanced maternal age

Following the diagnosis of early pregnancy failure by 2 qualified scanners women should be offered the choices of conservative, medical or surgical methods of miscarriage management. Patient preference is important and should be acknowledged as a determining factor in management decisions.

Conservative management:

- Rescan 2-3 weeks later, if necessary follow up with further rescans at 2-weekly intervals.
- Give patient a contact number

Medical management may be offered if patient is not willing to wait.

Surgical method should be reserved for those:

- who make a specific request for it
- who change their mind during the course of conservative management
- where medical management fails

The incidence of gynaecological infection after surgical, expectant, and medical management of first trimester miscarriage is low (2-3%). There are small non-significant differences in haemorrhage rates (<3%) and surgical evacuation carries a 1% risk of uterine perforation.². The RCOG has recently updated their guidelines for early pregnancy loss (2).

References:

1. Trinder J, Brocklehurst P, Porter R, Read M, Vyas S, Smith L. Management of miscarriage: expectant, medical, or surgical? Results of randomised controlled trial (miscarriage treatment (MIST) trial). *BMJ* 2006;332(7552): 1235-38
2. Hinshaw K. The management of early pregnancy loss. RCOG Greentop Guideline. October 2006. RCOG Press, London. (www.rcog.org.uk/guidelines)
3. Brigham S, Conlon C, Farquharson RG. A longitudinal study of pregnancy outcome following idiopathic recurring miscarriage. *Human Reproduction*, 1999, 14, 2868-71.

Conservative Management Of Miscarriage

A significant number of women prefer conservative management and it may be continued as long as the patient is willing, provided there are no signs of infection such as:

- vaginal discharge
- excessive bleeding
- pyrexia
- abdominal pain

Conservative management requires:

- Motivation and preparation
- A thorough explanation on:
 - what to expect: the likely amount of blood loss and pain
 - what analgesics to be taken
 - what sort of sanitary protection to be used
- Satisfactory answers to their questions and doubts
- Reassurance that the risk of infection is negligible
- A contact number should be available 24 hours to ring if there are any problems such as very heavy loss or severe pain. An adequately informed and reassured patient is less likely to contact for any further advice.
- A follow-up appointment for confirmation that the miscarriage is complete and to assess if she has any pain or bleeding
- An information leaflet to support verbal explanation.

Success rates are higher with prolonged follow-up. Follow up scans may be arranged at 2 weekly intervals, until a diagnosis of complete miscarriage is made. However if patient requests a surgical or medical method at any stage it should be arranged. At Cardiff, data over a ten year interval has shown that 90% of women miscarry in three weeks time. Only a small percentage of women may go up to 6-8 weeks (AEPU annual meeting lecture, Manchester, 2006).

Medical Management Of Miscarriage

The drugs used for medical management of a miscarriage include an antiprogestone, mifepristone (200mg) with a prostaglandin such as gemeprost or misoprostol.

The conventional prostaglandin E₁ analogue used for abortion procedures is gemeprost, and is effective in 95% of cases in combination with mifepristone at <63 days of amenorrhoea. The alternative E₁ analogue, misoprostol may be given orally or vaginally and is most effective if administered vaginally (95% versus 87% respectively)¹. The main advantages over gemeprost are that it does not require refrigeration, it is cheaper and can be administered orally or vaginally.

The MMM has implications for patients safety as it avoids the need for an anaesthetic and surgical instrumentation.

The morbidity in those treated medically was lower than in those requiring surgery (1.7% versus 6.6%)².

Contraindications to Medical management

Absolute:	adrenal insufficiency long term glucocorticoid therapy haemoglobinopathies or anticoagulant therapy anaemia (haemoglobin < 10 g/dl) porphyria mitral stenosis glaucoma non steroidal anti-inflammatory drug ingestion in previous 48 hours
Relative:	hypertension severe asthma

Varying rates of efficacy have been quoted with medical management in non-viable pregnancies. The efficacy is greatest for those pregnancies of less than 10 weeks or with a sac diameter of less than 24mm (92 – 94%)³.

Prostaglandin Regimens

Incomplete miscarriage

- Gemeprost 1mg vaginally or
- Gemeprost 0.5mg vaginally or
- Misoprostol 800ug (4 x 200ug tabs) vaginally

Missed miscarriage

- Mifepristone 200mg orally followed 36 – 48 hours later by cervagem 1mg vaginally or
- Mifepristone 200mg orally followed 36 – 48 hours later by misoprostol 800ug (4 x 200ug tabs) vaginally

These regimens are unlicensed.

Since progesterone levels are low in non-viable pregnancy mifepristone may be avoided and prostaglandin only administered. Many units use Misoprostol (400ug PV or PO) alone for medical management of incomplete miscarriage.

Protocol for Medical Management of Miscarriage⁴

- 👂 Ensure that the patient has read information leaflet
- 👂 Ask if she has any questions
- 👂 Arrange with gynaecology ward for admission to a private room with toilet facility
- 👂 Obtain written consent for mifepristone and PG +/- surgical evacuation
- 👂 Arrange blood tests
 - measurement of haemoglobin concentration and
 - determination of ABO and Rhesus blood groups with screening for red cell antibodies
- 👂 Anti-D immunoglobulin should be given to all non-sensitised Rh negative women undergoing medical evacuation.
- 👂 In the case of a pregnancy occurring with an IUCD in-situ, this device should be removed before administration of mifepristone.
- 👂 Prescribe **mifepristone 200mg orally**
- 👂 Arrange admission 48 (36-72) hours after mifepristone administration
- 👂 Inform the patient regarding the length of stay on the ward. Observe for three- six hours after administration of prostaglandin and discharge if clinically well.
- 👂 Women with gestation:
 - <9 weeks on scan have only one insertion of misoprostol 800 micrograms vaginally. Misoprostol tablets are administered vaginally by the woman or clinician. If miscarriage has not occurred 4 hours after administration of misoprostol a further dose of misoprostol 400 micrograms may be administered orally or vaginally.
 - >9 weeks on scan can have a maximum of four further doses of misoprostol 400 micrograms at 3-hourly intervals, vaginally or orally depending on the amount of bleeding and patient's preference.
- 👂 Prescribe PG (Misoprostol 800ug tabs/Cervagem 1mg) vaginally and Metronidazole 1G rectally on the Drug chart.

- 👂 Prescribe Doxycycline 100mg bd for 7days with co-dydramol 2 tabs qds for one week to take home after the procedure.
- 👂 Inform that in case of heavy bleeding ERPC may be required and therefore she should be prepared to stay overnight if necessary
- 👂 Women may or may not pass POC while on the ward. They should be advised of what to expect when they go home and not referred to EPAU for a scan before their follow up appointment as most of them would miscarry at a later stage after discharge from the hospital.
- 👂 Any products that are obtained should be sent for histological examination to exclude a molar pregnancy.
- 👂 Give patient information on:
 - Admission to gynaecology ward
 - Medical management of non-viable pregnancy
 - ⊆ What to expect and the likely amount of blood loss
 - ⊆ What analgesics to be taken
 - ⊆ What sort of sanitary protection to be used
- 👂 Arrange follow-up in EPAU **three** weeks later (so as to avoid further appointments if POC are seen at an early scan or a surgical intervention)
- 👂 Give contact telephone numbers for EPAU/Gynaecology ward

Infection rates after expectant, medical and surgical management are not significantly different and are reassuringly low⁵.

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Surgical Evacuation Of Non-Viable Pregnancy

Surgical evacuation should be preferably managed on a day case basis unless there is heavy bleeding when the patient should be admitted to Gynaecology ward .

Have a unit protocol for admission system with a patient pathway clearly described.

Give the patient information on admission procedure including appropriate patient information leaflet(s).

Explain the surgical procedure and obtain written consent with Doctor familiar with procedure. Mention rare anaesthetic and uncommon surgical risks involved such as uterine perforation (1%), cervical tears, intra-abdominal trauma (0.1%), intrauterine adhesions, haemorrhage and infection.

Arrange for measurement of haemoglobin concentration and determination of ABO and Rhesus blood groups. Anti-D immunoglobulin should be given to all non- sensitised Rh negative women undergoing surgical evacuation.

All at risk women (usually women under the age of 25 years) undergoing surgical evacuation for miscarriage should be screened for *Chlamydia trachomatis*._

Alternatively, prescribe prophylactic doxycycline 100 mg orally twice daily for seven days and Metronidazole 1G rectally at the time of surgical evacuation as per the local protocol.

Ensure that products of conception are seen at evacuation.

The RCOG study group³ recommended that all tissue obtained at a surgical evacuation for miscarriage should be sent for histology examination. The reasons are:

1. to diagnose molar pregnancy
2. to exclude ectopic if chorionic tissue is found on histology

A follow-up appointment is usually not required after a surgical evacuation.

Give patient information on “What you may need to know after a miscarriage”. There should be information on counselling if required in the future.

References:

1. Royal college of Obstetricians and Gynaecologists. The Management of Early Pregnancy Loss. Guidelines No. 25. London: RCOG; 2006.
2. Recommendations from the 33rd RCOG Study Group. In Grudzinkas TG, O'Brien PMS, editors. Problems in early pregnancy: advances in diagnosis and management. London: RCOG press, 1997. 327-31

Management of Early Gestational Sac

At 4⁺² weeks blastocyst measuring 1.5-2mm is recognisable as an early gestational sac. The appearance of an early gestational sac (EGS) is the earliest reliable sign of pregnancy. The ability to demonstrate a true intrauterine gestational sac practically excludes an ectopic pregnancy since concurrent intrauterine and extrauterine pregnancies are rare.

When a gestational sac-like structure is located within the uterus, its relationship to the endometrial cavity is carefully studied.

Ultrasound features of EGS

- It is seen as an anechoic structure with an echogenic rim
- It is eccentrically placed i.e. it remains within a thickened decidua on one side of the uterine cavity
- It is typically located in the fundus on the posterior wall

GSD is a useful indicator of GA before CRL measurement is available.

The gestational sac in such instances should be distinguished from the pseudosac that occurs in ectopic pregnancy. The pseudogestational sac may result from an ectopic as well as fluid or blood collection in the uterine cavity and it represents the endometrial cavity itself.

Management Protocol

EGSs need to be differentiated from an *inconclusive scan* result.

Follow up scan is arranged in a week if confident

or

in 3 days to assess growth of sac if uncertain of the diagnosis.

A healthy gestational sac grows by 1.2mm/day.

A yolk sac will usually be visible at next scan in a normal pregnancy.

Following up every early gestational sac with serial measurements of hCG leads to increased patient anxiety and wastage of resources.

There is no risk of missing a complication in this group as they are all followed up until an embryo with a heart beat is seen or a miscarriage is diagnosed.

Guidelines for hCG

Understanding hCG measurements

Urine Measurements

The urine test is simple and reliable enough to be used routinely to establish whether or not a woman is pregnant. A rapid and simple test should be available in the unit.

Serum Measurements

Measurement of hCG in Serum, permits more accurate quantification which may be useful in the following:¹

1. Screening in women at high risk of ectopic pregnancy
2. Determining the appropriate treatment for women with suspected ectopic pregnancy
3. Monitoring during expectant management or medical management of women with ectopic pregnancy
4. Evaluation of conservative surgical treatment of ectopic pregnancy

Serum hCG levels double approximately every **two days** in early (<8 weeks) normal intrauterine pregnancy; a lesser increase (<66% over 48 hours) is associated with ectopic pregnancy and miscarriage.²

To find out whether or not a pregnancy is normal or pathological, the two useful clinical concepts of hCG measurement are the ***hCG doubling time*** and the ***discriminatory hCG level***.

hCG doubling time

It refers to the time taken for the hCG level to double its original value. A hCG value of <5 IU/L is considered to be the non pregnant value.

The doubling time is particularly useful in early pregnancy i.e. before 5.5 weeks or when the serum hCG level is <5000IU/L. As pregnancy progresses the doubling time also lengthens.

However 15% of normal pregnancies will have abnormal doubling time and 13% of ectopic pregnancies will have a normal doubling time³.

Caution

1. In multiple pregnancies the level of hCG on D2 would be a little higher, requiring an extra two or three days for a sac to become visible.
2. The possibility of a heterotopic pregnancy should be kept in mind (1 in 3000 – 4000 of spontaneous conceptions and 1% - 3% of assisted conceptions).

Discriminatory hCG level

It refers to a defined level of hCG above which the gestational sac of an intrauterine pregnancy should be visible on ultrasound. In women with an hCG result above the discriminatory level, but absence of an intrauterine gestational sac on ultrasound, ectopic pregnancy is a distinct possibility.

With the use of high resolution transvaginal ultrasound the discriminatory level has been reported to be around 1000IU/L IRP ⁴. However the American Fertility Society suggested that in practice the level ought to be around 2400IU/L.

The discriminatory level may vary in different units and depends on three factors:

- i) hCG assay
- ii) quality of ultrasound
- iii) the experience of the person performing the ultrasound

It usually lies between 1000 – 2400IU/L.

A diagnosis of ectopic pregnancy is more likely whenever intrauterine pregnancy is not detected by ultrasound at serum hCG concentration above 2400IU/L.

References:

1. Recommendations for clinical practice arising from 33rd RCOG Study Group. Problems of Early Pregnancy – Advances in Diagnosis and Management. London: RCOG press, 1997.
2. Kader et al. (1981) Discriminating hCG zone: Its use in the Sonographic evaluation for ectopic pregnancy, *Obstet Gynecol* 58, 156-61
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Guidelines on Management of Pregnancies of Unknown Location (PUL)

Definition

No evidence of an intrauterine or extrauterine pregnancy on transvaginal ultrasound scan (TVS) in women with a positive pregnancy test.

Initial Assessment

- Clinical history:
 - the presence of risk factors for ectopic pregnancy
- Clinical signs
- TVS
- Serum hCG

Give appropriate information to patient. Explain the need for further follow up

Follow up

- 📖 Close surveillance with Serum hCG measurements every 2-3 days
- 📖 See guidelines for hCG
- 📖 Repeat TVS when serum hCG >1000IU/L (see Discriminatory HCG level on previous page) to look for an IUP or an ectopic otherwise
- 📖 Provide support
- 📖 Follow up until:

Intrauterine pregnancy identified

or

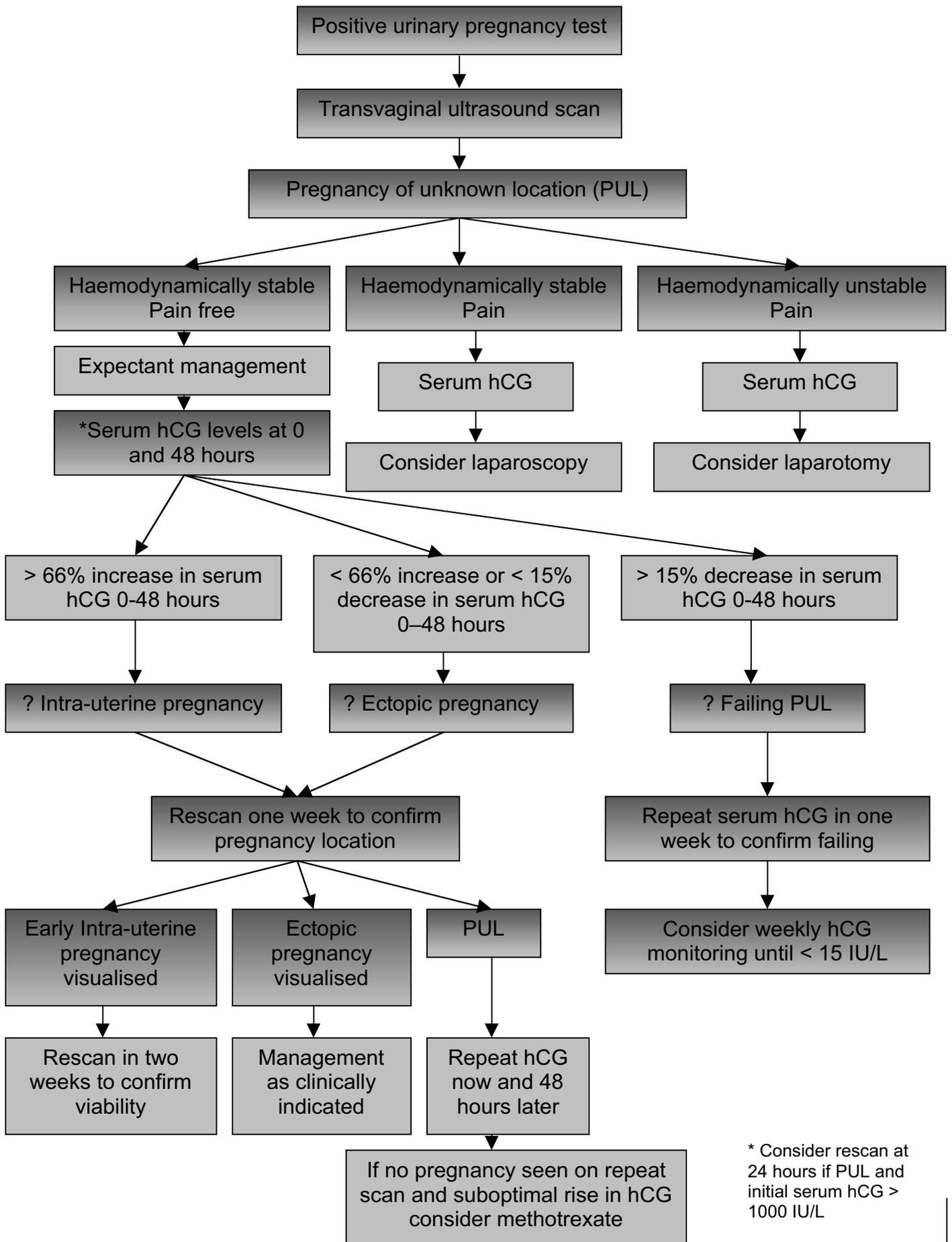
Ectopic pregnancy diagnosed

or

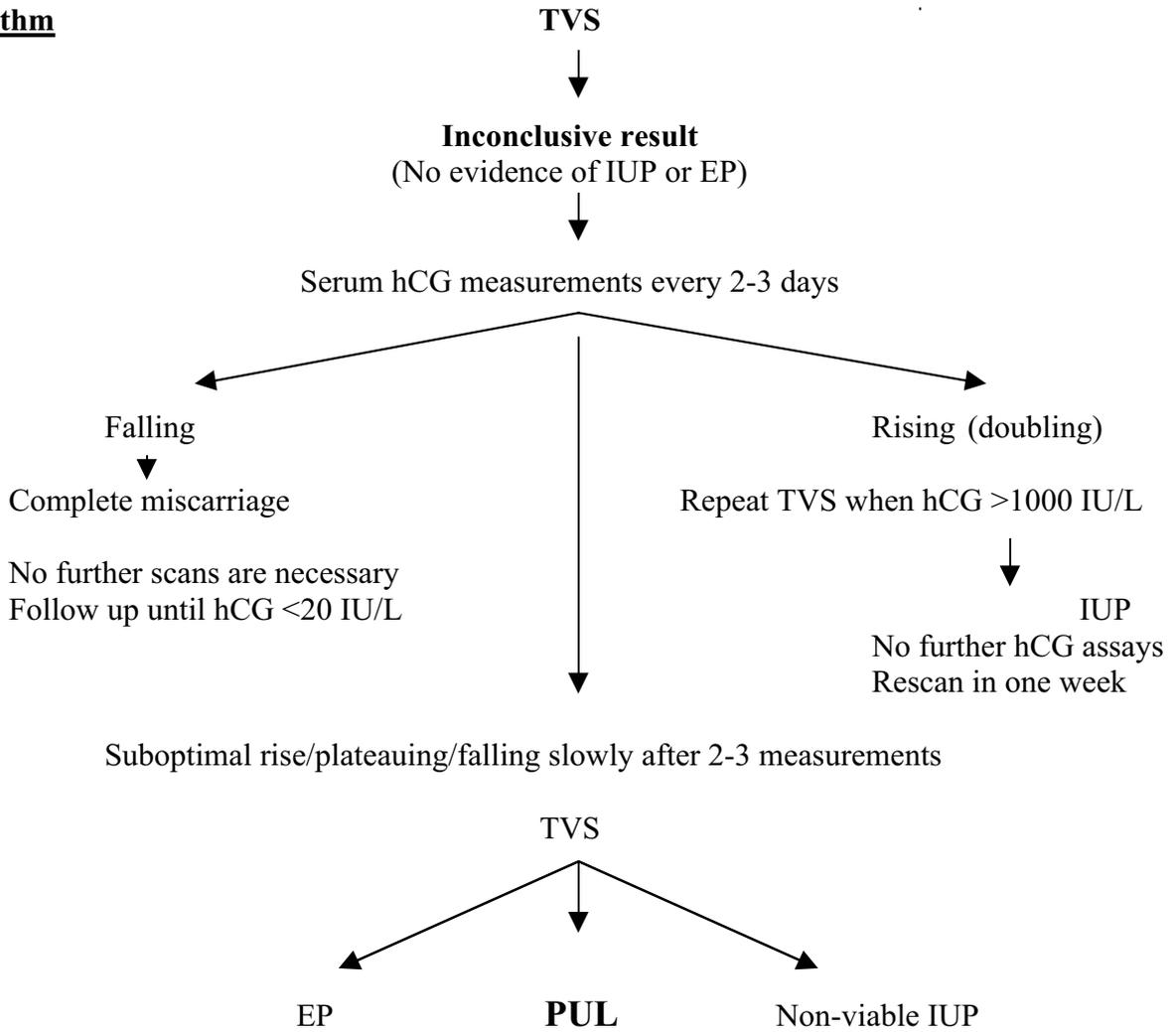
Levels of serum hCG spontaneously decrease (Failing PUL)

Depending on the quality of the ultrasound service provided, anything between 10 and 30% of pregnancies of unknown locations will subsequently be diagnosed as an ectopic pregnancy.

Possible Algorithm for Management of Pregnancies of Unknown Location



Algorithm



Key:

IUP Intrauterine pregnancy

EP Ectopic pregnancy

Management Protocol for Inconclusive Scan Result after the Initial Visit to EPU using Serum hCG and TVS

hCG IU/L	Ultrasound	Pattern of change of hCG level after 48 hours	Management
<1000	No intrauterine sac No Adnexal mass No fluid in POD No symptoms	hCG rise > 66% or doubled	If hCG > 1000 repeat ultrasound or If hCG < 1000 repeat hCG
> 1000	No intrauterine sac		
	1. No adnexal mass No fluid POD No symptoms		<u>Repeat hCG and repeat ultrasound 2 days later</u>
		A. Falling hCG	Serial hCG levels until hCG <20
		B. Rising Or plateauing hCG x 3 Diagnosis: Ectopic or PUL	Laparoscopy (if symptomatic) Or Methotrexate (if asymptomatic)
	2. Suspicious adnexal mass <3cm No fluid POD Asymptomatic		<u>Repeat hCG and repeat ultrasound 2 days later</u>
		A. Falling hCG	Serial hCG levels until hCG <20
		B. Rising/plateauing hCG x 3	Laparoscopy with D&C Or Methotrexate
	3. Ad. Mass >3cm Or Fluid POD Or Symptomatic		Laparoscopy
> 2400	No intrauterine sac Adnexal findings +/- Asymptomatic	Fluctuating x3 Diagnosis: Ectopic or PUL	Laparoscopy Or Methotrexate

Falling hCG: Diagnosis Early miscarriage Or
Pregnancy of Unknown Location – resolving

Likely diagnosis; With bleeding: Miscarriage
Ectopic pregnancy
PUL – Resolving

 No bleeding: Normal intrauterine pregnancy

Guidelines for Management of Ectopic Pregnancy

Incidence: Ectopic pregnancy affects 1 in 80 pregnancies. In the EPAU population the incidence is 3%.

Ectopic pregnancy can be a devastating experience.

Women have to cope with: the loss of a baby
 the possible loss of fertility and
 the possible loss of their life

The psychological impact is not to be overlooked. The emotional as well as the clinical needs of individual women should be assessed and sensitively dealt with.

The fallopian tube is the most common site accounting for nearly 95% of ectopic pregnancies. Other possible sites of an ectopic pregnancy are, interstitial (2%), cervical (0.1%), ovarian (0.01%), caesarean section scar or abdominal (rare). An abdominal ectopic pregnancy may be primary or secondary resulting from a tubal miscarriage.

Risk factors are present only in 25% - 50% of patients with an ectopic pregnancy. They include a history of:

- ☞ previous pelvic inflammatory disease
- ☞ tubal surgery
- ☞ previous ectopic pregnancy
- ☞ infertility
- ☞ assisted reproductive technology
- ☞ intrauterine contraceptive device

Smoking and a maternal age > 40 years are also associated with an increased incidence of ectopic pregnancy.

The diagnostic performance based on the combined use of transvaginal sonography (TVS) and serum hCG measurement reaches sensitivities and specificity range 95% - 100%¹. Patients who have had previous ectopic pregnancies or are at risk of ectopic pregnancy should be advised to present early, at 6 weeks, in subsequent pregnancies for confirmation of uterine pregnancy².

Symptoms

- Amenorrhoea (not universal)
- Vaginal bleeding
- Lower abdominal pain
- Faintness / dizziness
- Shoulder tip pain
- Gastrointestinal symptoms - diarrhoea or pain on defecation

Signs

- Lower abdominal tenderness
- Adnexal tenderness and /or mass
- Cervical excitation
- Shock/Collapse

The clinical presentation and natural course of an ectopic pregnancy are unpredictable. It is important to have a high index of suspicion for ectopic pregnancy, because the patient may not be symptomatic until rupture occurs, or on the other hand the patient may experience vague abdominal pain and/or vaginal bleeding.

Diagnosis

Ultrasound features:

Like any pregnancy an ectopic pregnancy too has a natural history of evolution, hence the ultrasound findings depend on the developmental stage at the time of examination.

Almost all ectopic pregnancies occur in the fallopian tube. Ultrasound features suggestive of ectopic pregnancy are a combination of uterine and adnexal findings:

Uterine:

- ☞ an empty uterus
- ☞ Variable degree of thickening of endometrium
- ☞ A thin endometrium may exclude the possibility of an early intrauterine pregnancy as it is not compatible with an ongoing early implantation
- ☞ An intrauterine pseudosac - mere collection of variable amount of fluid within uterine cavity, is found in approximately 5% of all ectopic pregnancies

Adnexal:

- ☞ A hyperechogenic tubal ring ('doughnut' or 'bagel' sign) is the most common finding on scan, probably due to early scanning
- ☞ A mixed adnexal mass – either tubal miscarriage or tubal rupture
- ☞ An ectopic sac with a yolk sac or an embryo with or without a heart beat
- ☞ Fluid in the Pouch of Douglas

The corpus luteum may be present on the ipsilateral side in 85% of cases.

Management:

In the absence of any diagnostic features on ultrasound scan (Inconclusive scan result) serial hCG assay are performed.

If the patient is in significant discomfort she should be admitted to the ward. If she is clinically stable with no discomfort she may be allowed home to return for follow up. Direct contact number for the emergency ward should be given and the patient asked to attend at any time if her condition deteriorates.

Serum hCG assay

An ectopic pregnancy is more likely when the serum hCG is more than 1000IU/L. However in the absence of any pain, hCG is to be repeated in 48 hours time.

If the hCG is falling it is suggestive of a resolving intra or extrauterine pregnancy. The rate of fall of hCG tends to be slower in ectopic pregnancy than with complete miscarriages. (see guidelines on serum hCG assay)

A serum hCG level that is increasing or has plateaued may either show an ectopic pregnancy at subsequent scan or remain as a PUL.

Transvaginal ultrasound and quantitative assay of serum hCG not only play a role in the diagnosis of an ectopic pregnancy but also in determining the management options in a particular patient.

- Expectant management
- Medical management
- Surgical management
 - Either laparoscopic or open
 - a. salpingotomy
 - b. salpingectomy (48 hours later, HCG should be <35% of preop level)

Both the ***hCG levels*** and the ***patterns of change of hCG*** are helpful in constructing a plan for ectopic pregnancy. The clinical picture should always be considered with hCG measurements.

A Guide to Choosing the appropriate treatment based on hCG Measurements and the expected Serial hCG patterns in the follow-up of ectopic pregnancy

hCG level	Method of Treatment	Expected hCG pattern
Low < 1000IU/L	Expectant management	Steady downward trend
< 1000 IU/L Fluctuating 1000-3000 IU/L	Medical treatment	There may be an initial rise of hCG
> 3000 IU/L	Salpingectomy	Repeat after 1 week

Expectant Management of Ectopic Pregnancy

Not all ectopic pregnancies progress and pose a risk to the mother. Spontaneous resolution of tubal ectopic pregnancies has been well documented in a number of reports.

Selection Criteria for Expectant Management

1. absence of clinical symptoms
2. no sign of rupture or intraperitoneal bleeding
3. absence of haemoperitoneum
4. a tubal mass of less than 2cm
5. no fetal parts
6. serum hCG concentrations below 1,000IU/L and declining progressively³

The success rate for a spontaneous resolution was 88% when the initial hCG level was <2000 IU/L⁴ but only 25% at levels >2000IU/L⁵

The risk of rupture in a woman with an ectopic exists until the hCG level has fallen to <10 IU/L. It often involves frequent hospitalisation and/or follow up. Both the physician as well as the patient must be well motivated to accept the long recovery time.

Follow-up: Monitor serum hCG levels every 2-3 days until less than 20IU/L, and rescan when required.

Medical Management of Ectopic Pregnancy

Many agents including prostaglandins, RU-486, potassium chloride and actinomycin-d have all used for the medical management of ectopic pregnancy. However the most commonly used drug is methotrexate. . A single injection of methotrexate is well tolerated and is effective. Published studies have shown a success rate varying from 52% to 94% for single dose methotrexate.

Systemic Methotrexate Treatment in Ectopic Pregnancy

Methotrexate is a folic acid-antagonist (anti-metabolite) which prevents the growth of rapidly dividing cells by interfering with DNA synthesis. It can be administered systematically (IV, IM or orally). However, it is most commonly given according to a single-dose protocol, which involves a single intra-muscular dose of 50 mg/m². Alternatively it can be given according a multiple dose regimen with alternate day administration of intramuscular methotrexate and folic acid rescue.

Inclusion Criteria

1. Haemodynamically stable
2. Indications: - Unruptured tubal or other ectopic pregnancy (diagnosed with serial hCG and TVS)
- Persistent trophoblast after salpingotomy
3. An ectopic pregnancy with serum hCG less than 3,000 IU.
4. An ectopic pregnancy with serum hCG value less than 1,000 IU/L should have repeat serum hCG within 48 hours if the patient remains haemodynamically stable.

- The treatment should begin if the levels are plateauing.
- If the levels are rising one must exclude intrauterine pregnancy before starting treatment.

5. Normal LFT's, U & E's, and FBC

Exclusion Criteria

1. If there is any evidence of intraperitoneal haemorrhage i.e. haemoperitoneum on TVS.
2. Any hepatic dysfunction, thrombocytopenia (platelet count <100,000), blood dyscrasia (WCC <2000 cells cm³).
3. Difficulty or unwillingness of patient for prolonged follow-up (average follow-up 35 days).
4. Ectopic mass >3.5mm ????
5. The presence of cardiac activity in an ectopic pregnancy
6. Women on concurrent corticosteroid therapy

Treatment Protocol

1. Discuss options for management – expectant / surgical / medical.
2. Satisfy eligibility and exclusion criteria.
3. Counsel the patient and explain treatment protocol. Give information leaflet.
4. Take height and weight.
5. Prescribe Methotrexate..
6. Organise base line blood tests, FBC, blood group, LFTs and U&Es
7. The prescription with the height and weight documented on it is sent to Pharmacy to make up the drug.
8. Check blood results, prescribe anti-D immunoglobulin if Rhesus-negative.
9. Methotrexate is given intramuscularly in buttock or lateral thigh. The empty syringe or needle should be placed in a separate Sharp Safe, labelled “Cytotoxic waste for special incineration”.
10. Rest up to one hour. Check for any local reaction. If local reaction noted consider anti-histamine or steroid cream (very rare).
11. Arrange follow-up in EPAU.

Single – Dose Regimen:

<u>Day</u>	<u>Management</u>
0	Serum hCG, FBC, U&Es, LFTs, G&S
1	Serum hCG Intramuscular methotrexate 50 mg/m ²
4	Serum hCG
7	Serum hCG, FBC, LFT 2 nd dose of methotrexate if hCG decrease < 15 % day 4-7 If hCG decrease > 15 % repeat hCG weekly until < 12 U/L

Multiple –Dose Regimen

<u>Days</u>	<u>Management</u>
0	Serum hCG, FBC, U&Es, LFTs, G&S
1,3,5	Serum hCG Intramuscular methotrexate 1mg/kg
2,4,6	Serum hCG Intramuscular folinic acid 0.1mg/kg
	Monitoring <i>Continue until hCG decreased > 15% in 48 hours or 4 doses of methotrexate given</i>

Information for Clinician

1. Up to 75% of patients may complain of pain on days 3 – 7 (thought to be due to tubal miscarriage).
2. hCG levels may initially rise days 1 – 4 (up to 86% of patients).
3. Mean time to resolution is 35 days.
4. A second dose of Methotrexate may be given at 7 days if hCG levels fail to fall by more than 15% between day four and day seven. (3-27% (in published literature)14% of medically treated women will require more than one dose of methotrexate)
5. Risk of tubal rupture is 7% and the risk remains while there is persistent hCG.
6. Folinic acid rescue is not required for the single dose regime.
7. Avoid vaginal examination. TVS may be undertaken during first treatment week or subsequently if clinically indicated.
8. TVS should be used to monitor completeness of resolution of an ectopic pregnancy after hCG values are normalised. (Zullo et al)
9. Ovarian cysts may be found in the post treatment phase, which undergo spontaneous resolution

Information for patients

1. Medical treatment for ectopic pregnancy is now well established, and approximately 90% of patients do not require further surgery. Methotrexate is used for a variety of clinical conditions, e.g. psoriasis, as well as for malignancies.
2. Prolonged follow-up is required with blood tests until serum hCG level is below 20iu/l.
3. A further dose of methotrexate may be necessary.
4. Three quarters of women experience abdominal pain following treatment, which is due to the drug acting on tubal pregnancy. It usually occurs on days 3-7.
5. Pregnancy should be avoided for 3 months after methotrexate has been given, because of a possible teratogenic effect – advice should be to use a reliable barrier or hormonal contraception.(RCOG)
6. Side effects of the drug are minimal but may include nausea, vomiting and stomatitis.

7. Maintain ample fluid intake.
8. Avoid alcohol or folic acid containing vitamins during treatment.
9. Avoid sexual intercourse until resolution of the ectopic pregnancy.
10. Avoid exposure to sunlight.

Outcome

- 90% successful treatment with single dose regime.
- Recurrent ectopic pregnancy rate 10 – 20%.
- Tubal patency approximately 80%.

References

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Surgical Management of Ectopic Pregnancy

Laparoscopy

- Advantages*
- Shorter hospital stay (1 – 2 days)
 - Significantly less blood loss
 - Less adhesions formation
 - Lower analgesic requirements
 - Quicker post operative recovery time
 - Recurrent ectopic pregnancy rate lower (5%) than after laparotomy (16.6%)
 - Subsequent intrauterine pregnancy (IUP) rate better (70%) than after laparotomy

- Disadvantages*
- Increased risk of bowel/vascular damage

A laparoscopic approach is superior to a laparotomy in terms of recovery from surgery

Laparotomy is to be preferred:

- 📖 in cases with haemorrhagic shock
- 📖 where a surgeon has inadequate experience of operative laparoscopy
- 📖 if lack of equipment and instruments

Do what is safe in the circumstances.

Salpingectomy v Salpingotomy

In a meta-analysis of nine good quality comparative studies:

- 📖 There was no significant difference in the subsequent IUP between salpingotomy and salpingectomy groups (53% v 49.3%)
- 📖 The recurrent ectopic pregnancy rate was higher after salpingotomy (15%) than after salpingectomy (10%)
- 📖 Persistence of trophoblast was noted in 4.8% to 11% of salpingotomy cases, hence need to monitor hCG postoperatively
- 📖 In contrast almost no cases of persistence followed salpingectomy. Following salpingectomy, there is no need to measure hCG in the post-operative period

In the presence of a healthy contralateral tube there is no clear evidence that salpingotomy should be used in preference to salpingectomy.

Laparoscopic salpingotomy should be considered as the primary treatment when managing tubal pregnancy in the presence of contralateral tubal disease and the desire for future fertility.¹

Discuss treatment with the patient and options of conserving or removing the tube.

Recommendations arising from the 33rd RCOG Study Group²

- No. 26 At laparoscopy for ectopic pregnancy, precise documentation of the state of the pelvis, with particular emphasis on the affected and contralateral tube and ovaries, should be undertaken to determine prognosis of future fertility.
- No. 27 The definitive procedure undertaken at surgery (removal of the ectopic: salpingotomy; unilateral salpingectomy; bilateral salpingectomy) should be determined by the reproductive aspirations of the patient, her reproductive history, the state of the pelvis and the availability of assisted conception services.
- No. 28 Fimbrial evacuation (milking) of ectopic pregnancy from the fallopian tube should not be done as it predisposes to persistence of tubal pregnancy

Follow-up regime after Salpingotomy

While trophoblast remains in the tube it has a capacity to rupture.

- ☞ Follow-up at weekly intervals until serum hCG level is <5.
- ☞ If hCG level is rising or plateauing consider further treatment with Methotrexate or surgery if hCG levels >5,000

Suturing the salpingotomy lesion provides no benefit.

Outcome after Conservative Surgery in Women with One Tube

- ☞ Recurrent ectopic pregnancy rate 20.5%
- ☞ IUP rate 54%

Conservative surgery may be appropriate but only if the patient is aware of the risk involved. Salpingectomy followed by IVF is an alternative therapy in such cases.

Reference:

1. Royal College of Obstetricians and Gynaecologists. The management of tubal pregnancy. Guidelines No. 21 London: RCOG 2004
- Recommendations arising from the 33rd RCOG Study Group: Problem in Early Pregnancy: Advances in Diagnosis and Management. London: RCOG press, 1997.

Management of ruptured ectopic with collapse

- ☞ ABC of resuscitation
- ☞ Get help; call senior SPR on call and anaesthetist
- ☞ Site two IV lines (at least 16g), commence IV fluids (crystalloid), give facial oxygen and insert indwelling catheter
- ☞ Send blood for FBC, Clotting screen and cross-match at least 4 units of blood.
- ☞ Arrange admission and laparotomy
- ☞ Continue fluid resuscitation and ensure intensive monitoring of haemodynamic state whilst awaiting transfer to theatre
- ☞ Do not wait for BP and pulse to normalise prior to transfer
- ☞ Pfannensteil incision, locate tube directly and clamp
- ☞ Salpingectomy and wash out abdomen
- ☞ Assess bloods consider CVP / HDU discuss with anaesthetist
- ☞ Record operative findings including the state of the remaining tube
- ☞ Anti – D immunoglobulin to be given to Rhesus negative women

Unusual Types of Ectopic Pregnancy

Ultrasound features of non-tubal pregnancies and their management have been well documented^{6,7,8,9}.

Heterotopic pregnancy

Interstitial pregnancy

Cervical pregnancy

Ovarian pregnancy

Pregnancy in a caesarean section scar

Abdominal pregnancy

Management of these ectopic pregnancies is not straight forward. Treatment has to be individualised based on the size of the pregnancy and its viability.

Ectopic pregnancy	Ultrasound features	Management
Heterotopic	- An intrauterine pregnancy and a concurrent ectopic pregnancy	
Interstitial	- Bright echogenic trophoblastic tissue or gestational sac (GS) in the cornual region. - GS located away from the lateral margin of the myometrium - Thinning of the myometrial mantle	Conservative/Methotrexate
Cervical	- Intracervical GS - Thick trophoblastic ring - No distortion of endometrium and cavity - Closed cervical canal in continuity with the endometrial cavity - Internal os not funnelled (Should be differentiated from isthmico-cervical pregnancies that are implanted low in the uterine cavity, above the cervical canal)	Conservative/Methotrexate/
Ovarian	- Hyperechogenic mass within the ovary - Subcapsular bleeding (must be distinguished from a haemorrhagic cyst)	Conservative/Methotrexate
Caesarean scar	- Uterine cavity is empty - GS implanted into the scar - Negative 'sliding sign' ¹⁰	Methotrexate/dilatation and curettage/cervical packing
Abdominal	- Empty uterus separate from the fetus - Fetus seen without the surrounding uterine mantle - Unusual location of the placenta - Extremely low amount of liquor	Methotrexate/Laparotomy

References:

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2. Recommendations for clinical practice arising from 33rd RCOG Study Group (No.23). *Problems of Early Pregnancy – Advances in Diagnosis and Management*. London: RCOG press, 1997.
3. Korhonen *et al* (1994) Serum hCG dynamics during spontaneous resolution of ectopic pregnancy, *Fertil, Steril.* 61: 632-6
4. Trio *et al* (1995) Prognostic factors for successful expectant management of ectopic pregnancy. *Fert. Ster.* 63: 469-72
5. Yao M and Tulandi T (1997) Current status of surgical and non surgical management of ectopic pregnancy. *Fert.steril*; 67:421-433
6. Condous G, Okaro E, Bourne T (2003) The conservative management of early pregnancy complications: a review of the literature. *Ultrasound Obstet Gynecol.* 22: 420-430
7. Coady AM. (2005) Ectopic Pregnancy: A Review of Sonographic Diagnosis. *Ultrasound.* 13: No. 1. 18-29
8. Jurkovic D, Hillaby K, Woelfer B, *et al* (2003) First-trimester diagnosis and management of pregnancies implanted into the lower uterine segment Caesarean section scar. *Ultrasound Obstet Gynecol.* 21: 220-227
9. Gun M. Mavrogiorgis M. (2002) Cervical ectopic pregnancy: a case report and literature review. *Ultrasound Obstet Gynecol.* 19:297-301
10. Jurkovic D. Hackett E. Campbell S. (1996) Diagnosis and treatment of early cervical pregnancy: a review and a report of two cases treated conservatively. *Ultrasound Obstet and Gynecol.* 8: 373-380

Guidelines on the Management of Women with Recurrent Miscarriage

Definition: Recurrent miscarriage (RM) is defined as loss of three or more consecutive pregnancies although most authorities would accept two consecutive fetal losses.

Prevalence: Based on an incidence of spontaneous miscarriage of 15 %, the risk of RM should be 0.4% - but it is double this at 1%. This suggests that for some couples there is an underlying cause for their RM.

Patients who have suffered consecutive pregnancy losses and have had failed pregnancy despite use of recommended treatments are best referred to designated regional centres (Miscarriage Clinic) for further assessment.

Causes of Recurrent Miscarriage

1. Unknown or Idiopathic

In 50% of cases of recurrent miscarriage no cause is found __ __ __. Most women who have two or three miscarriages have nothing wrong with them that will cause them to miscarry every pregnancy. Their miscarriages are caused by random factors just as women who miscarry only once. This is the reason why tests and investigations are rarely undertaken before three consecutive miscarriages. Any drug treatment in this group would be empirical. Even at or above the age of forty, there is still a 50% chance of a successful pregnancy⁴. Couples can obtain a predicted success rate for future pregnancy by using the following table:

Predicted probability of a successful pregnancy by age and previous miscarriage history (95% confidence interval).

Age (yrs)	Number of Previous Miscarriages			
	2	3	4	5
20	92	90	88	85
25	89	86	82	79
30	84	80	76	71
35	77	73	68	62
40	69	64	58	52
45	60	54	48	42

2. Genetic and Chromosomal

A high proportion of early miscarriages would be found to have a chromosomal abnormality.

In less than 3% of cases, either the woman or her partner may possess abnormal chromosomes, which they happen to repeatedly pass on to the fetus. This can be tested by taking blood samples from both partners for chromosomal analysis. It usually takes 4-6 weeks to get the results. If a chromosomal abnormality is found in a parent, referral to a clinical geneticist may be necessary. The chances of a successful subsequent pregnancy will depend on the type of chromosomal abnormality. The most common condition causing recurrent miscarriages is a balanced or reciprocal translocation. In this condition the chromosomes although being of the correct number are arranged differently.

3. Abnormalities of the uterus (womb) or cervix (neck of the womb)

Abnormalities in the shape of the uterus occur in probably less than 5% of women with recurrent miscarriages. Uterine abnormalities such as a bicornuate uterus (double uterus), unicornuate uterus, septate uterus or fibroid uterus may be detected on detailed ultrasound scan or hysteroscopy (telescopic examination through the vagina and neck of the womb). It is not clear whether there is any benefit in surgical correction of the abnormalities.

Cervical weakness (formerly known as incompetence) may be acquired e.g. from previous surgery or following birth. It causes painless dilatation of the cervix and rupture of the membranes (breaking of waters) in mid pregnancy. It may be detected by transvaginal ultrasound scan in the midtrimester starting at 14-16 weeks. If the diagnosis is made, a stitch is usually put in the cervix to prevent opening of the cervix.

4. Infection

The continuing emergence of Bacterial Vaginosis as a cause of RM is widely accepted⁵. Rubella (German Measles), Toxoplasmosis, Listeria and Parvovirus are not considered in the causation of recurrent miscarriage.

5. Hormonal

Imbalance of hormones such as progesterone and human chorionic gonadotrophin (hCG) has been suggested as a cause of miscarriage. However there is scientific evidence of benefit from hCG support but no support for injections of progesterone.

Some women with recurrent miscarriage have polycystic ovaries (PCO) in which there are multiple small cysts within the ovary causing an abnormal hormone balance and this may cause recurrent miscarriage by interfering with successful implantation of the fertilised egg. Treatment of PCO includes, metformin, diathermy to ovaries and induction of ovulation.

6. Thrombophilia or blood clotting abnormalities

Normally the blood becomes slightly thicker during pregnancy, but in some women the blood is found to clot more easily due to the presence of certain antibodies called Antiphospholipid antibodies. These blood clots in the placental blood vessels may decrease the blood flow to the baby resulting in miscarriage. Antiphospholipid antibodies are present in 15% of women with recurrent miscarriage. The main types of antiphospholipid antibodies are Lupus Anticoagulant and Anticardiolipin antibodies (IgG & IgM). The association between phospholipid antibodies and recurrent miscarriage is referred to as Antiphospholipid Syndrome (APS)⁶. For a diagnosis of APS to be made one should have two positive tests at least six weeks apart, one positive result may be due to viral or other infection. Various treatments are available including low dose aspirin alone (75mg) or aspirin plus low molecular weight(LMWH) or unfractionated(UFH) heparin.

General Advice

- Smoking and alcohol intake are thought to be associated with a higher rate of miscarriage.
- There is no association between the use of computers and miscarriage
- Encourage a healthy diet. Low BMI is associated with a higher rate of miscarriage, while a diet rich in fruit and vegetables has a reduced risk. (xi)
- The Department of Health suggests that all women planning a pregnancy should have 400µgms of folic acid before pregnancy until approximately 12 weeks gestation.
- It is advisable to avoid close contact with sheep, horses and cattle during lambing, foaling and calving
- Avoid contact with soiled cat litter – use gloves if necessary.

Further information may be obtained from the Guidelines produced by RCOG & ESHRE ^{9,10}.

References:

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- ix. Royal College of Obstetricians and Gynaecologists. Recurring Miscarriage. Guidelines No. 17, London: RCOG October 2003.
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Guidelines for management of Gestational Trophoblastic Disease.

Incidence:

Gestational Trophoblastic Neoplasia (GTN) or Disease (GTD) which incorporates Hydatidiform mole, invasive mole, choriocarcinoma, and placental site trophoblastic tumour are rare events with a calculated incidence of 1:714 live births in the UK. There is evidence of ethnic variation of GTN in the UK with Asian women having a higher incidence compared with non-Asian women (1:387 v 1/752 live births).¹

Hydatidiform moles can be subdivided in complete and partial moles based on genetic and histopathological features.

The use of ultrasound in early pregnancy has increased, however diagnosis of complete and partial molar pregnancies' pre-evacuation occurs in only in 44% of cases.² Therefore cases that are diagnosed on histological examination only several weeks after the miscarriage require careful preparation and sensitive discussion to support and inform the woman.

Ultrasound findings may be described as

Ultrasound features in trophoblastic disease	Diagnosis
Uterine cavity filled with homogeneous central echoes and no gestational sac.	Complete mole
Complex mass with multiple echo free spaces in the placenta. (The ultrasound features of a complete mole are reliable but the ultrasound diagnosis of a partial molar pregnancy is more complex).	Partial molar pregnancy
Twin sacs, one viable fetus and the other complex mass with cystic spaces.	Twin pregnancy with a viable fetus and mole (complete or partial)
Ovaries: Soap bubble or spoke-wheel appearance of the ovaries in up to 50% of cases.	Theca lutein cysts ³ secondary to the very high hCG levels

Suspicion of molar pregnancy on ultrasound scan should be explained and supported with an information leaflet from the Miscarriage Association on Hydatidiform Mole. The leaflet provides clear information on the incidence of molar pregnancies, any future risk of recurrence and clearly describes the follow up procedure and any subsequent treatments or investigations that may be required⁴.

A twin pregnancy with a partial mole may proceed after appropriate counselling. However if complications such as pre-eclampsia and haemorrhage develop, termination of pregnancy may be indicated. The probability of achieving a viable baby is 40%.¹

Management of Care:

Surgical evacuation of the uterus is the treatment of choice for suspected complete moles and partial moles with a CRL >6mm with no fetal heart movement seen and confirmed by 2 sonographers.

Suction curettage is the method of choice. Medical termination of complete molar pregnancies and cervical preparation prior to suction evacuation should be avoided where possible. The routine use of oxytocic agents remains a cause of theoretical concern due to the potential to embolise and disseminate trophoblastic tissue through the venous system. It is recommended that where possible infusions of oxytocic agents are only commenced on completion of the evacuation¹. All products of conception obtained from surgical evacuation of the uterus must be sent for histopathological examination.

Pre-op investigations:

Full Blood Count

Group and Save

Consider baseline measurement of BhCG

Chest X-Ray if symptomatic.

Thyroid Function Tests only if symptomatic.

Arrange admission for surgical evacuation.

Follow up:

Pre-arrange with the woman to provide verbal feedback of histological findings as soon as they are available with the understanding that if molar pregnancy confirmed a Gynae Outpatient appointment will be made for the following week to answer any queries.

Discuss advice on future pregnancies and contraception:

- The only safe method of contraception is the sheath condom or cap. The use of any hormonal preparation including “the pill” is not recommended until hCG levels have returned to normal.
- Await the all clear from the Regional Screening Centre before trying to conceive. This usually means waiting until the hCG level has been normal for six months or follow-up has been completed (whichever is the sooner).

If histology proves positive of molar pregnancy complete the appropriate Regional Screening Centre referral forms or online registration.

Warn the woman that the information sent by the Regional Screening Centre will be very informative but on headed paper from the oncology unit as they co-ordinate the process and provide follow up if required. Remind them that the follow up process is mainly by post and usually does not involve visiting the Specialist Centre.

In cases where there was no indication prior to diagnosis on histology the woman needs to be informed sensitively with a follow up appointment for a consultation to discuss and explain the findings.

Persistent Bleeding:

If the woman continues to have persistent vaginal bleeding advice should be sought from the Regional Screening Centre before any surgical intervention.

Incidence of Chemotherapy:

Women with persistent GTN should be treated by the Specialist Regional Centre with the appropriate Chemotherapy. The need for chemotherapy following a complete mole is 15% and 0.5% after a partial mole.

Woman should be informed that reliable sources of information and support are available from:

The Miscarriage Association. Tel 01924 200799.

www.miscarriageassociation.org.uk

www.hmole-chorio.org.uk

The Regional Screening Centres are:

Charing Cross Hospital, London. Tel: 020 884 61409

Weston Park Hospital, Sheffield. Tel: 0114 226 5205

Ninewells Hospital, Dundee. Tel: 01382 632748

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III Supportive Guidelines

Guidelines for Support, Follow up and Counselling

There has been a definite move over the last 10 years to manage miscarriage problems with greater sensitivity and understanding. Medical, nursing and ultrasonography staff should be trained in counselling skills, support techniques and other issues around problems in early pregnancy. It is recognised that in pregnancy, ultrasonic diagnosis, repeated testing and the uncertainties of the outcome may lead to substantial anxiety in the women under care. (1)

Support

All women attending the EPAU and undergoing outpatient management of an early pregnancy problem should be offered a contact number following their initial referral. Literature is available regarding the various scenarios that are possible to consolidate verbal information.

1. What is threatened miscarriage?
2. Inconclusive Scan Result
3. Pregnancy loss – What happens next?
4. Conservative management of miscarriage
5. Medical management of miscarriage
6. Surgical management of miscarriage
7. What you may need to know after a miscarriage.
8. Ectopic pregnancy
9. Medical treatment of ectopic pregnancy
10. Surgical treatment of ectopic pregnancy
11. Understanding hydatidiform mole
12. What is an Early Pregnancy Assessment Unit
13. Recurrent miscarriage

Patient information leaflet no. 5 '*What you may need to after a miscarriage*', provides information on various questions that these women may have after a miscarriage. It also tells them about annual remembrance service held by hospital chaplains.

Follow up

A routine follow-up appointment is not given after the completion of the treatment of miscarriage. Nevertheless all women are given contact numbers along with the appropriate leaflets which contain various telephone numbers. Women who contact the unit are given the support and advice they need but those who require formal counselling will be referred to the counsellors.

Women with a diagnosis of ectopic pregnancy treated surgically are generally given a follow-up appointment in the gynaecology outpatient.

Counselling

Women have different abilities and mechanisms to cope with a pregnancy loss. A good number of them will come out of the grieving process. It is only a small number of them that will require formal counselling by the counsellors. Generally, those who require formal counselling would need more than one visit.

Counselling should also be provided to **staff** should this be deemed necessary, in acknowledgement of the sometime stressful nature of the work.

(Refer to – Midwifery Counselling Service: Operational Policy for more details)

Support Organisations:

1. Miscarriage Association
C/o Clayton Hospital
Wakefield
West Yorkshire WF1 3JS
Tel. 01924 200799

2. The Child Bereavement Trust
11, Millside
Riverdale
Buckinghamshire
SL8 5EB
Tel. 01494 765001

3. National Childbirth Trust
Alexandra House
Oldham Terrace, Acton
London W3 6NH

4. The Ectopic Pregnancy Trust
Maternity unit
The Hillingdon Hospital
Pield Heath Road, Uxbridge,
Middlesex UB8 3NN
Tel. 01895 238025

Guidelines for Disposal of fetal remains and Funeral services (before 24 weeks)

1991¹

- NHS Management executive issued guidelines on the disposal of all fetal material
- Guidelines said that disposal should be done in a sensitive way, irrespective of how the pregnancy was lost
- Guidelines covered issues such as
 - Storage
 - Transportation
 - Incinerator

This guidance needs a lot to be desired. It urges a significant cultural change within the NHS.

Fetal tissue from early pregnancy loss < 24 weeks (including TOP) is usually incinerated along with clinical waste. This practise was felt to be totally unacceptable and it is proposed that the fetal remains should be disposed of in a sensitive and dignified manner in light of Bristol Inquiry recommendations (Kennedy Report).

Every unit should have information on local practices regarding the disposal of fetal remains:

- 🔊 arrangement for a blessing to be said and how often it is done
- 🔊 any annual memorial service held in the hospital chapel

All fetal tissue should be stored in suitable opaque containers in a designated area prior to disposal.

Women usually do not ask and may not wish to know about the method of disposal of fetal remains. In most hospitals, consent is *not routinely* obtained as it is thought that this may cause undue distress. It is becoming more common for hospitals to offer patients the option of receiving information about options for disposal and to advise them what the general choice is if they have no specific choice.

They need not be given clear information as to what disposal options are available to them.

It may help if staff have some understanding of different faith groups. Staff should never assume that the patient will act in accordance with the traditions of that faith (see SANDS 'Pregnancy loss and the death of a baby: guidelines for health professionals, to be published June 2007)

There is no funeral under 24 weeks. However parents who wish to arrange a funeral are given all the required support and advise.

A better understanding of the women's faith makes the women feel more comfortable and also helps the staff in giving out right advice and opinion suitable to her needs keeping her religious background in view.

The following areas have been identified involved in the disposal of fetal tissue:

1. Delivery Suite
2. Gynaecology ward
3. Genetics
4. EPAU
5. Histology department
If fetal parts are identified the container is kept separately and labelled.
6. Operating theatre
Fetal remains obtained from surgical evacuation should be collected for disposal in the sensitive manner.

Each Hospital Trust should have in place a clear system and protocol for the sensitive disposal of fetal tissue with a non denominational service / blessing

The bodies or remains of babies born dead before 24 weeks gestation have no legal status and as such there is no legal requirement for their disposal to be registered.

There is no legal duty under burial legislation to bury (or cremate) babies born dead before 24 weeks gestation, but nothing to prevent either option.²

There is also the option for women or couples to bury at home, provided that certain criteria have been fulfilled. Contact with local authorities to discuss issues relating to this option may be necessary.

There are memorial services for loved and lost babies held annually by the hospital chaplains. Nevertheless a central Book of Remembrance should be made available in the chapel in which the entries can be made by the parents.

The mechanism in place in a given hospital should be outlined in the Guidelines of the unit.

A recent paper published by RCOG³ has some questions and answers as well as other reference material available on this subject.

References:

1. Department of Health. *Disposal of fetal tissue*. HSG(91)19. London:HMSO; 12 November 1991
2. Department of Health. *Families and Post Mortem a Code of Practice*. London: The Stationary Office; 2003
3. Royal College of Obstetricians and Gynaecologists. Disposal following pregnancy loss before 24 weeks of gestation. Good Practice' Guideline No. 5, London: RCOG; January 2005

APPENDIX

WHAT IS THREATENED MISCARRIAGE?

Patient Information

An ongoing pregnancy associated with vaginal bleeding is called a **threatened miscarriage**.

The first symptoms are usually vaginal bleeding with or without mild period type pain. The bleeding can occur at any time after a missed period. It is often noticed when going to the toilet as a smear of pink, brown or red loss on the toilet paper.

The amount of bleeding may vary from just spotting to a gush with clots.

The diagnosis of threatened miscarriage is made with the help of an ultrasound scan. At 6 weeks of pregnancy the ultrasound scan will be able to visualise your tiny baby and the scan will also show a heart beat, particularly if it is a vaginal scan.

Sometimes the scan may show up a small haematoma (blood clot) around the pregnancy sac, which identifies the source of the bleeding, but more often nothing abnormal is seen.

It is not possible to give an explanation as to why this bleeding occurs. In most cases the pregnancy continues safely. The baby will come to no harm even if the bleeding is heavy. The likely causes of bleeding may be:

- ☞ The implantation site. As the placenta of your baby tries to burrow itself into the lining of the womb, it may cause some blood vessels of the womb to bleed.
- ☞ The cervix. During pregnancy, tissues become rich in blood supply and softer as a result of this any slight trauma to the cervix can provoke bleeding
- ☞ The vagina. Thrush or any other infection may cause bleeding from the inflamed vagina in the form of spotting.

A baby's heartbeat on ultrasound is reassuring. In the presence of a heart beat there is a 85-97% chance of your pregnancy continuing.

Follow up

If a collection of blood around the sac is seen on ultrasound scan you will be given an appointment for a rescan within 1-2 weeks. Alternatively this may be checked at your booking scan in the antenatal clinic which is usually around 11-13 weeks of pregnancy.

When there is no recognisable cause of bleeding found a follow up is usually not required. However you may contact the clinic if you have any further anxieties.

Bed rest

Although bed rest was routinely advised in the past for threatened miscarriage it did not affect the outcome. If you feel that going to bed may reassure you then do go to bed. There is no specific treatment to stop your bleeding. There may be at times increased bleeding noted when you get up to go to the toilet. It is simply due to pooling of blood in the vagina from lying down that comes out on standing as a result of gravity.

Work

We would advise you not to work as long as the bleeding continues so that you can rest. If you need a sick certificate your GP will be able to issue one.

Further bleeding

Bright red blood suggests that it is fresh, whereas brown blood suggests that it is stale blood that is tracking down. If bleeding becomes bright red or heavier get in touch with the clinic or ward for advice.

Sexual intercourse

Having sexual intercourse during pregnancy does not have any adverse outcomes. However it would be sensible to avoid sex until the bleeding has completely stopped because of the risk of infection

Blood grouping

It is not routinely recommended before 12 weeks of pregnancy. Women who are rhesus negative may require an injection of Anti-D immunoglobulin if they continue to bleed. Your doctor in the clinic will advise you regarding this if necessary.

WHAT DOES AN INCONCLUSIVE SCAN RESULT MEAN?

Information to Patient

Following your appointment today, it has not been possible to confirm whether your pregnancy is going to continue or not. We know that it can be difficult to take in all the facts when you are worried or upset, especially in a hospital environment.

*There are **three** main reasons for your not being told exactly what is happening.*

- It is simply too early to see the pregnancy or*
- the pregnancy is not growing as it should, and that is possibly why you started bleeding*
or
- There is a possibility of an ectopic pregnancy (a pregnancy outside the womb) although this is rare, at this stage cannot be excluded and it is too early to diagnose*

Blood Test

To help us find out what is happening we need to check the pregnancy hormone level in your blood and perhaps repeat the scan in a few days depending on the hormone levels.

The pregnancy hormone that is measured is called hCG (human Chorionic Gonadotrophin). It is a hormone produced by the placental tissue and its level roughly doubles every 2 days in a normally growing early pregnancy.

Further advice

Bleeding can be very common, and as long as it is not too heavy (for e.g. heavier than a period) you can stay at home. However if you develop any sharp pains or are aware of an increasing, possibly crampy discomfort you may take paracetamol tablets. However if the pain is too bad and you are worried please do not hesitate to phone either the Early Pregnancy Assessment Unit (EPAU) or the Emergency Gynaecology Suite if the unit is closed.

Both the EPAU and the Ward staff are ready to support you during this difficult time. Please do not hesitate to phone for advice and support. Contact numbers are given on the back of this leaflet.

MISCARRIAGE

WHAT HAPPENS NEXT?

Patient Information

*Loss of a pregnancy can be a sad and distressing experience, but it is not uncommon. Over **one in four pregnancies** ends in miscarriage. The information given in this leaflet may help you to cope with the loss of your pregnancy at this difficult time.*

We have provided answers to some of the questions you are likely to have. If, however you do not wish to make a decision now, you may take this leaflet with you and contact us at a suitable time with your decision.

What happens now?

Is an operation necessary after the miscarriage?

*Some miscarriages are **complete** and require no further action. A blood loss, like a period, may continue for several days until the lining of the womb is all shed.*

*Others may be **incomplete** with various amounts of tissue being kept within the womb.*

*Yet another type of miscarriage is where the pregnancy is still intact but not growing any longer. This is called a **silent** or **delayed** miscarriage. It is also known as a **missed** miscarriage.*

Both an incomplete and a silent miscarriage will probably completely miscarry if you prefer to let nature take its course.

*There are **three** ways of dealing with a pregnancy that is not continuing. A brief outline of each of these methods is given.*

Should you wish to know more about a particular method please ask the clinic staff for further information.

“Wait and see approach” (leaving things to nature)

In the past an operation was routinely performed in all cases of miscarriage as there was no way to know how much tissue, if any, was still left behind in the womb. Nowadays with modern ultrasound it has become possible to adopt a “wait and see approach”. In order to check if all the tissue has come away naturally, we will give you an appointment for a repeat scan before you leave the unit.

If I decide to wait how long will it take for me to miscarry?

Although the length of time taken for a miscarriage to be complete is difficult to predict, in the majority of cases a pregnancy will miscarry within two-three weeks. The contractions of the womb are usually felt as strong period-like pains. If you are bleeding heavily you might need to be admitted into hospital. Make use of the contact number.

Is there a risk of infection if I decide to wait?

Risk of infection is small. However if you have any of the following symptoms you should contact your doctor or the hospital

- excessive bleeding
- unpleasant discharge
- lasting pain
- high temperature – fever

Medical approach (to hasten the natural approach)

“I would not like to wait. I would like it to be over and done with”.

Medicines may be used to start a miscarriage if you prefer not to wait.

You will be given a tablet of Mifepristone followed by vaginal tablets 48 hours later. Mifepristone works by blocking the action of the hormone (progesterone) which makes the lining of the womb hold onto the pregnancy. The lining breaks

down and the pregnancy sac with the embryo is lost in the bleeding that follows – as happens with a natural miscarriage. The vaginal tablets help relax the cervix (neck of the womb) and speed up the process. You will usually be kept on the ward for 6 hours after the vaginal tablets are inserted. You will have tablets or injection for pain relief. The bleeding is heavy initially for couple of hours. You may pass some clots but soon the bleeding will settle down and continue like a period for upto 7-10 days.

In most cases the above treatment is all that is needed. In a small group of cases (5-10%) an operation may be necessary should there still be some tissue left within the womb or the bleeding becomes heavier.

Appointments

You **may** be given three appointments

1. for the Mifepristone tablet
2. for admission onto the gynaecology ward two days after you have had the tablet of Mifepristone (stay in hospital 6 hours)
3. for a scan in the unit three weeks after you are discharged to check the miscarriage is complete.

Surgical approach (evacuation of retained products of conception)

What does the operation involve, is it the same as a D & C?

Yes. D & C means dilatation and curettage. We dilate the cervix (neck of womb) and by using a suction device we suck out the pregnancy tissue. It is correctly called ERPC – Evacuation of Retained Products of Conception. This is the traditional method carried out under a general anaesthetic. This is done vaginally and you will have no cut/stitches. Like all operations small anaesthetic and surgical risks are involved. There is a small risk of infection or injury to the womb and cervix.

We now know that a D & C is not always necessary and therefore advise you of alternate methods.

Will the method of treatment I choose affect my chances of becoming pregnant again?

No. Generally your chances of having a successful pregnancy in the future are just as good whichever method you choose.

How long will I bleed after a natural miscarriage or an operation?

Following all the different approaches, you are likely to have a period-like loss for up to 14 days. This is quite normal and should diminish over the period of time.

Useful telephone numbers:

Relevant unit's telephone number

Tel.

Miscarriage Association

Tel. 01924 200799

Counsellors

Tel.....

“WHAT YOU MAY NEED TO KNOW AFTER A MISCARRIAGE”

YOUR QUESTIONS ANSWERED

What are my chances of becoming pregnant again?

The chances of becoming pregnant again after a spontaneous miscarriage irrespective of whether it was managed by conservative, medical or surgical treatment are just as good.

How long will I bleed after a natural miscarriage or an operation?

Following a miscarriage or a D & C you are likely to have a period-like loss up to 14 days. This is quite normal and should diminish over the period of time. If it lasts for more than 2 weeks contact your GP or the hospital.

Why did I miscarry?

About one in four pregnancies ends in a miscarriage. It is usually difficult to give a definite answer as to what caused a miscarriage. It is extremely unlikely that anything you did caused your miscarriage. Do not blame yourself or anyone else. About 60% of all miscarriages occur because of some chromosome abnormalities. Only in a small number of women with recurrent (repeated) miscarriages a definite cause can be determined. However there may be:

- Hormonal irregularities making it difficult to conceive in the first place and such pregnancies are more likely to miscarry.
- Immune problems affecting the blood supply in the placenta and leading to miscarriage.
- Infections causing high temperature and resulting in miscarriage *or* infections such as German measles may directly affect the baby resulting in miscarriage.
- Structural problems with the cervix (neck of the womb) and uterus (womb) and this may lead to miscarriage. An irregular shaped uterus or fibroids may distort the uterine cavity and may cause miscarriage.

Will I miscarry again?

After one miscarriage most women will go on to have a normal pregnancy. Even after several miscarriages, there is a good chance of a successful pregnancy.

What can I do to stop having a miscarriage?

There is nothing in particular that we can suggest. Just be sensible and avoid strenuous activity. Continue taking folic acid if you are planning to conceive soon.

How long should I wait before trying for another baby?

You may try again when you feel ready. We advise that you wait until you have had a normal period, which you should have 3-4 weeks after a miscarriage, provided your periods were regular before. However it is best not to have intercourse until the bleeding has completely stopped after the miscarriage.

I would rather wait before trying for another baby, when should I start using contraception?

You should start any contraception as soon as possible. Discuss this with your hospital doctor, GP or family planning clinic.

Will I get a follow-up appointment to the clinic after the miscarriage?

Not always, unless there is a specific reason. It is natural to feel low and depressed. Give yourself and your body time to recover. It may help to talk over things with your partner, friends and other members of the family. If you would like to talk further our support midwives/counsellors are there for you. Their telephone numbers are given overleaf.

Could we have a photo of the baby?

We do take scan photographs of the pregnancy/baby and keep them in your records. We will give it to you if you request it.

We would like to have a blessing said for our baby, how could this be arranged?

Babies are taken for a blessing held in the hospital chapels regularly. However there are memorial services for loved and lost babies held annually by the hospital chaplains.

If you have any further questions please do not hesitate to contact the clinic or the midwifery counsellors for advice.

Useful telephone numbers:

Relevant unit's telephone number

Tel.

Miscarriage Association

Tel. 01924 200799

Counsellors

Tel.....

WHAT IS AN ECTOPIC PREGNANCY?

INFORMATION FOR PATIENTS

Ectopic Pregnancy – from the Greek word ektopas, ‘out of place’ – results when a fertilised egg becomes implanted anywhere outside the cavity of the womb (uterus). It is a life threatening condition affecting 1 in 100 pregnancies.

Most ectopic pregnancies develop in the fallopian tubes but some cases occur in the ovary, cervix or abdominal cavity. The fertilised egg cannot survive away from the protective, nourishing environment of the uterus although it may continue to develop for several weeks. As the fallopian tube is not large enough to accommodate a growing embryo the thin wall of the fallopian tube will stretch causing pain in the lower abdomen and often vaginal bleeding. This bleeding occurs from the thickened lining of the womb. If not diagnosed and treated the tube can rupture, causing severe abdominal bleeding which can be fatal.

Causes of ectopic pregnancy

The fertilised egg normally spends 4-5 days in the fallopian tube before travelling to the cavity of the womb where it implants 6-7 days after fertilisation. Several conditions can cause an ectopic pregnancy. Any damage to the fallopian tube can cause a blockage or narrowing. There could also be a problem with the walls of the tube, which should normally contract and carry the fertilised egg into the womb. Hormonal imbalance, malfunction of the uterus and tube and infection can all impair the tubes normal function and result in ectopic pregnancy.

Those who are at risk of ectopic pregnancy are women:-

- with a history of previous ectopic pregnancy
- with a previous history of salpingitis (pelvic infection) and tubal damage
- with a history of infertility
- with previous history of pelvic surgery including sterilisation
- using IUCD (coil)
- undergoing assisted conception
- using progesterone only pill (minipill)

Symptoms of ectopic pregnancy

The symptoms of an ectopic pregnancy can vary.

Pregnancy test

The pregnancy test will be positive as there is production of the pregnancy hormone from the ectopic pregnancy.

Abdominal pain

The most common symptom is sudden abdominal pain due to stretching or rupture of the fallopian tube.

Collapse

Some women have a sudden faintness caused by the loss of blood from the ruptured tube. Other signs such as paleness, increasing pulse rate, sickness, diarrhoea and falling blood pressure may also be present. These are signs of collapse. You should report to your doctor or hospital immediately.

Vaginal bleeding

There may or may not be vaginal bleeding. The bleeding may be heavier or lighter than usual and prolonged unlike a period. This bleeding is often dark and watery, sometimes described as looking like ‘prune juice’.

Bowel symptoms

There may be pain when moving the bowels.

Diagnosis

If an ultrasound scan shows an empty uterus but the pregnancy test is positive the possibilities are an ectopic pregnancy, a very early intrauterine pregnancy or a miscarriage.

The ectopic pregnancy may appear as a clear gestation sac outside the uterus or as a mass. However, it is not usually easy to see an ectopic pregnancy on scan.

In such cases Serial blood tests are done to measure the hormone hCG produced by the placenta. In normal early pregnancy the levels double every two days. In ectopic pregnancy the levels are usually lower and rise more slowly.

Management

Tubal miscarriage

In many cases the ectopic pregnancy dies quickly and is absorbed after minimum symptoms of pain and bleeding. In such cases a diagnosis of ectopic pregnancy is not possible to make and a miscarriage is assumed to have occurred. Nothing needs to be done in these circumstances.

If the blood tests show that the normal pregnancy hormones are not rising as fast as they should be, an early diagnosis can be achieved before rupture of the tube and less invasive treatment can be undertaken.

Laparoscopy or keyhole surgery

It may be possible to cut open the tube and remove the pregnancy leaving the tube intact or the entire tube may be removed depending on the condition of the tube. If the other tube is healthy chances of a normal pregnancy after removal of one tube is not affected.

Laparotomy

When tubal rupture has occurred or there are adhesions in the pelvis, keyhole surgery may not be appropriate. You will have a small cut made above the bikini line to deal with the ectopic pregnancy.

Medical treatment

Alternatively, the drug Methotrexate which dissolves an ectopic pregnancy could also be used. The drug is administered by intra muscular injection which is then absorbed into the blood stream and reaches the ectopic pregnancy. This requires a prolonged follow up with blood tests. These modern treatments are dependant upon expert skills, good ultrasound scans and efficient laboratory testing.

Conservative treatment

Not all ectopic pregnancies pose a risk of rupture. The approach in certain carefully selected cases is to wait until the hCG levels are negative.

If you need more information on any particular method of treatment please do not hesitate to ask the clinic staff. You will be fully supported by them.

Useful Telephone numbers

Relevant unit's number

Tel.

The Ectopic Pregnancy Trust

Tel. 01895 238025

Counsellors

Tel.

MEDICAL TREATMENT OF ECTOPIC PREGNANCY

INFORMATION FOR PATIENTS

This treatment has been introduced into the clinical practice to avoid surgery, but requires careful follow-up. The follow-up means attending for blood tests after the first week and thereafter once or twice weekly until the tests are negative. The schedule of blood tests will be explained to you by the doctor. The treatment has a 90% success rate. If it is not successful we may have to reconsider medical treatment or surgery.

Methotrexate is the drug used to “dissolve” the pregnancy. It is given by injection in the leg or buttock. Methotrexate is also extensively used for a variety of clinical conditions such as psoriasis and some malignancies.

Side effects of the drug are minimal but may include nausea, vomiting and a sore mouth.

During treatment you should avoid:

- alcohol
- folic acid containing vitamins – as they may interfere with the treatment
- sexual intercourse – as it may cause rupture of the ectopic pregnancy

Before the injection is given to you, you will have some blood tests to ensure you are suitable for the treatment. Again at the end of the first week blood tests will be repeated. If the levels of the pregnancy hormone are not falling, you may need further scan and treatment. Which is why we need to see you until the hormone levels are negative.

The main worry with ectopics is that they may rupture and bleed. This risk exists while the pregnancy hormone persists in the blood. When all of the placental tissue is dissolved the level of the hormone (hCG) will return to normal.

It is very important, therefore, that you come for regular blood tests. If you develop any sharp pains or an increasing discomfort in your abdomen you should immediately phone the Early Pregnancy Unit or the Gynaecology ward if the clinic is closed.

However, please remember that

- it is likely that the pain may get a little worse in the first week after the injection
- as the pregnancy dissolves and the hormone levels fall you will get some vaginal bleeding like a period.

Aftercare

You should avoid pregnancy for two months after the completion of the treatment and follow up – use a reliable barrier or hormonal contraception. The risk of ectopic pregnancy is generally 1% and the risk of a repeat ectopic pregnancy is 1 in 10. However remember that you still have a much greater chance of having a normal healthy pregnancy. It is the same as after surgical treatment.

In your next pregnancy

Your GP will be able to refer you to the Early Pregnancy Assessment Unit after confirmation of pregnancy or when you suspect you might be pregnant again. You will be monitored closely because of the previous ectopic pregnancy.

Your feelings

It is entirely normal to feel helpless, isolated and angry with your own self. Depression, guilt and self-blame are very common emotions after the loss of a baby. As time passes, you will be able to deal with your loss more positively. You may find that you are ready to get on with your life quite quickly. If your symptoms continue, you should get in touch with our counsellors who will be able to help you. Your well being is the most important thing.

Your partner may find it difficult to express his feelings. He may well feel that he should be strong and protect you from any more distress. If this is the case, you will need to encourage him to talk to you about his feelings. Sharing each others feelings can be very helpful.

Allow yourself time to recover physically and emotionally before trying for another baby.

It is worth remembering that counselling is available for you if you wish or need to talk at any time in the future.

If you need any further information or advice please do not hesitate to ask the staff. A list of telephone numbers is given overleaf which should be useful.

SURGICAL TREATMENT OF ECTOPIC PREGNANCY

INFORMATION FOR PATIENTS

This leaflet will explain the various operative procedures that are possible to treat an ectopic pregnancy. We will discuss your preferences with you before your operation including your desire for future pregnancies or sterilisation if you have completed your family.

Laparoscopy (keyhole surgery)

The operation is performed under general anaesthetic. The anaesthetist will see you before your operation.

This involves the surgeon making two or three small incisions in your abdomen. One at the umbilicus (navel) and one or two lower down near the bikini line. A small amount of gas is introduced into your abdominal cavity to inflate it, so as to allow the surgeon to see the structures inside your abdomen and the ectopic pregnancy through the laparoscope. (A laparoscope is a small telescope like instrument). If an ectopic pregnancy is confirmed the surgical procedure undertaken depends on the condition of your fallopian tube. Before rupture of your tube it may be possible to make a cut on the tube and remove the pregnancy leaving the tube intact. This is called **salpingotomy**. On the other hand if the tube is ruptured or distorted it may be necessary to remove part or all of the tube according to the degree of damage. This is called a **salpingectomy** (partial or complete). However your other tube will remain along with your ovaries. Your surgeon will decide whether he/she will perform your operation under laparoscopy or proceed to a laparotomy.

There is only a small risk of injury to the bowel, bladder and blood vessels with the laparoscope (1/1000).

Laparotomy

A cut about 8-10cm long is made usually along the bikini line to enter inside the abdomen. This procedure is chosen if the laparoscopic procedure is unsuccessful or impossible.

After one ectopic the subsequent intrauterine pregnancy rate is about 50%.

Your Hospital stay

This will vary depending on the operation you need. It is normally 1-2 days after laparoscopy and 3-5 days after laparotomy.

After discharge

The ward staff will give you all the necessary advice on aftercare, exercise and diet. The stitch/stitches are usually taken out before you are discharged. When discharged earlier you will be advised to go to your practice nurse to have them removed. You may experience period like bleeding for a week or two, avoid using tampons during this time. You should also avoid sexual intercourse until the bleeding has stopped.

Follow up

If the tube is saved at surgery there is some risk that some of the pregnancy remains in the tube. You will be advised to have weekly blood tests to monitor hCG (pregnancy hormone) levels as they decrease.

You will be sent an out-patient appointment for six weeks time.

Returning to work

It may be anytime from 6 –12 weeks depending on the type of operation you have had and the type of work you do. Your doctor will advise you.

In your next pregnancy

The recurrent ectopic rate is about 10 – 20%. After Salpingotomy ectopic pregnancy is equally likely to reoccur in the operated tube as in the other tube.

When you suspect you might be pregnant again your GP will be able to refer you to the Early Pregnancy Assessment Unit after confirmation of the pregnancy. You will be monitored closely because of the previous ectopic pregnancy.

Your feelings

It is entirely normal to feel helpless, isolated and angry with your self.

Depression, guilt and self-blame are very common emotions after the loss of a baby. With an ectopic pregnancy you will not only lose your pregnancy but will also be recovering from an operation and may have worries about fertility for the future. As time passes, you will be able to deal with your loss more positively. You may find that you are ready to get on with your life quickly. If your anxiety and worries continue, you should get in touch with our counsellors who will be able to help you. Your well being is the most important thing.

Your partner may find it difficult to express his feelings. He may well feel that he should be strong and protect you from any more distress. If this is the case, you will need to encourage him to talk to you about his feelings. Sharing each others feelings can be very helpful.

Allow yourself time to recover physically and emotionally before trying for another baby.

It is worth remembering that counselling is available for you if you wish or need to talk at any time in the future.

If you need any further information or advice please do not hesitate to ask the staff. A list of telephone numbers is given overleaf which should be useful.

UNDERSTANDING HYDATIDIFORM MOLE

Information to Patient

*You have been diagnosed as having a **molar pregnancy**, although highly treatable this is still extremely serious and requires careful follow-up.*

This leaflet will explain fully what molar pregnancy is and why it is important for you to have follow up by the screening centre located in London.

A molar pregnancy, or as it is known medically, a hydatidiform mole, is a pregnancy in which the placenta develops into a mass of fluid-filled sacs that resemble clusters of grapes. It grows in an uncontrolled fashion to fill the womb. It occurs in about 1 in 1200 pregnancies.

Sadly a molar pregnancy is a sure form of early pregnancy loss. This means there is no possibility that your pregnancy can survive.

*There are two types of molar pregnancy: a **complete** and a **partial** hydatidiform mole.*

Complete Mole

This condition results when the sperm fuses with an egg that does not carry any genetic material. These complete moles are derived entirely from the cells of the father. When this fertilised egg grows, no embryo is present in the pregnancy sac, only the placenta.

Partial Mole

These are much more common and usually mimic the appearance of an incomplete miscarriage. In this condition the egg allows two sperms to fertilise it. The embryo has three sets of chromosomes instead of the usual two so the baby would be abnormal and could never survive. Very rarely a partial mole may develop into an invasive mole, but seldom develops into a cancer.

Why are molar pregnancies followed up?

*Occasionally the molar tissue may persist and grow deeper into the wall of the uterus and spread; this is an **invasive** mole. Very rarely a hydatidiform mole can develop into a **choriocarcinoma** which is a form of cancer and the cure rate is almost 100%. This is the reason why molar pregnancies are followed up.*

Symptoms

A molar pregnancy will probably bleed and the womb will seem bigger than it should be. Sometimes it can cause high blood pressure and thyroid problems. There may be increased nausea.

The overgrown placenta tends to produce excessive amounts of the pregnancy hormone hCG (human Chorionic Gonadotrophin). Most of the symptoms of a molar pregnancy are caused by the high hormone levels.

Diagnosis is made by:

- 1. Very high levels of hCG in the blood*
- 2. An ultrasound scan showing the particular appearance of a molar pregnancy.*
- 3. Examination of the tissue by the pathologist.*

Treatment

Surgical Evacuation

You will be admitted to hospital to have a D&C (Dilatation and Curettage) – a scrape of the womb under general anaesthetic.

If your admission is planned to Day Surgery Unit you will be discharged the same day. However admission on Gynae Ward may involve an overnight stay. The staff in the clinic will advise you regarding the arrangement.

Follow up

Blood levels of the pregnancy hormone hCG are measured weekly following a molar pregnancy. You will be registered at the follow-up centre in Charing Cross Hospital, London by your Gynaecologist. You will receive a letter from the follow up centre confirming that you have been registered for follow-up care. There are other regional centres for registration of a molar pregnancy in Sheffield and Dundee.

You do not have to travel to London. The necessary kit will be sent to you by the screening centre. There will be a letter for your GP and tubes for urine and blood samples in the kit. Follow the instructions given. The results of the follow-up will be sent to your GP and your Gynaecologist.

The normal level of the pregnancy hormone hCG in the blood is less than 5IU/l. Once the blood tests are normal, only urine samples will be needed. Remember that the urine samples should always be the first urine of the day.

The minimum period for follow-up of complete and partial moles is 6 months. If you need treatment then you are followed up until your hCG values remain normal.

Your feelings

You may well feel upset after losing the pregnancy. Also you may be worried about the molar pregnancy settling down. As time passes more often than not you learn to cope with your loss. If you need to talk to us or a counsellor please do not hesitate to pick up the phone.

Future Pregnancy

Do not get pregnant whilst you are being followed up. It will become difficult to know if your hCG levels are rising due to pregnancy or re-growth of the mole. You will have to wait 6 months after the hCG levels have returned to normal. It is very important to tell the follow-up centre if you become pregnant.

Contraception

You will need to discuss contraception with your GP/Consultant. It is not advisable to use the contraceptive pill because if your hCG levels are still above normal use of the pill may prolong the life of any remaining molar tissue. However the contraceptive pill can be used safely after the hCG levels have returned to normal. The coil is also best avoided until your hCG levels are normal. Condoms or caps may be used.

Chances of another Hydatidiform Mole

Chances of having a perfectly normal pregnancy are very good. The risk of a further molar pregnancy is low (1:55).

Useful telephone numbers:

Relevant unit's telephone number

Tel.

Miscarriage Association

Tel. 01924 200799

Counsellors'

Tel.....

EARLY

CLINIC PROFORMA

**PREGNANCY
ASSESSMENT
UNIT**

Addressograph

Date:

GP

Time:

Consultant

Midwife/Nurse

Radiographer

Attending Physician

Telephone number :

Source of referral:

History

Symptoms

- ⬆ pain
- ⬆ bleeding
- ⬆ others

Previous

- ⬆ ectopic
- ⬆ miscarriage
- ⬆ c section

Contraception.....

Gravida Para.....

LMP:

Cycle:

Past Medical History

Length of amenorrhoea:

Date of +ve pregnancy test:

Ultrasound Findings

TVS /TAS /Both

Regular Sac Yes / No

Yolk Sac Yes / No

End Thickness/tissue diameter

Embryo Yes / No

Liquor volumereduced/normal

Mean GSD

Placenta

CRL / BPD

Haematoma.....

FH present /absent /not located/slow

Other uterine findings

Fibroid

Anomaly

Cervix

Extra uterine findings

Ovaries

Ad.mass

POD

Initial Diagnosis ⬆ Inconclusive ⬆ EGS ⬆ EGS+YS ⬆ FH not located ⬆ Fetal Bradycardia
Final Diagnosis ⬆ Complete ⬆ Incomplete ⬆ Missed miscarriage ⬆ Ectopic Pregnancy
 ⬆ Threatenend ⬆ Viable ⬆ H. Mole ⬆ Others

Comments:

Management	Investigations	Notification
⬆ No follow up	⬆ Pregnancy test	⬆ GP
⬆ Follow up	⬆ Serum hCG	⬆ ANC
⬆ Admission	⬆ FBC	⬆ Midwife
⬆ DSU	⬆ Blood group Anti-D	⬆ Miscarriage list
⬆ Gynae ward	⬆ MSU	
⬆ Patient literature	⬆ Swabs	
⬆ Contact number	⬆ Other (specify)	

Signature:

ADDRESSOGRAPH

**EARLY
PREGNANCY
ASSESSMENT
UNIT**

	2nd VISIT	3rd VISIT	4th VISIT
VISITS-DATES			
SYMPTOMS Pain Bleeding			

Other			
ENDOMETRIAL THICKNESS/ INTRAUTERINE TISUSE DIAMETER			
REGULAR SAC Yes/No			
MEAN GSD			
YOLK SAC Yes/No			
EMBRYO Yes/No			
CRL/BPD			
FH			
HAEMATOMA Yes/No			
LIQUOR VOLUME			
CERVICAL ASSESSMENT			
EXTRAUTERINE FINDINGS Ovarian Pathology Adnexal mass Pouch of Douglas			
Pregnancy test			
Serum hCG			
DIAGNOSIS			
MANAGEMENT			
FOLLOW-UP			
NAMES/SIGNATURES OF PROFESSIONALS			