CONTROLLED DOCUMENT

University Hospitals Birmingham
NHS Foundation Trust

Ectopic pregnancy including Caesarean scar pregnancy

CATEGORY:	Clinical Guidelines
CLASSIFICATION:	Clinical
PURPOSE:	To improve and standardise assessment of women with early pregnancy problems To ensure that medical and nursing staff are familiar with the assessment and management of ectopic pregnancy & caesarean scar pregnancy
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Distribution: • **Essential Reading for:** **Information for:**	Attending clinicians; consultants, registrars, house officers, anaesthetics teams, nurses and specialist nurses.

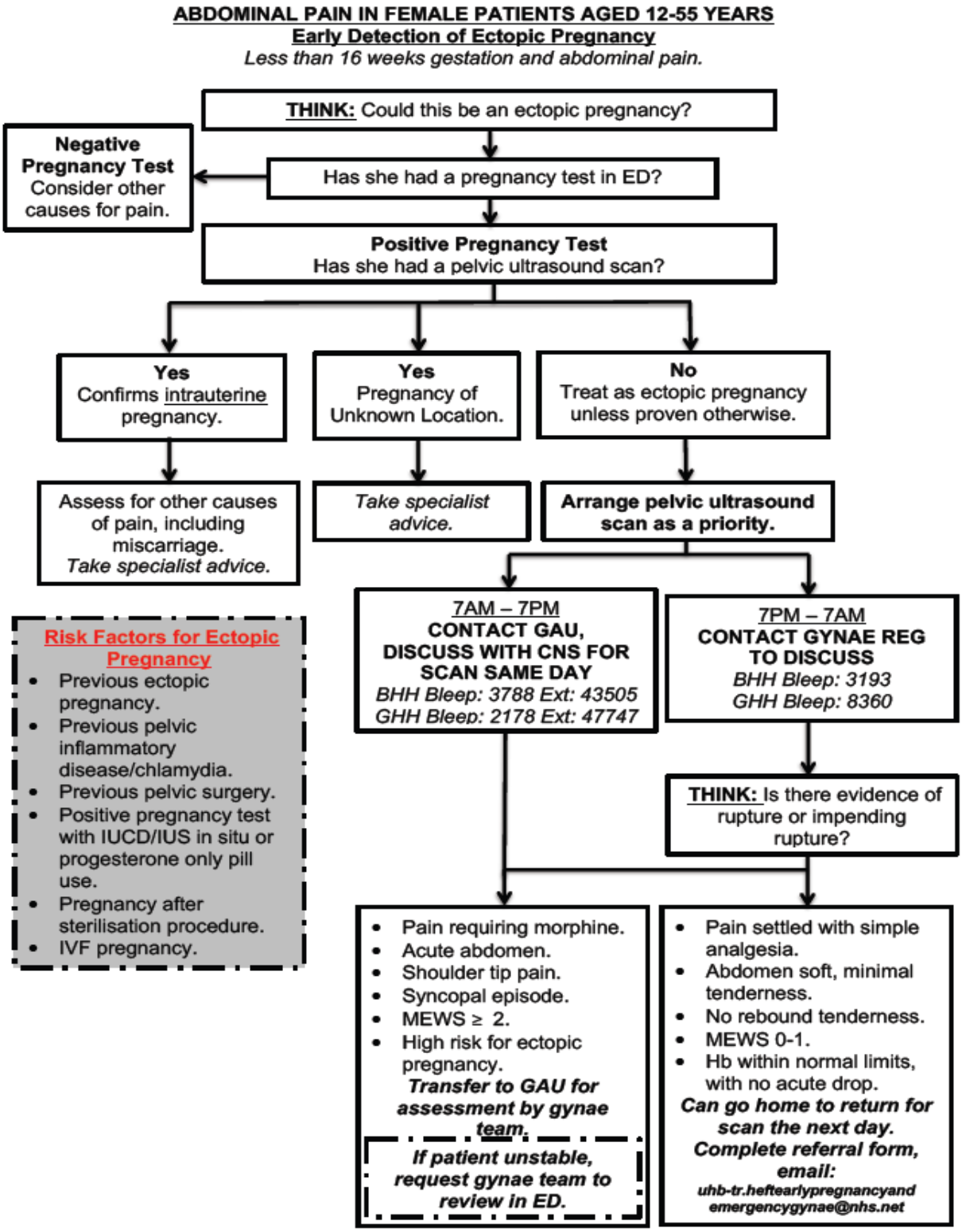
1. Executive Summary & Overview

This document provides clinical guidance on the management of women with ectopic pregnancy & caesarean scar ectopic pregnancy to ensure that a high quality service can be delivered, maintained and improved.

It is important that all clinical staff (medical, sonographers and nursing) is familiar and operate within the agreed guidelines of this organisation. Reasons for deviating from guidelines (as will arise in specific cases) should be clearly documented in patient records.

2. Flow Charts

Flowchart 1 – Early detection of ectopic pregnancy



Flowchart 2 - Management options for ectopic pregnancy

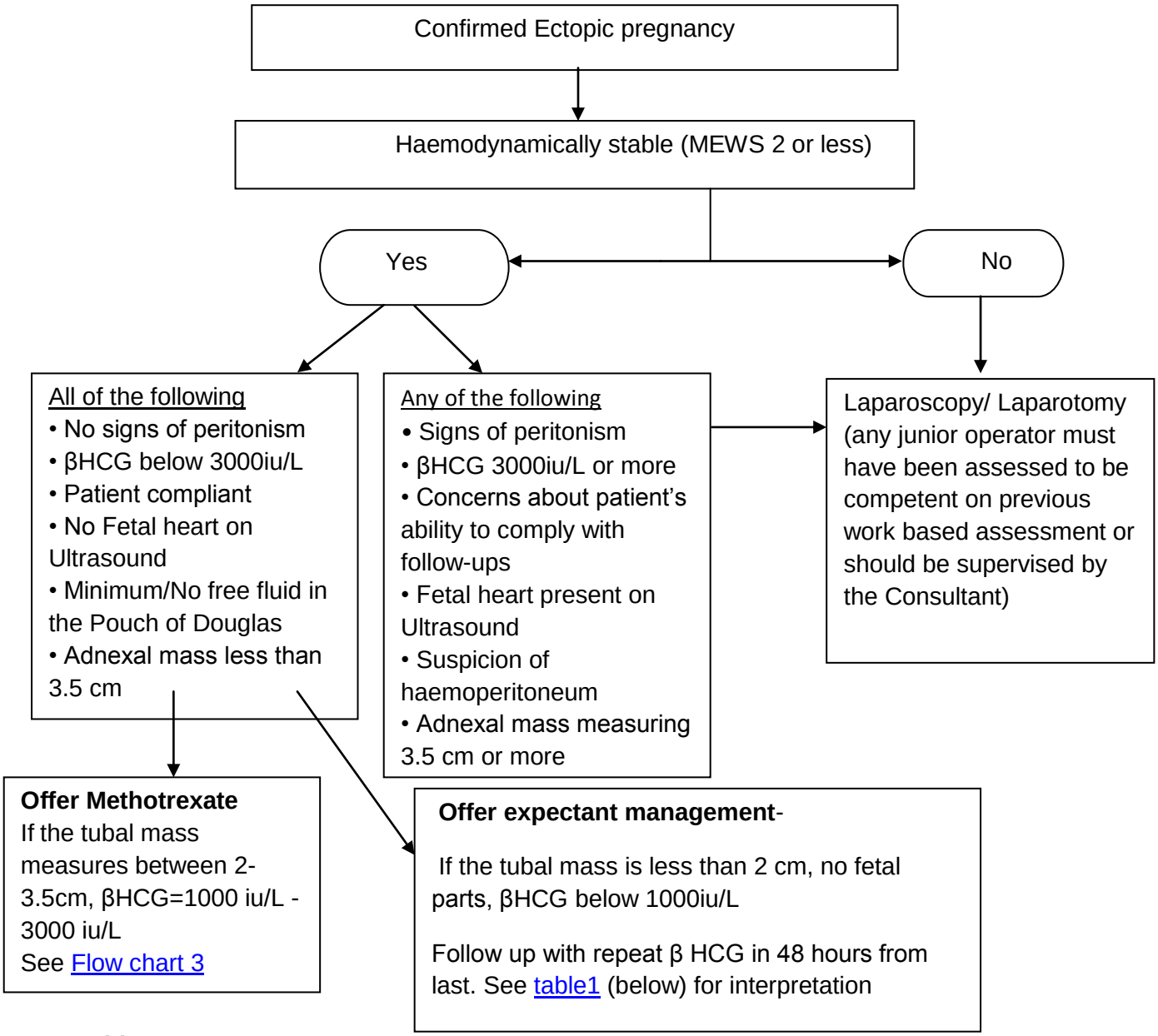
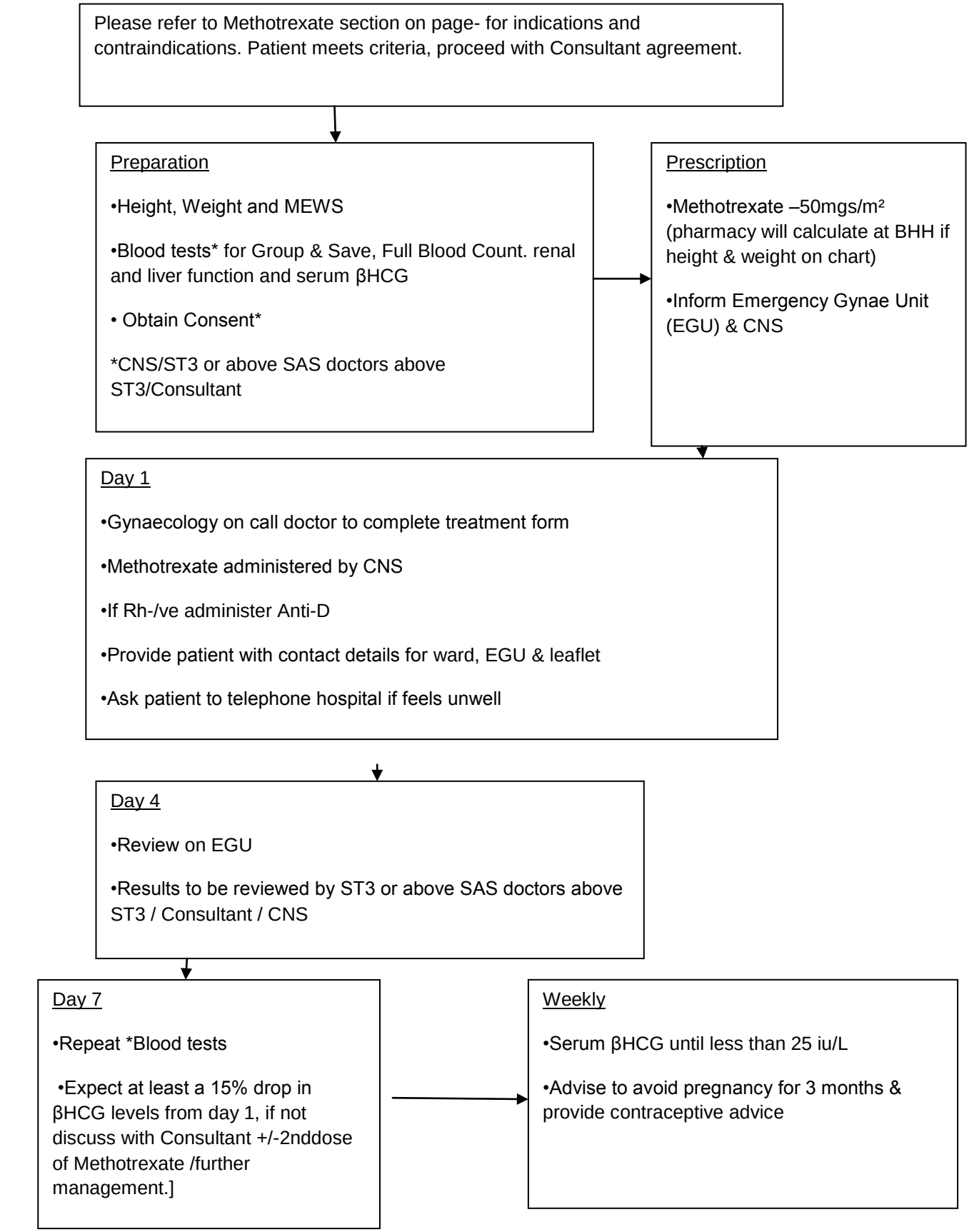


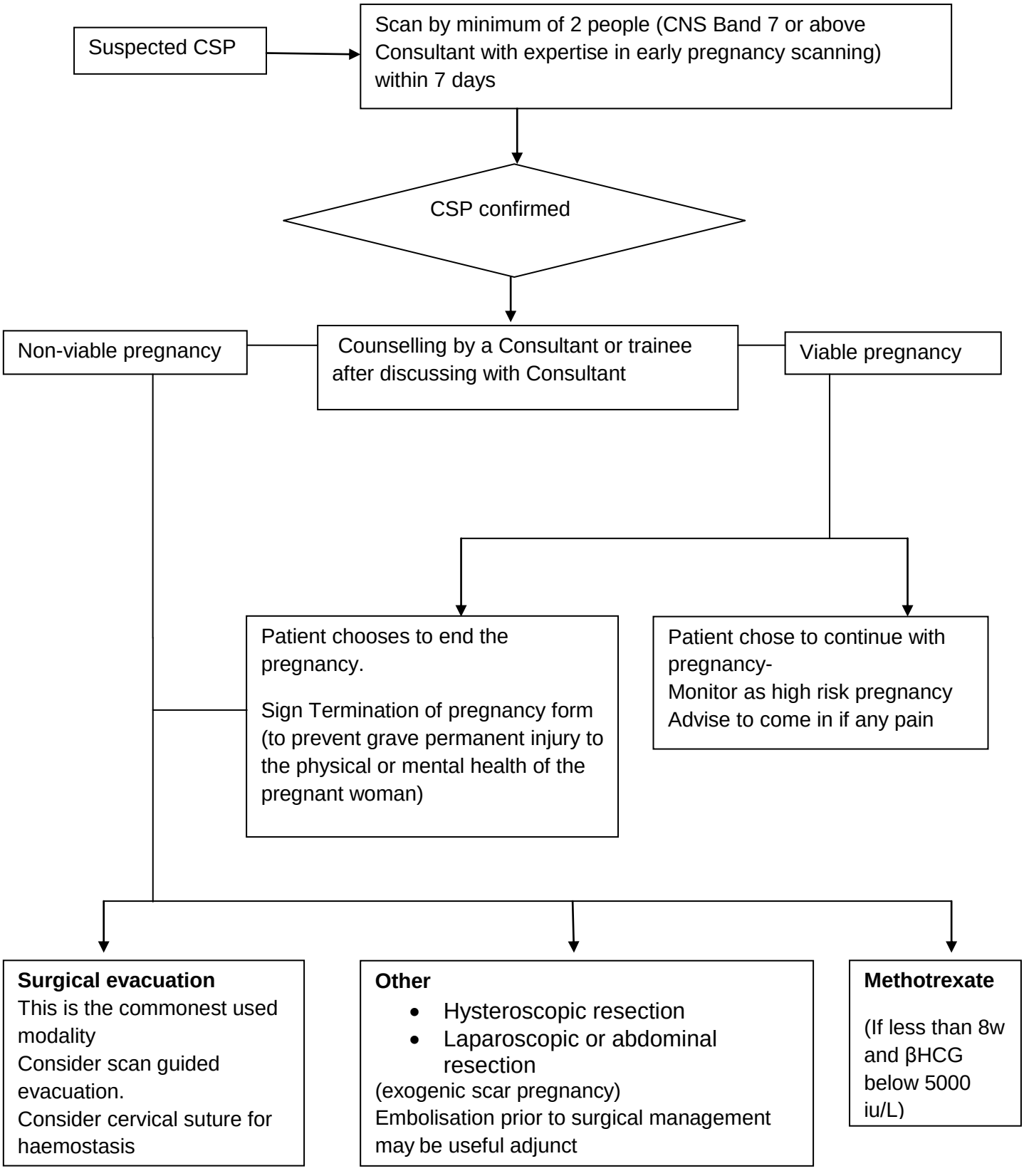
Table 1
Follow up 48 hour βHCG and action for patient having expectant management

48 hour change in βHCG	**Action**
Rising βHCG	Growing pregnancy. Consider Medical or surgical management.
More than 63% rise in βHCG	Reconsider diagnosis- rule out intrauterine pregnancy
More than 50% drop	Resolving pregnancy repeat βHCG weekly until levels less than 25iu/L
Less than 50% drop	Consider Medical management

Flowchart 3 – Medical Management of ectopic pregnancy using Methotrexate



Flowchart 4- Management of Caesarean scar pregnancy (CSP)



3. Body of Guideline

Ectopic pregnancy

This is defined as the presence of pregnancy tissue outside of the uterine cavity.
Ectopic pregnancy is a potentially life threatening form of pregnancy in which implantation of the fertilised egg occurs outside the uterus. The majority of ectopic pregnancies occur in the fallopian tube, however, implantation in the cervix, ovary, previous caesarean section scar or abdominal cavity can also occur.

Clinical Presentation

Symptoms

- Lower abdominal pain
- Vaginal bleeding
- Amenorrhoea (not always)
- Faintness/dizziness
- Gastro-intestinal symptoms (notably diarrhoea and painful defecation)
- Shoulder tip pain

Signs

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

Risk Factors

Diagnosis should be suspected in women with the following risk factors:

- Previous pelvic inflammatory disease
- Previous peritonitis
- Previous pelvic surgery
- Previous sterilisation
- Previous ectopic pregnancy
- Intrauterine contraceptive device (IUCD) use
- Infertility
- Assisted reproduction techniques
- Progesterone only pill

Ectopic pregnancy can occur in absence of these risk factors. Initially in an ectopic pregnancy, the fallopian tube stretches, giving rise to varying degrees of indistinct pain. Sudden onset or worsening of pain usually indicates rupture.
In severe cases, patients may show signs of peritonitis, with or without shock and/or collapse. This has very varied presentation and must be excluded in any woman with pain or abdominal bleeding. The recurrence rate is around 15% if a woman has had a previous ectopic pregnancy, and is higher in pregnancies occurring with an IUCD in situ.
If pain is the predominant feature especially with minimal vaginal loss, consider ectopic pregnancy. Resuscitate and call a member of the on call gynaecology team.

- BHH / Solihull Site: Registrar Bleep 2140/ 3193
- Good Hope Site: SHO on call, Registrar Bleep 8360

Guidance in Emergency Department (ED)
Ectopic pregnancy must be considered and positively excluded in all women of child-bearing age with abdominal pain.
(Refer to Flowchart 1 and Pregnancy women attending Emergency Department guidance if required)

Diagnosis

Trans vaginal (TV) Ultrasound is diagnostic tool of choice for ectopic pregnancy.
The presence of an intrauterine pregnancy rules out an ectopic pregnancy. However, there is a 1:40000 chance of heterotopic pregnancy where there is a coexistent uterine and extra uterine pregnancy.
Equally important is that the tubal ectopic pregnancies should be positively identified on scan as extra-uterine gestation sac or indirect signs such as echogenic adnexal mass rather than on a scan that fails to demonstrate intrauterine pregnancy. Laparoscopy is no longer the gold standard for diagnosis.
The majority of ectopic pregnancies will be visualised on the initial ultrasound examination. The remainder will initially be classified as a Pregnancy of unknown location (PUL). Not all ectopic pregnancies initially classified as a PUL are 'missed' on the initial scan. Some of these ectopic pregnancies are just too small and too early in the disease process to be visualised on the initial ultrasound examination.
An inhomogeneous or non-cystic adnexal mass is the most common finding in around 50–60% of cases. An empty extra uterine gestational sac will be present in around 20–40% of cases. While an extra uterine gestational sac containing a yolk sac and/or embryonic pole that may or may not have cardiac activity will be present in around 15–20% of cases.

Ultrasound findings
Uterine- There is no specific endometrial appearance or thickness to support a diagnosis of tubal ectopic pregnancy.
In up to 20% of cases, a collection of fluid may be seen within the uterine cavity, classically referred to as a '**pseudo sac'**. The key is to distinguish this from an early intrauterine gestational sac.
The intra-decidual and double decidual signs can be used to diagnose an early intrauterine pregnancy.

1. **The intradecidual sign** is described as a fluid collection with an echogenic rim located 'within a markedly thickened decidua on one side of the uterine cavity'.
2. **The double decidual sign** is described as an intrauterine fluid collection surrounded by 'two concentric echogenic rings'. However, in practice, it can be very difficult to distinguish a 'pseudo sac' which is just a collection of fluid in the endometrial cavity from an early intrauterine sac. The presence of a 'pseudo sac' alone cannot be used to diagnose an ectopic pregnancy and in fact, a small anechoic cystic structure is more likely to be an early sac rather than a 'pseudo sac'. A study has shown that a woman with a positive pregnancy test, an intrauterine smooth-walled anechoic cystic structure and no adnexal mass has a 0.02% probability of ectopic pregnancy, while the probability of intrauterine pregnancy in such a patient is 99.98%.

Adnexal

- A hyperechogenic tubal ring (doughnut or bagel sign)
- A mixed adnexal mass – either tubal miscarriage or rupture
- An ectopic sac with a yolk sac and/or embryo

Fluid in pouch of Douglas

Free fluid is often seen on ultrasound, but is not diagnostic of ectopic pregnancy. A small amount of anechoic fluid in the pouch of Douglas may be found in both intrauterine and ectopic pregnancies. Echogenic fluid has been reported in 28–56% of ectopic pregnancies. It may signify tubal rupture, but most commonly is due to blood leaking from the fimbrial end of the fallopian tube.

Blood tests

The blood tests alone are not diagnostic and thus should not be used as a first line investigation for ectopic pregnancy. However, when woman presents out of hours and scan is not immediately available, these tests can be helpful as adjunct to subsequent scan to plan further management.

- **Serum ßHCG assay**- The initial serum ßHCG level is a key prognostic indicator for the success of conservative management (expectant and medical) in cases of ultrasound visualised tubal ectopic pregnancies. It should not be used in isolation for prediction of ectopic pregnancy. Commercially available urine dipstick tests for human chorionic gonadotropin (ßHCG) are sensitive to values of less than 25 iu/L. At ßhCG levels above 1500 iu/L, evidence of an intrauterine pregnancy should be visualised by TV ultrasound. If no intrauterine pregnancy is visible by ultrasound the case must be reviewed by a senior registrar or consultant.
- **Serial Serum ßHCG assay**- Serum ßHCG levels 48 hours apart are useful in the diagnosis of asymptomatic ectopic pregnancy.
- **Single Progesterone measurement**- This is not useful in determining the location of pregnancy. However, as Progesterone levels are marker of trophoblastic proliferation initial level can aid to risk determination of ectopic pregnancy- low levels (below 10 nmol/L) indicate low risk of intervention and higher levels (above 20 nmol/L) are associated with high risk of intervention. The levels should be checked at initial visit and do not need to be repeated.

Management

(See Flow Chart 2 – Management options for ectopic pregnancy)

RUPTURE of an ectopic pregnancy CAN OCCUR even after medical/expectant management or conservative surgery

Surgical Treatment

It is considered inappropriate to perform laparoscopic surgery when:

- A patient is profoundly shocked due to massive blood loss
- When there is a history of cardio-vascular or respiratory problems which might preclude the performance of a satisfactory laparoscopy
- The surgeon is not adequately trained in laparoscopic surgery

Before seeking a woman's consent for a test, treatment, intervention or operation, you should ensure that she understands the nature of the condition for which it is being proposed, its prognosis, likely consequences and the risks of receiving no treatment, as well as any reasonable or accepted alternative treatments. Uncertainties should be discussed.
A laparoscopic approach to the surgical management of tubal pregnancy, in the haemodynamically stable patient, is preferable to an open approach.
Management of tubal pregnancy in the presence of haemodynamic instability should be by the most expedient method. In most cases this will be laparotomy.
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.
Where laparoscopy is performed to exclude an ectopic pregnancy and it fails to show the ectopic pregnancy, ßhCG follow up should be arranged to establish whether the patient has an intrauterine pregnancy, complete miscarriage, or an ectopic pregnancy/PUL.
If laparoscopy is performed for suspicion of an ectopic pregnancy, and the patient is not bleeding, instrumentation of the uterus should be avoided as it could be an early intrauterine pregnancy. In current practice the need for laparoscopy as a diagnostic tool would be unlikely.

Medical Treatment
(See Flow Chart 3 – Medical management of ectopic pregnancy using Methotrexate)
A review of uncontrolled and controlled studies has shown that in stable patients, a variety of medical treatments are as effective as surgery. The most widely used medical treatment is intramuscular (IM) Methotrexate.

What Is Methotrexate?
Methotrexate (MTX) has been widely used in the treatment of various types of malignancy, in various chemotherapeutic regimes and for the induction of medical abortion. It is also used in the management of early pregnancy problems, although it is unlicensed for this use. Methotrexate is a folic acid antagonist (anti-metabolite) that interferes with the synthesis of DNA by inhibiting the action of dihydrofolate reductase in the conversion of dihydrofolic acid to tetrahydrofolic acid. The safety of Methotrexate in reproductively active women, with respect to future pregnancies, has been extensively proven in studies since the 1970s, as has its use in the treatment of gestational trophoblastic disease. There have been no reported cases of an increased incidence of miscarriage or congenital anomalies following its use, and women may be reassured of this.
THE DECISION TO ADMINISTER METHOTREXATE IS BY A CONSULTANT

When Can It Be Used In Early Pregnancy?

- The management of pregnancy of unknown location (once the possibility of viable Intrauterine pregnancy has been eliminated with follow ups)
- Unruptured tubal ectopic pregnancy that measures less than 3.5cm on TV ultrasound
- Cornual pregnancy
- Cervical pregnancy

- Persistent trophoblastic disease after conservative tubal/uterine surgery

Blood Tests

- Blood should be taken for FBC, LFT, U&E, G&S, coagulation and serum ßHCG.

Eligibility criteria-

- No signs of peritonism
- Absent intrauterine pregnancy by USS
- Adnexal mass measuring less than 3.5 cm on USS
- Absence of FH in ectopic
- Serum ßHCG below 3000iu/L
- Reliable & compliant patient
- Adult company for the first 5 days

Contraindications

- Adnexal mas measuring more than 3.5 cm on USS
- Suspected Intrauterine pregnancy
- Suspected haemoperitoneum
- FH in the ectopic
- ßHCG more than 3000iu/L
- Clinically unstable
- Non-compliant or non-consenting patient
- Methotrexate should not be used if patient is breastfeeding

* If exclusion criteria exist, each individual case may be discussed with the Consultant on call and an individual management plan for the patient can be developed.

* If Methotrexate treatment slot is more than 48 hours since last βHCG, consider repeat βHCG to ensure patient still fits the criteria.

Admission

As a general rule, the management of asymptomatic women requiring Methotrexate therapy can be administered as an outpatient under the supervision of the Emergency Gynae Unit (EGU). This is likely to be more appropriate in women with residual trophoblastic disease. Each case can be assessed on an individual basis, and discussed with the Consultant, before deciding to manage as an outpatient.

Side Effects and Complications

- Abdominal pain- Up to 75% of patients complains of abdominal pain on days 3-7 (due to tubal miscarriage). Simple analgesia should be sufficient (Nonsteroidal Anti-inflammatory Drugs [NSAIDs] and steroids must be AVOIDED). If pain is marked but the woman remains clinically stable, patient should be admitted for 4 hourly observations and MEWS score. If vital signs are abnormal an intra-abdominal haemorrhage from a ruptured

tubal ectopic gestation should be excluded. DIGITAL VAGINAL EXAMINATION MUST BE AVOIDED
- Failed therapy- This is more likely when serum ßHCG is more than 3000iu/L
- Myelosuppression (Rare)
- Sore mouth / mouth ulcers / bleeding gums
- Indigestion
- Cystitis
- Haemorrhage- If haemorrhage is confirmed or is clinically apparent; an emergency surgery should be undertaken. An experienced surgeon may elect to undertake a laparoscopy if the patient is haemodynamically stable, after discussion with the anaesthetic and gynaecology consultant.

Aside from abdominal pain, adverse effects are uncommon in single dose MTX regimes.

Dose and Administration

Single and multiple doses MTX regimes have been shown to be very successful in the management of early pregnancy problems. The dose is dependent upon the regime. The dose and IM delivery of MTX must be checked by the on call doctor as well as by the nursing caring for responsible for the patient, and documented to avoid drug error.

The drug chart must be completed and the Methotrexate must be prescribed in the following dose: Methotrexate 50 mg per m^2 of body surface area

At BHH: The pharmacy will calculate the dose and in order to do this, the patient's height and weight need to be specified on the drug chart.

At Good Hope: The body surface area and dosage needs to be calculated prior to sending the drug chart to pharmacy using the formulae:

Body surface area (M^2) = Sq. root ([height (comes) x weight (kegs)] □ 3600)

Dosage = Body surface area x 50mg

For guidance - the usual dose will be between 80 and 100mgs

The maximum dose is 100mg

Complete the Consent Form for Methotrexate Treatment

The patient must receive consented by any designated person who is trained to obtain a valid consent. The consent must specify as a minimum:

1. The treatment as: "Methotrexate injection for medical management of ectopic pregnancy"
2. The side-effects as: "sore mouth, sickness, 7% chance of rupture, loss of co-existing normal intrauterine pregnancy, failed treatment, pain, subsequent abnormal liver/renal function (usually transient)"
3. Benefits as: "avoiding surgery, resolving ectopic/unknown location pregnancy"
4. Leaflets as: "Patient information leaflet for methotrexate use in pregnancy"

Follow Up

- Please refer to Flow chart 3 There may be an increase in serum ßHCG levels in the following 3 days that may falsely give the impression of failed therapy.
- Patients should avoid alcohol, folic acid, steroids, NSAIDs, Vitamin C and direct sunlight.

- Contraception is advised for 3 months following single dose MTX or 6 months following at least 2 doses of MTX
- Sexual intercourse can be resumed after the first normal period
- Early scan is indicated in the next pregnancy if there is a history of ectopic pregnancy

Close observation of these women is needed to ensure that the best outcome is achieved.
Unlicensed Indication- MTX is unlicensed for its use in early pregnancy problems though it has been widely used for a long time in managing persistent trophoblastic problems and ectopic pregnancy. Evidence suggests that it is the treatment of choice in a number of the conditions previously listed, and the patient should be reassured of this.
The dose of MTX used (50 milligrams/m^2) is much lower than that used in cancer chemotherapy (up to 12 grams/m^2), but higher than that used in long-term maintenance regimes. Patients should be reassured of this.
Informing the General Practitioner (GP)
It is good practice to advise the GP of the use of MTX in their patient so the GP is aware of the potential side effects to expect, the need for contraception, and the possibility that the patient may be myelosuppressed.
(See appendix 2)

Who Should Administer Methotrexate?
The CNS or suitably trained staff on the EGU.
A proforma should be in place across all sites which documents the Methotrexate regime given. (See Appendix)

Expectant management of women with ectopic pregnancy
Women with an ultrasound diagnosis of ectopic pregnancy and a decreasing serum ßhCG, initially less than 1000 iu/L and falling could potentially be considered for expectant management once they have been counselled of the risks or if surgery is declined or contraindicated.
Expectant management of ectopic pregnancy is possible in selected cases:

Selection criteria
- Absence of clinical symptoms and signs
- Absence of haemoperitoneum
- Tubal mass less than 2 cm
- No fetal parts
- Serum βHCG less than 1000 iu/L and declining progressively

The risk of tubal rupture persists thus βHCG should be followed until below 10iu/L.

<u>Caesarean Scar Pregnancy (CSP)</u>
This is a form of ectopic pregnancy when the gestational sac is fully or partially implanted within the scar from previous Caesarean Section (CS). The incidence of CSP lies between 1 in 1800 to 1 in 2500 and appears to be increasing. This could be secondary to increasing number of Caesareans, awareness as well as better ultrasound diagnosis.
Pathophysiology

There is little knowledge about the exact aetiopathology of CSP. The most probable explanation is invasion of the microscopic tract from previous Caesarean section by the blastocyst.
There is no clear association between number of previous CS and risk of CSP, in fact most CSP occur after one CS and elective CS for breech appears to be most frequently at risk of CSP.

Symptoms

- Slight vaginal bleeding
- Abdominal discomfort

Some women remain asymptomatic and are diagnosed incidentally either during scan or during and after attempted surgical evacuation of miscarriage.
Rarely woman can present with acute pain and profuse bleeding. Haemodynamic instability and collapse in a suspected CSP patient strongly indicates rupture with intra-abdominal bleeding.

Diagnosis

As it has potential serious and life threatening complications, reliable diagnosis is crucial. The diagnosis must be made by minimum of 2 people (CNS band 7or higher or a Consultant who has special interest in early pregnancy scanning). Stable patients are not at immediate risk of rupture; thus if second operator is not available on the day woman should be given follow up scan appointment within 7 days and where possible within 3 days.
Ultrasound scan (USS) is the main diagnostic tool. A combined Trans -abdominal and Trans vaginal scan has high accuracy rate. Magnetic Resonance Imaging (MRI) can be useful in cases of uncertain USS features.
Ultrasounds scan criteria for diagnosis of CS

- Empty upper uterine cavity with closed and empty cervical canal
- Placenta and /or gestational sac embedded in the scar of a previous caesarean section
- Gestation sac that fits the niche of the scar
- A thin or absent myometrial layer between gestation sac and bladder
- Evidence of functional trophoblastic/ placental circulation on colour flow Doppler
- Negative ‘sliding organs ‘sign. The ‘sliding sign’ enables cervical pregnancies to be distinguished from miscarriages that are within the cervical canal. When pressure is applied to the cervix using the probe, in a miscarriage, the gestational sac slides against the end cervical canal, but it does not in an implanted cervical pregnancy

Differential diagnoses to be considered include low implantation of an intrauterine pregnancy, inevitable miscarriage and cervical pregnancy.
A gestational sac lying low in the uterine cavity or in endocervix should be clearly differentiated from a CSP or cervical pregnancy. The early phase of miscarriage can mimic CSP. However careful assessment provides vital clues. In impending miscarriage the sac is often irregular with absent fetal heart, located within the cavity, positive sliding sign with gentle probe pressure and absent or minimal colour Doppler flows. A cervical ectopic pregnancy is present in or close to cervical canal. The cervix will appear ballooned, good colour flow Doppler and negative sliding sign.

Types of CSP

1. Type 1 or Endogenic- implantation occurs on the scar and gestation sac grows towards the uterine cavity. These have potential to reach viable gestation but increased risk of severe haemorrhage and abnormally adherent placenta.
2. Type 2 or Exogenic type- gestational sac is deeply embedded in the scar and myometrium and grows towards the bladder. These are at high risk of first trimester rupture and severe haemorrhage.

Heterotopic pregnancies with CSP-

Heterotopic pregnancy with normal intrauterine pregnancy along with CSP has been reported. There are reports of successful management with local KCl (Potassium chloride) into the CSP sac and continuation of the normal intrauterine pregnancy to term. Exogenous pregnancy may be removed by laparoscopy or laparotomy and defect closed to help maintain integrity of lower segment. Women should be advised of risk of severe haemorrhage and of losing the normal pregnancy.
The management of such complex cases should be guided by the input of a Senior Consultant and should be individualised.

Management

Cases and case series have reported different treatment modalities. All modalities carry a risk of haemorrhage and subsequent hysterectomy. There is insufficient evidence to recommend one specific intervention over the other but surgical management appears to be more effective than medical. Consider woman's symptoms, fertility prospects, and acceptability to prolonged follow up, gestational age, myometrial thickness, and type of CSP before recommending treatment option. The counselling of the various treatment options should be performed by a senior trainee (ST5 or above) or Consultant Gynaecologist. If the pregnancy is viable and the patient opts for surgical or medical management, a termination form must be signed by two consultants. Woman should be informed that CSP is associated with increased maternal morbidity and mortality.

1. **Surgical evacuation**- Cervical dilatation and curettage is most common method for managing CSP. This is also the most common treatment modality used in our unit. This is suitable for endogenic CSP with myometrial thickness of at least 2mm. There are risks of heavy bleeding and incomplete removal of tissue embedded in the scar. The evacuation under scan guidance to aid complete removal of tissue should be considered. Shirodkar suture applied prior to evacuation and tied after the completion or balloon tamponade can be used to minimise bleeding following evacuation.

2. **Methotrexate**- Medical management should only be considered in haemodynamic ally stable women with minimal or no symptoms. Gestation less than 8 weeks with HCG below 5000 IU/l is more likely to respond to medical management. The regimen is same as tubal ectopic pregnancy. Adequate counselling should be provided regarding the likelihood of a prolonged follow up. Medical management alone may not always work, even in carefully selected women thus necessitating surgical intervention.

3. **Expectant management**- This is generally not recommended except in very rare situations. This has been reported successfully in asymptomatic women with a non-viable CSEP and falling HCG levels. The decision to offer an expectant management must be carefully balanced with the risks. Women should be counselled that 67% of women require further intervention with 30% risk of hysterectomy. Cases managed expectantly were the endogenous type of CSEP with pregnancy progressing towards the uterine cavity. Cases of expectant management lasting into third trimester are likely to have morbidly adherent placenta and may require caesarean hysterectomy. In women with endogenous CSEP, who decline termination of pregnancy because of perceived reduced chance of future conception, an expectant approach may be undertaken as a compromise. Women should be informed of risk of uterine rupture, massive haemorrhage and possible hysterectomy at any time during the pregnancy and discussion should be documented by senior clinician (ST5 and above).

4. **Abdominal / laparoscopic resection**- is preferred in cases of thin myometrium and exogenous CSEP. This can be performed as primary procedure or as an interval procedure after the termination of pregnancy with Methotrexate. The procedure involves resection and closure of defect.

5. **Hysteroscopic resection**- this can be used as primary (with uterine artery ligation or UAE), interval after Methotrexate and to remove persistent CSP mass after incomplete evacuation. This can also be used with laparoscopic resection for complete removal of exogenous CSEP.

Future pregnancies

Most women have normal subsequent pregnancy. The risk of another CSP has been reported between 3-5%. Early USS between 6-8 weeks in future pregnancies should be used to rule out recurrence. These pregnancies have higher risk of morbidly adherent placenta. Delivery by Caesarean section is recommended, due to risk of scar rupture and repeat section would also allow adequate closure of lower segment.

Anti-D Prophylaxis

Offer anti-D prophylaxis as per national protocol to all RhD-negative women who have surgical removal of an ectopic pregnancy or when bleeding is recurrent, heavy or associated with abdominal pain. There is no specific guidance for CSP managed with Methotrexate, individualise after consideration of symptoms and gestation. Please refer to the Anti D guideline for appropriate administration of Anti D.

4. Methodology

Development of all guidelines adheres to a process of examining the best available evidence relevant to the topic, incorporating guidance and recommendations from national and international reports.

Finalised guidelines will ultimately be approved and ratified by the Guideline Group and minuted at Directorate as ratified.

5. Monitoring & Suggested Quality Standards

ALL cases of MTX use should be audited to ensure a high standard of care.

Adherence and efficiency of clinical guideline will be monitored through regular clinical audit.
Following clinical audit of a guideline an addendum to change in clinical practice may be necessary. Any change to a clinical guideline requires that it must be ratified by the directorate locally.
Review dates will be set at a period of three years; however this set period can be overridden in light of new clinical evidence.
All unused/previous guidelines will be archived electronically and in paper format within the trust.

6. References, Related Documents and Other Guidance

- Revised from previous guidance.
- Association of Early Pregnancy Units, Guidelines (2004)
- The Role of laparoscopy in the management of ectopic pregnancy. Rev Gynaecol Practice 2002
- British National Formulary 50 September 2005.BMJ Publishing Group and the Royal Pharmaceutical Society of Great Britain. 2005
- C Nelson-Piercy 2002 Handbook of Obstetric Medicine 2nd edition London: Martin Dunitz
- Diagnosis and Management of Tubal Ectopic Pregnancy. RCOG Guideline No. 21 May 2016
- Normal early pregnancy: serum HCG levels and vaginal ultrasonography findings. Br j obstet gynaecol 1990:97:899-903
- Do we need to follow up complete miscarriages with serum human chorionic Gonadotrophin levels? BJOG 2005; 112:827-9
- RCOG Obtaining Valid Consent (Clinical Governance Advice 6). Dec 2008.
- Towards evidence-based management of tubal ectopic pregnancies. Gynae Endoscopy 1999, 8(2): 65-70
- Caesarean scar ectopic pregnancies: aetiology, diagnosis, and management. Obstet Gynecol 2006
- Pregnancy of unknown location UHB clinical guideline

7. Revision History

Version No.	Date of Issue	Author(s)/Reviewer(s)	Reason for Issue
1	November 2010	J. Rutter & P. Pradhan	Trust merger, updated version but not published

2	September 2012	P. Gupta R. Saha Contributions: M. Arlidge J. Davies	Full Review CS scar ectopic
3	October 2013	P. Gupta (Cons. O&G)	Addendums from actions: Page 9 At ßhCG levels above 1500 IU/L, evidence of an intrauterine pregnancy should be visualised by Trans vaginal scan (TVS) and this is the preferred method of ultrasound scanning when the diagnosis of ectopic pregnancy is in doubt – the word ectopic removed and replaced with 'intrauterine' Page 16 Anti-D prophylaxis ...had surgical treatment, the word 'medical' removed
4	November 2015	Susan Hutchon – Consultant O&G Tracey Nash – Associate head of Nursing and Midwifery for Women's services Addendum following SUI – M. Umbers P. Karkhanis – Cons. O&G	Addendum to practice following SUI: If ßhCG > 1500 IU/L and no intrauterine pregnancy visible by ultrasound the case must be reviewed by a senior registrar or consultant. Patient leaflet, checklist and flowchart 3: methotrexate not to be administered if patient breastfeeding Methotrexate checklist: CNS or ward staff to administer MTX, and confirmation that this is not an intrauterine pregnancy seen. If in doubt review evidence &/or 2nd opinion MUST be sought. Updating of guideline to flowchart for HCG levels & adnexal mass size on USS
5	December 2017	D. Cheema (Cons. O&G)	Full review Addition of management of Pregnancy of Unknown Location and Caesarean Scar Pregnancy
6	March 2019	D Cheema (Cons. O&G)	Changes to flowchart 1: Governance recommendation following incident review Removal of Pregnancy of unknown location into separate guideline

Appendix 1 – <u>General Practitioner Information Methotrexate in Early Pregnancy</u>

Emergency Gynae. Unit (EGU)

Date of issue:

Dear Doctor

Patient Label

Please be advised that the above named patient has been treated with methotrexate therapy for the following condition

……..

Follow up has been arranged on …/…/… at the ……hospital until HCG levels are within normal range.

Please find enclosed a copy of the 'Patient Information Leaflet' which is advises the patient and yourself about the main issues regarding this medication. Methotrexate is as you are aware immunosuppressive, albeit unlikely in the dose regime given, and it is important that you bear this in mind for at least 30 days following the last dose.

Please contact us if you have any questions regarding this drug or the management.

A formal discharge summary will follow in due course.

Yours sincerely,

…….. (PRINT Name/Grade/Bleep)

Appendix 2 - Methotrexate Checklist Prior to Administration

Date…….

Patient label

TASK	Tick / Yes	Print Name	Signed
Case discussed fully with consultant		Dr	
Consultant agrees to use of MTX (CNS to administer MTX)		Dr	
Administrating person has read hospital guideline			
Administrating person has read patient information			
Patient given information leaflet			
Patient not breastfeeding			
Confirmation that this is not an intrauterine pregnancy seen. If in doubt review evidence &/or 2nd opinion MUST be sought			
Patient has been counselled and signed the consent form		Dr	
GP informed by letter with copy of patient information			
Dose checked by on call doctor		Dr	
Dose checked by nursing staff			
Baseline observation (TPR) and blood tests checked		Dr	
No evidence of concurrent infection		Dr	
Appointment for follow up arranged			
Patient advised of contact number			