# The diagnosis and management of ectopic pregnancy & pregnancy of unknown location

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## Abbreviations

- **CSEP:** Cesarean section ectopic pregnancy
- **EP:** Ectopic pregnancy
- **GDG:** Guidelines Development Group
- **GPS:** Good Practice Statement.
- **GRADE:** Grading of Recommendations Assessment, Development and Evaluation
- **MTX:** Methotrexate
- **PUL:** Pregnancy of unknown location

## Glossary

- **Abdominal pregnancy:** Implantation in one of the abdominal structures outside the genital tract
- **Cervical pregnancy:** Implantation in the cervical cavity.
- **Cornual pregnancy:** Implantation in the uterine cornu. It is considered tube uterine pregnancy
- **Ectopic pregnancy:** Implantation of blastocyst outside the normal uterine cavity. It may be intrauterine like pregnancy in rudimentary horn, pregnancy in Cesarean scar, and cervical pregnancy; or extrauterine like tubal pregnancy, ovarian pregnancy and abdominal pregnancy.
- **Heterotopic pregnancy:** combined normal intrauterine and ectopic pregnancy
- **Interstitial pregnancy:** Implantation in the interstitial tubal part. The interstitial tubal part is the part of the Fallopian tube passing through the uterine wall
- **Ovarian pregnancy:** Implantation into the ovarian tissue
- **Pregnancy in rudimentary horn:** Implantation inside the cavity of a communicating rudimentary uterine horn

- **Pregnancy of unknown location:** It is a pregnancy state documented by positive pregnancy test but the exact location is not determined. It is a transient state in the diagnostic process, that may be due to viable or nonviable intrauterine pregnancy, or ectopic pregnancy.
- **Tubal pregnancy:** Implantation inside the tubal wall

## Executive Summary

This guideline offers evidence-based recommendations on the management of ectopic pregnancy and pregnancy of unknown location. The recommendations are intended to provide healthcare professionals with practical guidance on appropriate and timely diagnosis and choosing the best evidence-based treatment modality of ectopic pregnancy resulting in improving health outcomes for people with this potentially fatal condition.

### List of Recommendations

| Recommendation | Strength |
|---|---|
| **Counselling and documentation** | |
| Women should be given 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 | Strong |
| **Diagnosis of tubal ectopic pregnancy** | |
| 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 | Strong |
| 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 | Strong |
| A physical examination, including measurement of vital signs, should be performed to assess haemodynamic stability in women presenting with the above symptoms | Strong |
| 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 | Strong |
| All the above women are recommended to undergo ultrasound scanning | GPS |
| Consider a transabdominal ultrasound scan for women with an enlarged uterus or other pelvic pathology, such as fibroids or an ovarian cyst | Conditional |
| Offer women who attend an early pregnancy a transvaginal ultrasound scan to identify the location of the pregnancy and whether there is a fetal pole and heartbeat. If a transvaginal ultrasound scan is unavailable or unacceptable to the woman, offer a transabdominal ultrasound scan and explain the limitations of this method of scanning | Strong |
| When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating there is a tubal ectopic pregnancy: An adnexal mass, moving separate to the ovary, comprising a gestational sac containing a yolk sac and/or fetal pole (with or without fetal heartbeat) | GPS |

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| When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating a high probability of a tubal ectopic pregnancy: An adnexal mass, moving separately to the ovary, with an empty gestational sac ("tubal ring" or "bagel sign") or a complex, inhomogeneous adnexal mass, moving separate to the ovary. If these features are present, take into account other intrauterine and adnexal features on the scan, the woman's clinical presentation, and serum HCG levels before making a diagnosis | GPS |
| When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating a possible ectopic pregnancy: An empty uterus or collection of fluid within the uterine cavity (pseudo-sac). If these features are present, take into account other intrauterine and adnexal features on the scan, the woman's clinical presentation, and serum HCG levels before making a diagnosis | GPS |
| When carrying out a transabdominal or transvaginal ultrasound scan in early pregnancy, look for a moderate to large amount of free fluid in the peritoneal cavity or pouch of Douglas, which might represent hemoperitoneum. If this is present, take into account other intrauterine and adnexal features of the scan, the woman's clinical presentation, and HCG levels before making a diagnosis | GPS |
| When carrying out a transabdominal or transvaginal ultrasound scan during early pregnancy, scan the uterus and adnexa to see if there is a heterotopic pregnancy | GPS |
| All ultrasound scans should be performed or directly supervised and reviewed by appropriately qualified healthcare professionals with training in, and experience of, diagnosing ectopic pregnancies | GPS |
| Be aware that women with a pregnancy of unknown location could have an ectopic pregnancy until the location is determined | Conditional |
| Do not use serum HCG measurements to determine the location of the pregnancy | Strong |
| In a woman with a pregnancy of unknown location, place more importance on clinical symptoms than on serum HCG results, and review the woman's condition if any of her symptoms change, regardless of previous results and assessments | Strong |
| Use serum HCG measurements only for assessing trophoblastic proliferation to help to determine subsequent management | Strong |
| Take 2 serum HCG measurements as near as possible to 48 hours apart (but no earlier) to determine subsequent management of a pregnancy of unknown location. Take further measurements only after review by a senior healthcare professional | Strong |
| Regardless of serum HCG levels, women with a pregnancy of unknown location should be counseled about what to do if they experience any new or worsening symptoms, including details about how to access emergency care 24 hours a day. Advise women to return if there are new symptoms or if existing symptoms worsen | Strong |
| For a woman with an increase in serum HCG levels greater than 63% after 48 hours:<br>– Inform her that she is likely to have a developing intrauterine pregnancy (although the possibility of an ectopic pregnancy cannot be excluded).<br>– Offer her a transvaginal ultrasound scan to determine the location of the pregnancy between 7 and 14 days later. Consider an earlier scan for women with a serum HCG level greater than or equal to 1,500 IU/liter. | Strong |

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| – If a viable intrauterine pregnancy is confirmed, offer her routine antenatal care.<br>– If a viable intrauterine pregnancy is not confirmed, refer her for immediate clinical review by a senior gynaecologist | |
| For a woman with a decrease in serum HCG levels greater than 50% after 48 hours: inform her that the pregnancy is unlikely to continue but that this is not confirmed and provide her with information about where she can access support and counselling services. Ask her to take a urine pregnancy test 14 days after the second serum HCG test, and explain that:<br>– if the test is negative, no further action is necessary.<br>– if the test is positive, she should return to the early pregnancy assessment service for clinical review within 24 hours | Strong |
| For a woman with a decrease in serum HCG levels less than 50%, or an increase less than 63%, refer her for clinical review in the early pregnancy assessment service within 24 hours | Strong |
| For women with a pregnancy of unknown location, when using serial serum HCG measurements, do not use serum progesterone measurements as an adjunct to diagnose either viable intrauterine pregnancy or ectopic pregnancy. | Strong |
| **Diagnosis of Pregnancy of unknown location** | |
| Pregnancy of unknown location is a transient state in the diagnostic process, leading to a final diagnosis of viable or nonviable intrauterine pregnancy, ectopic pregnancy, or persistent pregnancy of unknown location | Strong |
| We recommend the use of risk models (e.g., the M6 model) to stratify pregnancy of unknown location as either high or low risk for ectopic pregnancy to guide treatment decisions | Strong |
| 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 | Strong |
| **Diagnosis of interstitial/cornual pregnancy** | |
| **Interstitial:** Many are diagnosed at first trimester scanning by the presence of an eccentric gestational sac. A thin surrounding myometrial layer helps to distinguish this from an angular intrauterine pregnancy. A further sonographic sign is the presence of an echogenic line running from the endometrial cavity to the gestational sac | GPS |
| **Cornual:** Presentation may be delayed and is usually with abdominal pain. About 50% present after rupture and morbidity is high. The sensitivity of ultrasound diagnosis is low. The appearance is of a gestation sac separate from an empty unicornuate uterus which is identified by the single interstitial tube. The sac is mobile and surrounded by a thick myometrial layer. A vascular pedicle may be seen joining the gestational sac and the lateral aspect of the empty unicornuate uterus. | GPS |
| **Diagnosis of Cervical pregnancy** | |
| Implantation is within the cervical canal. Common predisposing factors are curettage, caesarean section or cervical surgical procedures. Usually, the first complaint is of painless vaginal bleeding and speculum examination may reveal an open external cervical os with a fleshy mass protruding | Conditional |
| Ultrasound shows a gestation sac distal to a closed internal cervical os. Doppler demonstration of surrounding vasculature helps distinguish a cervical pregnancy from a displaced intrauterine pregnancy. In addition, gentle pressure with the transvaginal probe | GPS |

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| may elicit the “sliding sign” whereby a miscarrying sac is seen to slide within the cervical canal unlike the cervical pregnancy which is fixed | |
| **Diagnosis of ovarian pregnancy** | |
| Apart from the few cases with a clear-cut yolk sac or fetal pole visible in the ovary, ultrasound diagnosis is difficult. The ring surrounding an EP usually shows greater echogenicity than the surrounding ovarian tissue unlike the ring of a corpus luteum cyst which is less echogenic. If laparoscopy for suspected EP reveals that the tubes are normal a close inspection of the ovaries should be performed. Typically, an ovarian EP has the appearance of a cystic haemorrhagic mass | GPS |
| **Diagnosis of abdominal pregnancy** | |
| Diagnosis is difficult and is usually made intraoperatively | GPS |
| **Diagnosis of CS scar pregnancy** | |
| Ultrasound imaging is the primary imaging modality for CSEP diagnosis, although a correct and timely determination can be difficult. The initial finding of a low, anteriorly located gestational sac should raise concern for a possible CSEP and warrants further investigation | Strong |
| Transvaginal ultrasound imaging is the optimal modality for the evaluation of suspected CSEP because it provides the highest image resolution. Grayscale combined with color Doppler ultrasound imaging is recommended for CSEP diagnosis | Strong |
| US criteria to diagnose CSEP: (1) an empty uterine cavity and endocervix; (2) placenta, gestational sac, or both embedded in the hysterotomy scar; (3) a triangular (at 8 weeks of gestation) or rounded or oval (at >8 weeks of gestation) gestational sac that fills the scar “niche” (the shallow area representing a healed hysterotomy site); (4) a thin (< 3 mm) or absent myometrial layer between the gestational sac and bladder; (5) a prominent or rich vascular pattern at or in the area of a cesarean scar; and (6) an embryonic or fetal pole, yolk sac, or both, with or without fetal cardiac activity. All of these criteria may not be observed especially with very early diagnosis and before fetal cardiac activity, the patient should have confirmation of pregnancy (for example, a positive pregnancy test result). Bulging or ballooning of the lower uterine segment in the midline sagittal transabdominal view has also been considered to be supportive of CSEP diagnosis | Strong |
| In cases in which ultrasound imaging is inconclusive, MRI could be considered as an adjunct study. Given the risks associated with delayed diagnosis | Conditional |
| Hysteroscopy and laparoscopy can be used to confirm a diagnosis at the time of planned operative intervention. With laparoscopic examination, CSEP has been described as an ecchymotic bulge with a “salmon-red” appearance beneath the bladder at the level of the previous cesarean scar with an otherwise normal-appearing uterus | Conditional |
| **Expectant management of tubal ectopic pregnancy** | |
| Offer expectant management as an option to women who:<br>– Are clinically stable and pain-free and<br>– Have a tubal ectopic pregnancy measuring <35 mm with no visible heartbeat on transvaginal ultrasound scan and<br>– Have serum hCG levels of ≤1000 IU/L and<br>– Are able to return for follow-up | Strong |
| For women with a tubal ectopic pregnancy being managed expectantly, repeat hCG levels on days 2, 4, and 7 after the original test, and:<br>– If hCG levels drop by ≥15% from the previous value on days 2, 4, and 7, then repeat weekly until a negative result (<20 IU/L) is obtained | Strong |

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| – If hCG levels do not fall by 15%, stay the same, or rise from the previous value, review the woman's clinical condition and seek senior advice to help decide further management | |
| Advise women that, based on limited evidence, there seems to be no difference following expectant or medical management in:<br>– The rate of ectopic pregnancies ending naturally<br>– The risk of tubal rupture<br>– The need for additional treatment, but that they might need to be admitted urgently if their condition deteriorates<br>– Health status, depression or anxiety scores. Advise women that the time taken for ectopic pregnancies to resolve and future fertility outcomes are likely to be the same with either expectant or medical management | Strong |
| **Methotrexate treatment for tubal ectopic pregnancy** | |
| Offer systemic methotrexate to women who have no significant pain and have an unruptured tubal ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat and have a serum hCG level less than 1,500 IU/litre and do not have an intrauterine pregnancy (as confirmed on an ultrasound scan) and are able to return for follow-up | Strong |
| Methotrexate should only be offered on a first visit when there is a definitive diagnosis of an ectopic pregnancy, and a viable intrauterine pregnancy has been excluded. Offer surgery where treatment with methotrexate is not acceptable to the woman. For women with ectopic pregnancy who have had methotrexate, take 2 serum hCG measurements in the first week (days 4 and 7) after treatment and then 1 serum hCG measurement per week until a negative result is obtained. If hCG levels plateau or rise, reassess the woman's condition for further treatment | Strong |
| Women receiving methotrexate for the management of tubal ectopic pregnancy can be advised that there is no effect on ovarian reserve | GPS |
| It is recommended that women treated with methotrexate wait at least 3 months before trying to conceive again | GPS |
| **Surgical treatment for tubal ectopic pregnancy** | |
| Offer surgery as a first-line treatment to women who are unable to return for follow-up after methotrexate treatment or who have any of the following:<br>– an ectopic pregnancy and significant pain<br>– an ectopic pregnancy with an adnexal mass of 35 mm or larger<br>– an ectopic pregnancy with a fetal heartbeat visible on an ultrasound scan<br>– an ectopic pregnancy and a serum hCG level of 5,000 IU/litre or more | Strong |
| Offer the choice of either methotrexate or surgical management to women with an ectopic pregnancy who have a serum hCG level of at least 1,500 IU/litre and less than 5,000 IU/litre, who are able to return for follow-up and who meet all of the following criteria:<br>– no significant pain<br>– an unruptured ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat<br>– no intrauterine pregnancy (as confirmed on an ultrasound scan). Advise women who choose methotrexate that their chance of needing further intervention is | Strong |

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| increased and they may need to be urgently admitted if their condition deteriorates | |
| **Laparoscopy for tubal ectopic pregnancy** | |
| When surgical treatment is indicated for women with an ectopic pregnancy, it should be performed laparoscopically whenever possible, taking into account the condition of the woman and the complexity of the surgical procedure. | Strong |
| Surgeons providing care to women with ectopic pregnancy should be competent to perform laparoscopic surgery. | Strong |
| Commissioners and managers should ensure that equipment for laparoscopic surgery is available. | Strong |
| **Salpingectomy and salpingotomy** | |
| Offer a salpingectomy to women undergoing surgery for an ectopic pregnancy unless they have other risk factors for infertility | Strong |
| Consider salpingotomy as an alternative to salpingectomy for women with risk factors for infertility such as contralateral tube damage | Conditional |
| Inform women having a salpingotomy that up to 1 in 5 women may need further treatment. This treatment may include methotrexate and/or a salpingectomy.<br>For women who have had a salpingotomy, take 1 serum hCG measurement at 7 days after surgery, then 1 serum hCG measurement per week until a negative result is obtained | Strong |
| Advise women who have had a salpingectomy that they should take a urine pregnancy test after 3 weeks. Advise women to return for further assessment if the test is positive | Strong |
| Management of Cervical ectopic pregnancy<br>Cervical dilation and curettage may provoke bleeding. Infiltration of the cervix with a haemostatic vasoconstricting agent, followed by the placement of cervical sutures to temporarily occlude the descending branches of the uterine arteries followed by suction curettage (without dilation) and post-curettage cervical canal balloon tamponade has proven successful in treating first trimester cervical pregnancies. Another treatment option is uterine artery embolisation which has been used in combination with MTX 1B | Strong |
| **Management of Interstitial and cornual pregnancy** | |
| 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. | GPS |
| 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. | Strong |
| 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. | Strong |
| Surgical management may be considered for interstitial ectopic pregnancy and is required when there is evidence of rupture, with follow up β-hCG levels. | GPS |
| Laparoscopic linear cornuostomy is carried out in a similar manner to salpingostomy for EP including allowing spontaneous closure of the corneal incision. | GPS |
| Cornual resection is another option. Surgical cornual excision is usually preferred either by laparoscopy or open surgery and avoids the risk of recurrence. | GPS |
| Treatment for a rudimentary horn ectopic pregnancy is excision of the rudimentary horn via laparoscopy or laparotomy. | Strong |
| **Management of ovarian pregnancy** | |

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| Optimum management is resection of the ovarian pregnancy with preservation of healthy ovarian tissue. Follow-up hCG monitoring is recommended. MTX is appropriate for persistent trophoblast and has also been used for primary treatment but is limited in this regard due to the need for laparoscopic and histologic confirmation of diagnosis. | GPS |
| **Management of Heterotopic pregnancy** | |
| Clinicians should not offer systemic methotrexate in the presence of a desired intrauterine pregnancy. | Conditional |
| **Management of Cesarean scar pregnancy** | |
| We recommend against expectant management of cesarean scar ectopic pregnancy. | Strong |
| We suggest that operative resection (with transvaginal or laparoscopic approaches when possible) or ultrasound-guided uterine aspiration be considered for the surgical management of cesarean scar ectopic pregnancy and that sharp curettage alone be avoided. | Conditional |
| We suggest intra-gestational methotrexate for the medical treatment of cesarean scar ectopic pregnancy, with or without other treatment modalities. | Conditional |
| We recommend that systemic methotrexate alone not be used to treat cesarean scar ectopic pregnancy. | Strong |
| In patients who choose expectant management and continuation of a cesarean scar ectopic pregnancy, we recommend repeated cesarean delivery between 34 0/7 and 35 6/7 weeks of gestation. | Strong |
| We recommend that patients with a cesarean scar ectopic pregnancy be advised of the risks of another pregnancy and counseled regarding effective contraceptive methods, including long-acting reversible contraception and permanent contraception. | Strong |
| **Management of abdominal ectopic pregnancy** | |
| Clinicians may choose either laparotomy or laparoscopy to excise an abdominal pregnancy | Conditional |
| **Anti-D immunoglobulin prophylaxis** | |
| Offer anti-D immunoglobulin prophylaxis at a dose of 250 IU (50 micrograms) to all rhesus-negative women who have a surgical procedure to manage an ectopic pregnancy or a miscarriage. | Strong |
| Do not offer anti-D immunoglobulin prophylaxis to women who:<br>– receive solely medical management for an ectopic pregnancy.<br>– have a pregnancy of unknown location. | Strong |
| Do not use a Kleihauer test for quantifying feto-maternal haemorrhage. | Strong |
| **Follow up** | |
| 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. | GPS |

## Introduction

An ectopic pregnancy (EP) is any pregnancy implanted outside of the endometrial cavity. Pregnancy of unknown location (PUL) refers to inability to confirm the site of pregnancy despite a positive pregnancy test (1). Tubal pregnancy accounts for the majority of ectopic pregnancies and the incidence have increased with introduction and propagation of in-vitro fertilization (2). Smoking, alcohol consumption, initiation of oral contraceptives prior to the age of 16 years, and tubal ligation are among the famous risk factors of ectopic pregnancy (3). The overall incidence of ectopic pregnancy is about 10/1000 pregnancy. The incidence of ectopic pregnancy in women attending early antenatal clinics reaches 2-3%. Ectopic pregnancy is still an important cause of maternal mortality. It accounts for the majority of first trimester maternal deaths. Fortunately, mortality and long-term morbidity due

to ectopic pregnancy has decreased over recent years, due to improved diagnosis and treatment modalities (4). In Egypt, the prevalence of EP was 0.52%, 0.62%, and 0.72% in 2018, 2019, and 2020, respectively. Risk factors of EP were grand multigravidity (55.2%), history of abortion (43.3%), history of pelvic inflammatory diseases (40%), history of abdominal and pelvic surgery (22.60%), history of infertility (19.1%), history of ART (16.5%), failure of IUCD (13.3%), history of previous EP (9.2%), and history of more than 3 CS deliveries (5.8%) (5).

## Scope and Purpose

The objectives of this guideline are:

- To provide guidance for the proper prevention and management of women with ectopic pregnancy and pregnancy of unknown location
- To optimize outcomes for patients who are at risk of or developed ectopic pregnancy

## Target Audience

This guideline targets; healthcare professionals working as Obstetricians & Gynecologists, nurses, physicians working at emergency units, policy makers, hospital managers, and other stakeholders to apply the best practice and afford the most appropriate tools for women at risk of or having, ectopic pregnancy and pregnancy of unknown location

## Methodology

A comprehensive search for guidelines was done to identify the most relevant ones to consider for adaptation. The inclusion/exclusion criteria that were followed in the search and retrieval of guidelines to be adapted are:

**We select guidelines only if they are:**

- Evidence-based guidelines
- National and/or international guidelines
- Guidelines published from 2016 to 2025
- Peer reviewed publications
- Guidelines written in English language

**We Exclude guidelines that are:**

- Written by a single author not on behalf of an organization as guideline to be valid and comprehensive ideally requires multidisciplinary input.
- Published without references as the panel needs to know whether a thorough literature review was conducted and whether the current evidence was used in the preparation of the recommendations.

**The following characteristics of the retrieved guidelines were summarized in a table:**

- Developing organisation/authors
- Date of publication, posting, and release
- Country/language of publication
- Dates of the search used by the source guideline developers

All retrieved Guidelines were screened and appraised using AGREE II instrument (www.agreetrust.org) by at least three members. The panel decided on a cut-off point or ranked the guidelines (any guideline scoring above 50% on the rigor dimension was retained).

**Guidelines used in the adaptation process:**

1- Ectopic pregnancy and miscarriage: diagnosis and initial management. National Institute for Health and Care Excellence (NICE), Guideline (126), 2023, NICE 2024, UK. (6)
2- The Diagnosis and Management of Ectopic Pregnancy, Institute of Obstetricians and Gynaecologists, Royal College of Physicians of Ireland, and, Directorate of Clinical Strategy and Programmes, Health Service Executive, Guideline No. 33, 2017, Irland. (7)
3- Management of Pregnancy of Unknown Location and Tubal and Nontubal Ectopic Pregnancies, Society of Obstetricians and Gynaecologists of Canada (SOGC), Guideline No. 414, 2021, Canada. (8)
4- Cesarean scar ectopic pregnancy, The American College of Obstetricians and Gynecologists (ACOG) and the Society of Family Planning, Consult Series #63, 2022, USA. (9)
5- Elson CJ, Salim R, Potdar N, Chetty M, Ross JA, Kirk EJ on behalf of the Royal College of Obstetricians and Gynaecologists. Diagnosis and management of ectopic pregnancy. BJOG 2016;.123:e15–e55. (10)
6- 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. (11)

**Evidence assessment**

According to WHO Handbook for Guidelines, we used the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) approach to assess the quality of a body of evidence, develop and report recommendations. GRADE methods are used by WHO because these represent internationally agreed standards for making transparent recommendations. Detailed GRADE information is available on the following sites:

- GRADE working group: http://www.gradeworkingroup.org
- GRADE online training modules: http://cebgrade.mcmaster.ca/
- GRADE profile software: http://ims.cochrane.org/revman/gradepro

**Table 1: Quality and Significance of the four levels of evidence in GRADE:**

| Quality | Definition | Implications |
|---|---|---|
| **High** | The guideline development group is very confident that the true effect lies close to that of the estimate of the effect | Further research is very unlikely to change confidence in the estimate of effect |
| **Moderate** | The guideline development group is moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different | Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate |
| **Low** | Confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the true effect | Further research is very likely to have an important impact on confidence in the estimate of effect and is unlikely to change the estimate |
| **Very low** | The group has very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect | Any estimate of effect is very uncertain |

**Table 2; Factors that determine How to upgrade or downgrade the quality of evidence**

| Downgrade in presence of | Upgrade in presence of |
|---|---|
| **Study limitations**<br>– 1 Serious limitations<br>– 2 Very serious limitations | **Dose-response gradient**<br>+ 1 Evidence of a dose-response gradient |
| **Consistency**<br>– 1 Important inconsistency | **Direction of plausible bias**<br>+ 1 All plausible confounders would have reduced the effect |
| **Directness**<br>– 1 Some uncertainty<br>– 2 Major uncertainty | **Magnitude of the effect**<br>+ 1 Strong, no plausible confounders, consistent and direct evidence<br>+ 2 Very strong, no major threats to validity and direct evidence |
| **Precision**<br>– 1 Imprecise data | |
| **Reporting bias**<br>– 1 High probability of reporting bias | |

### The strength of recommendations

The strength of a recommendation communicates the importance of adherence to the recommendation.

**Strong recommendations:** The GDG found that the desirable effects of adherence to the recommendation outweigh the undesirable effects. This means that in most situations the recommendation can be adopted.

**Conditional recommendations:** This means that the GDG found that there is:

- Greater uncertainty about the strength of evidence, or
- The recommendation may account for a greater variety in patient values and preferences, or
- The resource use makes the intervention suitable for some, but not for other locations.

Conditional recommendations **are still the best available evidence to date and** it can be adopted if it meets the conditions mentioned with it.

**Good Practice Statement**: Statements based on opinion of respected authorities, e.g. the RCOG, ACOG, and the guidelines development group.

## Recommendations

### Counselling and documentation:

- Women should be given 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. Strong recommendation, Low quality evidence (12)

**Diagnosis of tubal ectopic pregnancy:**

- 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. strong recommendation, moderate quality evidence (12)
- 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. Strong recommendation, low quality of evidence (12)
- A physical examination, including measurement of vital signs, should be performed to assess haemodynamic stability in women presenting with the above symptoms. Strong recommendation, low quality of evidence (12)
- 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. Strong recommendation, low quality of evidence (12)
- All women with any red flag symptoms on triage assessment or abnormal vital signs in the presence of a positive urinary HCG) are recommended to undergo ultrasound scanning. GPS (6)
- Consider a transabdominal ultrasound scan for women with an enlarged uterus or other pelvic pathology, such as fibroids or an ovarian cyst. Conditional recommendation, low quality of evidence (6)
- Offer women who attend an early pregnancy a transvaginal ultrasound scan to identify the location of the pregnancy and whether there is a fetal pole and heartbeat. If a transvaginal ultrasound scan is unavailable or unacceptable to the woman, offer a transabdominal ultrasound scan and explain the limitations of this method of scanning. Strong recommendation, moderate quality evidence (6)
- When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating there is a tubal ectopic pregnancy: An adnexal mass, moving separate to the ovary, comprising a gestational sac containing a yolk sac and/or fetal pole (with or without fetal heartbeat). GPS (6)
- When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating a high probability of a tubal ectopic pregnancy: An adnexal mass, moving separately to the ovary, with an empty gestational sac (“tubal ring” or “bagel sign”) or a complex, inhomogeneous adnexal mass, moving separate to the ovary. If these features are present, take into account other intrauterine and adnexal features on the scan, the woman’s clinical presentation, and serum HCG levels before making a diagnosis. GPS (6)
- When carrying out a transvaginal ultrasound scan in early pregnancy, look for these signs indicating a possible ectopic pregnancy: An empty uterus or collection of fluid within the uterine cavity (pseudo-sac). If these features are present, take into account other intrauterine and adnexal features on the scan, the woman’s clinical presentation, and serum HCG levels before making a diagnosis. GPS (6)
- When carrying out a transabdominal or transvaginal ultrasound scan in early pregnancy, look for a moderate to large amount of free fluid in the peritoneal cavity or pouch of Douglas, which might represent hemoperitoneum. If this is present, take into account other intrauterine and adnexal

features of the scan, the woman's clinical presentation, and HCG levels before making a diagnosis. GPS (6)

- When carrying out a transabdominal or transvaginal ultrasound scan during early pregnancy, scan the uterus and adnexa to see if there is a heterotopic pregnancy. GPS (6)
- All ultrasound scans should be performed or directly supervised and reviewed by appropriately qualified healthcare professionals with training in, and experience of, diagnosing ectopic pregnancies. GPS (6)
- Be aware that women with a pregnancy of unknown location could have an ectopic pregnancy until the location is determined. Conditional recommendation, low quality evidence (6)
- Do not use serum HCG measurements to determine the location of the pregnancy. Strong recommendation. moderate quality evidence
- In a woman with a pregnancy of unknown location, place more importance on clinical symptoms than on serum HCG results, and review the woman's condition if any of her symptoms change, regardless of previous results and assessments. Strong recommendation, moderate quality of evidence (6)
- Use serum HCG measurements only for assessing trophoblastic proliferation to help to determine subsequent management. Strong recommendation, moderate quality evidence (6)
- Take 2 serum HCG measurements as near as possible to 48 hours apart (but no earlier) to determine subsequent management of a pregnancy of unknown location. Take further measurements only after review by a senior healthcare professional. Strong recommendation, moderate quality evidence (6)
- Regardless of serum HCG levels, women with a pregnancy of unknown location should be counseled about what to do if they experience any new or worsening symptoms, including details about how to access emergency care 24 hours a day. Advise women to return if there are new symptoms or if existing symptoms worsen. Strong recommendation, moderate quality evidence (6)
- For a woman with an increase in serum HCG levels greater than 63% after 48 hours:
  - Inform her that she is likely to have a developing intrauterine pregnancy (although the possibility of an ectopic pregnancy cannot be excluded).
  - Offer her a transvaginal ultrasound scan to determine the location of the pregnancy between 7 and 14 days later. Consider an earlier scan for women with a serum HCG level greater than or equal to 1,500 IU/liter.
  - If a viable intrauterine pregnancy is confirmed, offer her routine antenatal care.
  - If a viable intrauterine pregnancy is not confirmed, refer her for immediate clinical review by a senior gynaecologist. Strong recommendation, moderate quality evidence (6)
- For a woman with a decrease in serum HCG levels greater than 50% after 48 hours: inform her that the pregnancy is unlikely to continue but that this is not confirmed and provide her with information about where she can access support and counselling services. ask her to take a urine pregnancy test 14 days after the second serum HCG test, and explain that:
  - if the test is negative, no further action is necessary.
  - if the test is positive, she should return to the early pregnancy assessment service for clinical review within 24 hours. Strong recommendation, moderate quality evidence (6)

- For a woman with a decrease in serum HCG levels less than 50%, or an increase less than 63%, refer her for clinical review in the early pregnancy assessment service within 24 hours. Strong recommendation, moderate quality evidence (6)
- For women with a pregnancy of unknown location, when using serial serum HCG measurements, do not use serum progesterone measurements as an adjunct to diagnose either viable intrauterine pregnancy or ectopic pregnancy. Strong recommendation, moderate quality evidence (6)

**Diagnosis of Pregnancy of unknown location**

- Pregnancy of unknown location is a transient state in the diagnostic process, leading to a final diagnosis of viable or nonviable intrauterine pregnancy, ectopic pregnancy, or persistent pregnancy of unknown location. Strong recommendation, high-quality evidence (13)
- We recommend the use of risk models (e.g., the M6 model) to stratify pregnancy of unknown location as either high or low risk for ectopic pregnancy to guide treatment decisions. Strong recommendation, moderate-quality evidence (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. Strong recommendation, low-quality evidence (12)

**Diagnosis of interstitial/cornual pregnancy**

- **Interstitial:** Many are diagnosed at first trimester scanning by the presence of an eccentric gestational sac. A thin surrounding myometrial layer helps to distinguish this from an angular intrauterine pregnancy. A further sonographic sign is the presence of an echogenic line running from the endometrial cavity to the gestational sac. GPS (7)
- **Cornual:** Presentation may be delayed and is usually with abdominal pain. About 50% present after rupture and morbidity is high. The sensitivity of ultrasound diagnosis is low. The appearance is of a gestation sac separate from an empty unicornuate uterus which is identified by the single interstitial tube. The sac is mobile and surrounded by a thick myometrial layer. A vascular pedicle may be seen joining the gestational sac and the lateral aspect of the empty unicornuate uterus. GPS (7)

**Diagnosis of Cervical pregnancy**

- Implantation is within the cervical canal. Common predisposing factors are curettage, caesarean section or cervical surgical procedures. Usually, the first complaint is of painless vaginal bleeding and speculum examination may reveal an open external cervical os with a fleshy mass protruding. Conditional recommendation, low quality evidence (7)
- Ultrasound shows a gestation sac distal to a closed internal cervical os. Doppler demonstration of surrounding vasculature helps distinguish a cervical pregnancy from a displaced intrauterine pregnancy. In addition, gentle pressure with the transvaginal probe may elicit the "sliding sign" whereby a miscarrying sac is seen to slide within the cervical canal unlike the cervical pregnancy which is fixed. GPS (7)

**Diagnosis of ovarian ectopic pregnancy**

- Apart from the few cases with a clear-cut yolk sac or fetal pole visible in the ovary ultrasound diagnosis is difficult. The ring surrounding an EP usually shows greater echogenicity than the surrounding ovarian tissue unlike the ring of a corpus luteum cyst which is less echogenic. If laparoscopy for suspected EP reveals that the tubes are normal a close inspection of the ovaries should be performed. Typically, an ovarian EP has the appearance of a cystic haemorrhagic mass. GPS (7)

**Diagnosis of abdominal pregnancy**

- Diagnosis is difficult and is usually made intraoperatively. GPS (7)

**Diagnosis of CS scar ectopic pregnancy**

- Ultrasound imaging is the primary imaging modality for CSEP diagnosis, although a correct and timely determination can be difficult. The initial finding of a low, anteriorly located gestational sac should raise concern for a possible CSEP and warrants further investigation. Strong recommendation, moderate quality evidence (14)
- Transvaginal ultrasound imaging is the optimal modality for the evaluation of suspected CSEP because it provides the highest image resolution. Grayscale combined with color Doppler ultrasound imaging is recommended for CSEP diagnosis. Strong recommendation, moderate quality evidence (14)
- US criteria to diagnose CSEP: (1) an empty uterine cavity and endocervix; (2) placenta, gestational sac, or both embedded in the hysterotomy scar; (3) a triangular (at 8 weeks of gestation) or rounded or oval (at >8 weeks of gestation) gestational sac that fills the scar “niche” (the shallow area representing a healed hysterotomy site); (4) a thin (< 3 mm) or absent myometrial layer between the gestational sac and bladder; (5) a prominent or rich vascular pattern at or in the area of a cesarean scar; and (6) an embryonic or fetal pole, yolk sac, or both, with or without fetal cardiac activity. All of these criteria may not be observed especially with very early diagnosis and before fetal cardiac activity, the patient should have confirmation of pregnancy (for example, a positive pregnancy test result). Bulging or ballooning of the lower uterine segment in the midline sagittal transabdominal view has also been considered to be supportive of CSEP diagnosis. Strong recommendation, moderate quality evidence (14)
- In cases in which ultrasound imaging is inconclusive, MRI could be considered as an adjunct study. Given the risks associated with delayed diagnosis. Conditional recommendation, moderate quality evidence (14)
- Hysteroscopy and laparoscopy can be used to confirm a diagnosis at the time of planned operative intervention. With laparoscopic examination, CSEP has been described as an ecchymotic bulge with a “salmon-red” appearance beneath the bladder at the level of the previous cesarean scar with an otherwise normal-appearing uterus. Conditional recommendation, moderate quality evidence (14)

**Expectant Management of tubal ectopic pregnancy**

- Offer expectant management as an option to women who:
  - Are clinically stable and pain-free and
  - Have a tubal ectopic pregnancy measuring <35 mm with no visible heartbeat on transvaginal ultrasound scan and
  - Have serum hCG levels of ≤1000 IU/L and
  - Are able to return for follow-up. Strong recommendation, moderate quality evidence (6)
- For women with a tubal ectopic pregnancy being managed expectantly, repeat hCG levels on days 2, 4, and 7 after the original test, and:
  - If hCG levels drop by ≥15% from the previous value on days 2, 4, and 7, then repeat weekly until a negative result (<20 IU/L) is obtained or
  - If hCG levels do not fall by 15%, stay the same, or rise from the previous value, review the woman's clinical condition and seek senior advice to help decide further management. Strong recommendation, moderate quality evidence (6)
- Advise women that, based on limited evidence, there seems to be no difference following expectant or medical management in:
  - The rate of ectopic pregnancies ending naturally
  - The risk of tubal rupture
  - The need for additional treatment, but that they might need to be admitted urgently if their condition deteriorates
  - Health status, depression or anxiety scores. Advise women that the time taken for ectopic pregnancies to resolve and future fertility outcomes are likely to be the same with either expectant or medical management. Strong recommendation, moderate quality evidence (6)

**Methotrexate**

- Offer systemic methotrexate to women who have no significant pain and have an unruptured tubal ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat and have a serum hCG level less than 1,500 IU/litre and do not have an intrauterine pregnancy (as confirmed on an ultrasound scan) and are able to return for follow-up. Strong recommendation, moderate quality evidence (6)
- Methotrexate should only be offered on a first visit when there is a definitive diagnosis of an ectopic pregnancy, and a viable intrauterine pregnancy has been excluded. Offer surgery where treatment with methotrexate is not acceptable to the woman. For women with ectopic pregnancy who have had methotrexate, take 2 serum hCG measurements in the first week (days 4 and 7) after treatment and then 1 serum hCG measurement per week until a negative result is obtained. If hCG levels plateau or rise, reassess the woman's condition for further treatment. Strong recommendation, moderate quality evidence (6)
- Women receiving methotrexate for the management of tubal ectopic pregnancy can be advised that there is no effect on ovarian reserve. Conditional recommendation, very low-quality evidence (15-20)
- It is recommended that women treated with methotrexate wait at least 3 months before trying to conceive again. Conditional recommendation, very low-quality evidence (21)

**Surgical treatment**

- Offer surgery as a first-line treatment to women who are unable to return for follow-up after methotrexate treatment or who have any of the following:
  - an ectopic pregnancy and significant pain
  - an ectopic pregnancy with an adnexal mass of 35 mm or larger
  - an ectopic pregnancy with a fetal heartbeat visible on an ultrasound scan
  - an ectopic pregnancy and a serum hCG level of 5,000 IU/litre or more. Strong recommendation, moderate quality evidence (6)
- Offer the choice of either methotrexate or surgical management to women with an ectopic pregnancy who have a serum hCG level of at least 1,500 IU/litre and less than 5,000 IU/litre, who are able to return for follow-up and who meet all of the following criteria:
  - no significant pain
  - an unruptured ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat
  - no intrauterine pregnancy (as confirmed on an ultrasound scan). Advise women who choose methotrexate that their chance of needing further intervention is increased and they may need to be urgently admitted if their condition deteriorates. Strong recommendation, moderate quality evidence (6)

**Performing laparoscopy**

- When surgical treatment is indicated for women with an ectopic pregnancy, it should be performed laparoscopically whenever possible, taking into account the condition of the woman and the complexity of the surgical procedure. Strong recommendation, moderate quality evidence (6)
- Surgeons providing care to women with ectopic pregnancy should be competent to perform laparoscopic surgery. Strong recommendation, moderate quality evidence (6)
- Commissioners and managers should ensure that equipment for laparoscopic surgery is available. Strong recommendation, moderate quality evidence (6)

**Salpingectomy and salpingotomy**

- Offer a salpingectomy to women undergoing surgery for an ectopic pregnancy unless they have other risk factors for infertility. Strong recommendation, moderate quality evidence (6)
- Consider salpingotomy as an alternative to salpingectomy for women with risk factors for infertility such as contralateral tube damage. Conditional recommendation, low quality evidence
- Inform women having a salpingotomy that up to 1 in 5 women may need further treatment. This treatment may include methotrexate and/or a salpingectomy. Strong recommendation, moderate quality evidence (6)
- For women who have had a salpingotomy, take 1 serum hCG measurement at 7 days after surgery, then 1 serum hCG measurement per week until a negative result is obtained. Strong recommendation, moderate quality evidence (6)
- Advise women who have had a salpingectomy that they should take a urine pregnancy test after 3 weeks. Advise women to return for further assessment if the test is positive. Strong recommendation, moderate quality evidence (6)

**Management of Cervical ectopic pregnancy**

- Cervical dilation and curettage may provoke bleeding. Infiltration of the cervix with a haemostatic vasoconstricting agent, followed by the placement of cervical sutures to temporarily occlude the descending branches of the uterine arteries followed by suction curettage (without dilation) and post-curettage cervical canal balloon tamponade has proven successful in treating first trimester cervical pregnancies. Another treatment option is uterine artery embolisation which has been used in combination with methotrexate. Strong recommendation, moderate quality evidence, (22)

**Management of Interstitial and cornual pregnancy**

- 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. Conditional recommendation, very low-quality evidence (23)
- 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. Strong recommendation, low quality evidence (24, 25)
- 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. Strong recommendation, low quality evidence (25)
- Surgical management may be considered for interstitial ectopic pregnancy and is required when there is evidence of rupture, with follow up β-hCG levels. Conditional recommendation, very low-quality evidence (26-30)
- Laparoscopic linear cornuostomy is carried out in a similar manner to salpingostomy for EP including allowing spontaneous closure of the corneal incision. Conditional recommendation, low quality evidence (25)
- Cornual resection is another option. Surgical cornual excision is usually preferred either by laparoscopy or open surgery and avoids the risk of recurrence. Conditional recommendation, low quality evidence (26)
- Treatment for a rudimentary horn ectopic pregnancy is excision of the rudimentary horn via laparoscopy or laparotomy. Strong recommendation, low quality evidence (31)

**Management of ovarian pregnancy**

- Optimum management is resection of the ovarian pregnancy with preservation of healthy ovarian tissue. Follow-up hCG monitoring is recommended. MTX is appropriate for persistent trophoblast and has also been used for primary treatment but is limited in this regard due to the need for laparoscopic and histologic confirmation of diagnosis. Conditional recommendation, low quality evidence (32)

**Management of Heterotopic pregnancy**

- Clinicians should not offer systemic methotrexate in the presence of a desired intrauterine pregnancy. Conditional recommendation, moderate quality evidence (33, 34)

**Management of Cesarean scar pregnancy**

- We recommend against expectant management of cesarean scar ectopic pregnancy. Strong recommendation, moderate quality evidence (39, 40)
- We suggest that operative resection (with transvaginal or laparoscopic approaches when possible) or ultrasound-guided uterine aspiration be considered for the surgical management of cesarean scar ectopic pregnancy and that sharp curettage alone be avoided. Conditional recommendation, low quality evidence (41-43)
- We suggest intra-gestational methotrexate for the medical treatment of cesarean scar ectopic pregnancy, with or without other treatment modalities. Conditional recommendation, low quality evidence (44-46)
- We recommend that systemic methotrexate alone not be used to treat cesarean scar ectopic pregnancy. Strong recommendation, low quality evidence (43, 47)
- In patients who choose expectant management and continuation of a cesarean scar ectopic pregnancy, we recommend repeated cesarean delivery between 34 0/7 and 35 6/7 weeks of gestation. Strong recommendation, low quality evidence (48)
- We recommend that patients with a cesarean scar ectopic pregnancy be advised of the risks of another pregnancy and counseled regarding effective contraceptive methods, including long-acting reversible contraception and permanent contraception. Strong recommendation, low quality evidence (49, 50)

**Management of abdominal ectopic pregnancy**

- Clinicians may choose either laparotomy or laparoscopy to excise an abdominal pregnancy. Conditional recommendation, low quality evidence (51, 52)

**Anti-D immunoglobulin prophylaxis**

- Offer anti-D immunoglobulin prophylaxis at a dose of 250 IU (50 micrograms) to all rhesus-negative women who have a surgical procedure to manage an ectopic pregnancy or a miscarriage. Strong recommendation, moderate quality evidence (6)
- Do not offer anti-D immunoglobulin prophylaxis to women who:
  - receive solely medical management for an ectopic pregnancy.
  - have a pregnancy of unknown location. Strong recommendation, moderate quality evidence (6)
- Do not use a Kleihauer test for quantifying feto-maternal haemorrhage. Strong recommendation, moderate quality evidence (6)

**Follow up**

- 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. GPS (53, 54)

## Clinical Quality Standards for Monitoring

| ➢ Diagnosis & Early Detection | |
|---|---|
| **QS.1** | 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 |
| **QM.1** | **Numerator:** Number of women who performed β-hCG<br>**Denominator:** all women of reproductive age presenting to a maternity or adult general hospital/unit with abdominal pain, vaginal bleeding, gastrointestinal symptoms, dizziness, or collapse |
| **QS.2** | Offer women who attend an early pregnancy a transvaginal ultrasound scan to identify the location of the pregnancy and whether there is a fetal pole and heartbeat. If a transvaginal ultrasound scan is unavailable or unacceptable to the woman, offer a transabdominal ultrasound scan and explain the limitations of this method of scanning |
| **QM.2** | **Numerator:** number **of** women who performed early pregnancy ultrasound<br>**Denominator:** number **of** women attending antenatal care |

| ➢ Treatment | |
|---|---|
| **QS.1** | Offer expectant management as an option to women who are clinically stable and pain-free and have a tubal ectopic pregnancy measuring <35 mm with no visible heartbeat on transvaginal ultrasound scan and have serum hCG levels of ≤1000 IU/L and are able to return for follow-up |
| **QM.1** | **Numerator:** Number of women who were treated expectantly<br>**Denominator:** all women diagnosed with ectopic pregnancy with indications of expectant management |
| **QS.2** | Offer systemic methotrexate to women who have no significant pain and have an unruptured tubal ectopic pregnancy with an adnexal mass smaller than 35 mm with no visible heartbeat and have a serum hCG level less than 1,500 IU/litre and do not have an intrauterine pregnancy (as confirmed on an ultrasound scan) and are able to return for follow-up |
| **QM.2** | **Numerator:** number **of** women were treated with methotrexate<br>**Denominator:** Total number **of** women with indications of methotrexate treatment |
| **QS.3** | Offer surgery as a first-line treatment to women who are unable to return for follow-up after methotrexate treatment or who have an ectopic pregnancy and significant pain, with an adnexal mass of 35 mm or larger, with a fetal heartbeat visible on an ultrasound scan, with a serum hCG level of 5,000 IU/litre or more |
| **QM.3** | **Numerator:** number **of** women were treated surgically<br>**Denominator:** Total number **of** women with indications of surgical treatment |

## Updating of the guidelines

This guideline will be updated whenever there is new evidence.

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