National Women & Infants Health Programme

QUICK SUMMARY DOCUMENT

The Diagnosis and Management of Ectopic Pregnancy

This QSD is a resource for all clinicians working in healthcare in Ireland who are involved in the care of women who are diagnosed with and treated for ectopic pregnancy.

Following a comprehensive literature review a number of evidence-based recommendations for diagnosis and treatment of ectopic pregnancy were agreed upon.

Key Recommendations

Investigation of ectopic pregnancy

1. The National Standards for Bereavement Care following pregnancy loss and perinatal death provide a framework for the provision of bereavement care following ectopic pregnancy.
2. Women should be offered bereavement support at diagnosis and should be offered follow-up bereavement care after ectopic pregnancy.
3. Women should be given written information at the time of diagnosis of an ectopic pregnancy regarding their diagnosis and management. They should be counselled regarding signs of clinical deterioration when they should present for review and given information about emergency contacts.
4. A urinary beta-human chorionic gonadotrophin (β-hCG) test should be performed in all women of reproductive age presenting to a maternity or adult general hospital/unit with abdominal pain, vaginal bleeding, gastrointestinal symptoms, dizziness, or collapse.
5. A thorough gynaecological, obstetric, medical, and surgical history should be taken to assess for risk factors for ectopic pregnancy in women who present with the above symptoms; however, half of women with an ectopic pregnancy will have no known risk factors.
6. A physical examination, including measurement of vital signs, should be performed to assess haemodynamic stability in women presenting with the above symptoms.
7. There should be prompt escalation of care if there are any red flag symptoms on triage assessment or abnormal vital signs in the presence of a positive urinary HCG. This should include referral to an Obstetrics/Gynaecology doctor, IV access and use of an assessment room.

Diagnosis of ectopic pregnancy

8. Transvaginal ultrasound (TVUS) is the first line imaging modality for diagnosing an ectopic pregnancy.
9. An ultrasound scan should only be performed by a suitably qualified member of staff.
10. A TVUS by an experienced sonographer is the gold standard for determining the location of a pregnancy.
11. An adnexal mass moving separate to the ovary (and/or with a gestational sac containing a fetal pole or yolk sac) with an empty uterus is highly suggestive of a tubal ectopic pregnancy.
12. A serum β-hCG should be performed at diagnosis of a tubal ectopic pregnancy to guide management options.
13. If pregnancy location cannot be determined on a TVUS, serial serum β-hCG measurements should be used in conjunction with a woman's history and symptoms to guide management.
14. Serum β-hCG cut offs used to guide management decisions can be assay dependent – hospitals/units should discuss this with the relevant laboratory to determine if there is a positive or negative bias in their β-hCG assay.

Tubal Ectopic Pregnancy Management

15. All hospitals/units should have a local policy on PUL investigation and management, and this should include whether progesterone levels are included in management algorithms.
16. In PUL management, a senior clinician should be consulted after/at the third serum β-hCG test and should be involved in ongoing decision-making.
17. Expectant management should be reserved for haemodynamically stable women with β-hCG levels below 1500 U/L which are falling, with no pain, a tubal/adnexal mass <3cm on TVUS and a willingness to complete follow up.
18. Medical management is appropriate in women with serum β-hCG <5000 U/L, no contraindications to methotrexate, no evidence of fetal cardiac activity and no significant pain or hemoperitoneum.
19. Medical management is most successful in women with a serum β-hCG of 3,000 U/L and less.
20. All hospitals/units need to have local protocols for assessment, monitoring, and follow-up of women who choose expectant or medical management for ectopic pregnancy.
21. Surgical management is appropriate when there is evidence of rupture, significant pain, β-hCG levels >5000 U/L, fetal cardiac activity, an adnexal mass >3cm on TVUS, where the ectopic pregnancy is not suitable for medical management or where there has been unsuccessful medical management, and in some scenarios of preference or where the woman is not available for follow up.

Interstitial Ectopic Pregnancy

22. TVUS is the first line imaging modality for diagnosing an interstitial ectopic pregnancy.
23. A serum β-hCG should be performed at diagnosis of an interstitial ectopic pregnancy to guide management.
24. The optimal method of treatment for interstitial ectopic pregnancy has not been determined and needs further research. Cases should be managed on an individual patient basis and a Consultant Obstetrician/ Gynaecologist should be involved in decision making and management.
25. Expectant management of interstitial ectopic pregnancy should be used with caution due to the high mortality associated with rupture of an interstitial ectopic pregnancy but can be considered when β-hCG levels are falling and the pregnancy is non-viable.
26. Intramuscular or local methotrexate treatment may be considered in asymptomatic women who fit the criteria for medical management, with follow up serum β-hCG levels.
27. Surgical management may be considered for interstitial ectopic pregnancy and is required when there is evidence of rupture, with follow up β-hCG levels.

Cervical Ectopic Pregnancy

28. A cervical ectopic pregnancy is diagnosed using TVUS; the absence of a sliding sign, a gestational sac below the level of the internal os and blood flow on Doppler all raise suspicion for a cervical ectopic pregnancy.
29. A cervical ectopic pregnancy can be managed medically with methotrexate, surgically or with uterine artery embolisation; a Consultant Obstetrician/Gynaecologist should be involved in decision making and management.

Caesarean Scar Pregnancy

30. High resolution TVUS is the primary imaging modality for diagnosis of a caesarean scar ectopic pregnancy.
31. Caesarean scar pregnancy should be discussed within a multidisciplinary team to determine the best management option. Women should be informed of risk: benefits of treatment options to make an informed decision.
32. A woman who declines treatment for a caesarean scar pregnancy should be counselled regarding associated morbidity and the pregnancy managed as per the 'Diagnosis and Management of Placenta Accreta Spectrum' National Clinical Guideline 2023.

Ovarian Ectopic Pregnancy

33. An ovarian ectopic pregnancy is diagnosed on TVUS as a mass on the ovary with a negative sliding sign and separate to a corpus luteum.
34. Surgical management is the treatment of choice for an ovarian ectopic pregnancy.
35. A Consultant Obstetrician/Gynaecologist should be involved in decision making and management of ovarian ectopic pregnancy.

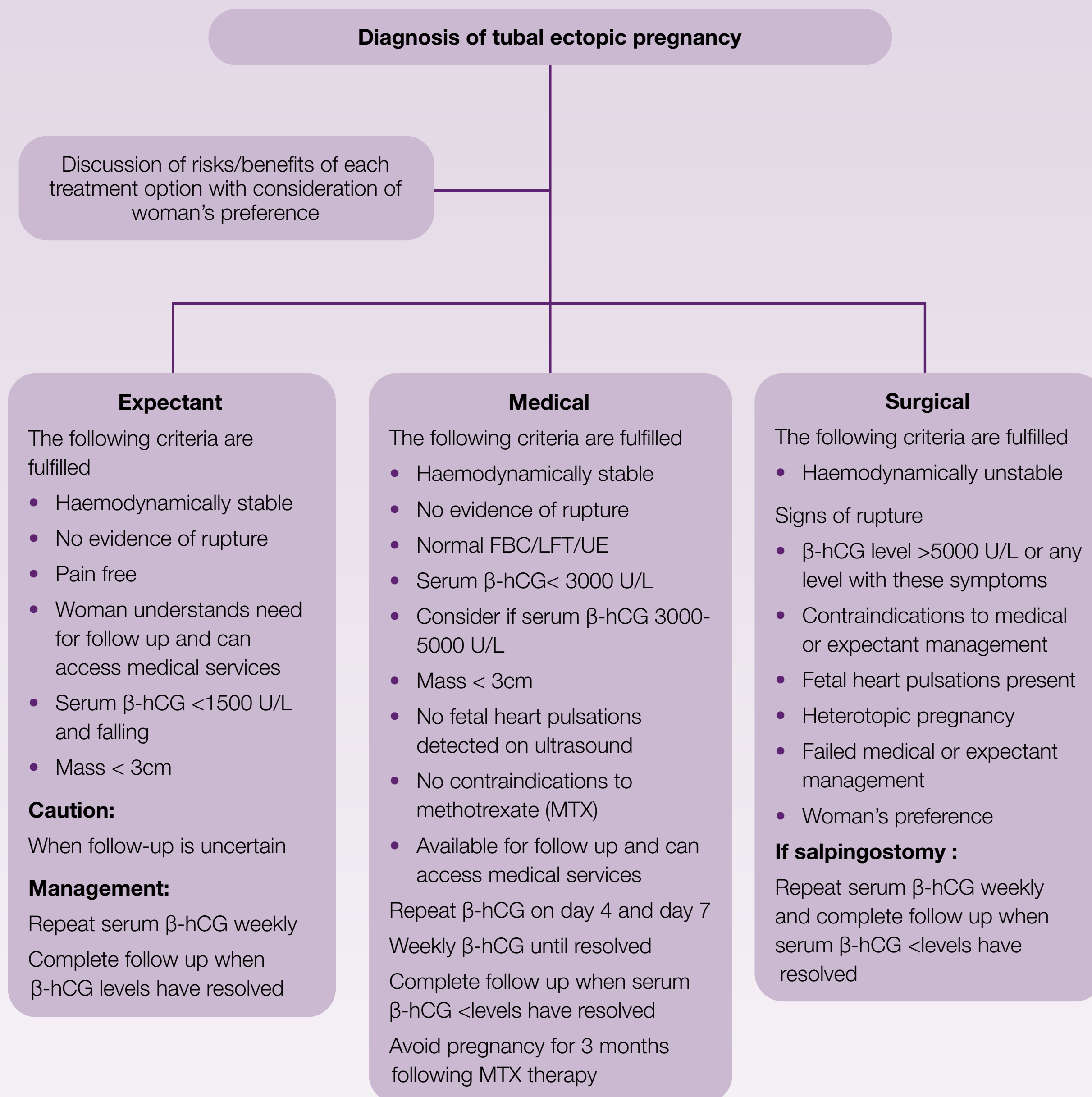
Rudimentary Horn Ectopic Pregnancy

36. Ultrasound criteria can be used to diagnose a rudimentary horn ectopic pregnancy; visualisation of a single interstitial portion of fallopian tube in the main unicornuate uterine body, gestational sac/products of conception mobile and separate from the unicornuate cavity and completely surrounded by myometrium, and a vascular pedicle adjoining the gestational sac to the unicornuate uterus.
37. Treatment for a rudimentary horn ectopic pregnancy is excision of the rudimentary horn via laparoscopy or laparotomy.

Follow Up Care

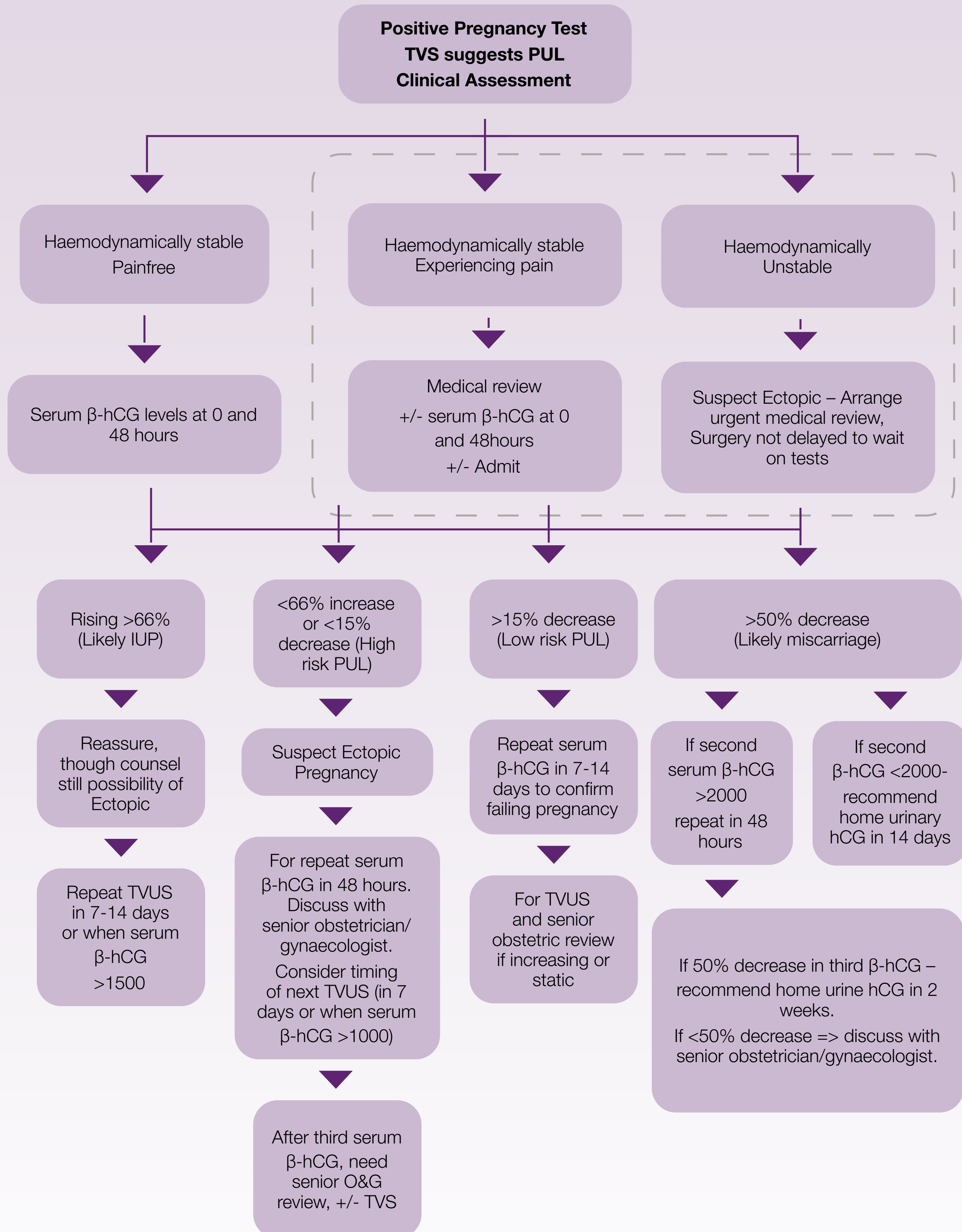
38. All non-sensitised women who are RhD negative should receive Anti-D immunoglobulin if having surgical management for any type of ectopic pregnancy.
39. Women should be given a follow up hospital appointment 6-9 weeks following surgical treatment for any ectopic pregnancy and future pregnancy implications discussed.
40. Routine follow up for all women with ectopic pregnancy should be considered regardless of the mode of treatment, to ensure clinical resolution in expectant/medical management, to facilitate a clinical discussion as well as advise on future pregnancy planning.
41. General Practitioners should be informed of a woman's treatment for an ectopic pregnancy and of implications for future pregnancy.
42. An early pregnancy ultrasound scan at 6 weeks' gestation should be performed in any subsequent pregnancy due to the increased risk of ectopic pregnancy recurrence.

Management of tubal ectopic pregnancy

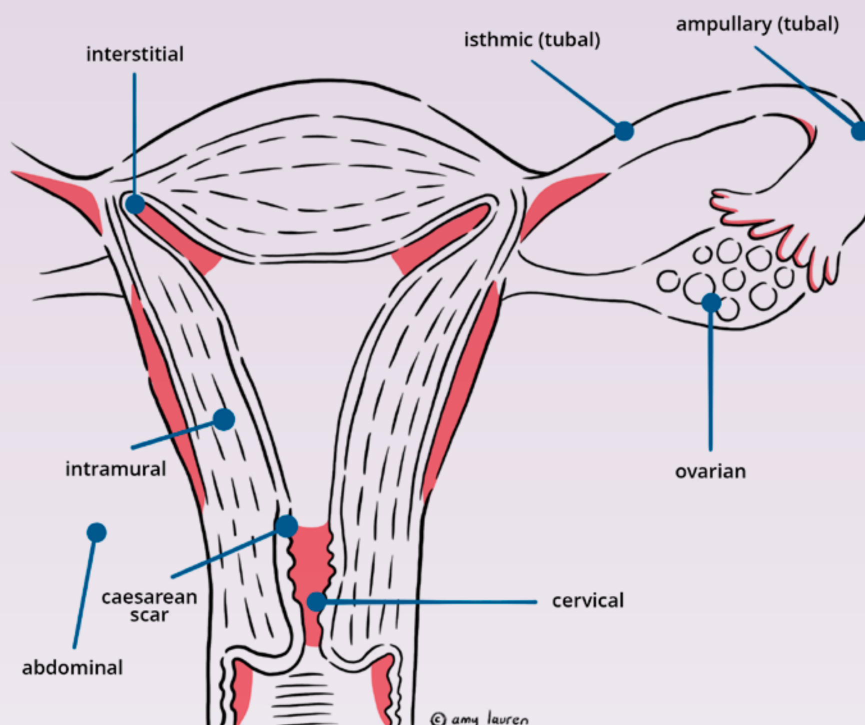


Adapted from: Queensland Clinical Guideline. Early pregnancy loss. Flowchart: F22.29-3-V6-R27
http://www.health.qld.gov.au/qcg

Management of pregnancy of unknown location



Ectopic pregnancy locations



Auditable standards

Audit using the key recommendations as indicators should be undertaken to identify where improvements are required and to enable changes as necessary, and to provide evidence of quality improvement initiatives.

Auditable standards for this Guideline include:

1. Proportion of women provided with written information and emergency contact information when diagnosed with an ectopic pregnancy.
2. Proportion of women diagnosed with an ectopic pregnancy on the initial ultrasound scan.
3. Proportion of women offered all available management options for ectopic pregnancy.
4. Proportion of PULs subsequently diagnosed as ectopic pregnancies.
5. Proportion of caesarean scar pregnancies who are discussed within a multidisciplinary team.
6. Success, repeat dosing and complications associated with the use of methotrexate in tubal ectopic pregnancy.
7. Number of women with an ectopic pregnancy who receive an incorrect diagnosis of intrauterine pregnancy or miscarriage.
8. Number of women with ectopic pregnancy undergoing investigation and treatment who subsequently present with a ruptured ectopic pregnancy.
9. Complications of surgery for ectopic pregnancy.

Recommended reading:

1. HSE Nomenclature for Clinical Audit https://www.hse.ie/eng/about/who/nqpsd/ncca/nomenclature-aglossary-of-terms-for-clinical-audit.pdf
2. HSE National Framework for developing Policies, Procedures, Protocols and Guidelines at https://www.hse.ie/eng/about/who/qid/use-of-improvement-methods/nationalframeworkdevelopingpolicies/
3. Pregnancy EwgoE, Kirk E, Ankum P, Jakab A, Le Clef N, Ludwin A, *et al.* Terminology for describing normally sited and ectopic pregnancies on ultrasound: ESHRE recommendations for good practice. Hum Reprod Open. 2020;2020(4):hoaa055. DOI: 10.1093/hropen/hoaa055
4. Bobdiwala S, Saso S, Verbakel JY, Al-Memar M, Van Calster B, Timmerman D, *et al.* Diagnostic protocols for the management of pregnancy of unknown location: a systematic review and meta-analysis. BJOG. 2019;126(2):190-8. DOI: 10.1111/1471-0528.15442
5. Webster K, Eadon H, Fishburn S, Kumar G, Guideline C. Ectopic pregnancy and miscarriage: diagnosis and initial management: summary of updated NICE guidance. BMJ. 2019;367:l6283. DOI: 10.1136/bmj.l6283
6. Spillane N, Meaney S, K OD. Irish women's experience of Ectopic pregnancy. Sex Reprod Healthc. 2018;16:154-9. DOI: 10.1016/j.srhc.2018.04.002
7. Timor-Tritsch I, Buca D, Di Mascio D, Cali G, D'Amico A, Monteagudo A, *et al.*
8. Outcome of cesarean scar pregnancy according to gestational age at diagnosis: A systematic review and meta-analysis. Eur J Obstet Gynecol Reprod Biol. 2021;258:53-9. DOI: 10.1016/j.ejogrb.2020.11.036
9. Mullany K, Minneci M, Monjazeb R, O CC. Overview of ectopic pregnancy diagnosis, management, and innovation. Womens Health (Lond). 2023;19:17455057231160349 DOI: 10.1177/17455057231160349

Authors

Fee N, Begley B, McArdle A, Milne S, Freyne A, Armstrong F. National Clinical Practice Guideline: The Diagnosis and Management of Ectopic Pregnancy. National Women and Infants Health Programme and The Institute of Obstetricians and Gynaecologists. May 2024

https://www.hse.ie/eng/about/who/acute-hospitals-division/woman-infants/clinical-guidelines/

https://www.rcpi.ie/faculties/obstetricians-and-gynaecologists/national-clinical-guidelines-in-obstetrics-and-gynaecology/