

Diagnostic Imaging Pathways - Ectopic Pregnancy (Suspected)

Population Covered By The Guidance

This pathway provides guidance on the imaging of female patients presenting with suspected ectopic pregnancy.

Date reviewed: October 2013

Date of next review: 2017/2018

Published: November 2013

Quick User Guide

Move the mouse cursor over the **PINK** text boxes inside the flow chart to bring up a pop up box with salient points.

Clicking on the **PINK** text box will bring up the full text.

The relative radiation level (RRL) of each imaging investigation is displayed in the pop up box.

SYMBOL	RRL	EFFECTIVE DOSE RANGE
	None	0
	Minimal	< 1 millisieverts
	Low	1-5 mSv
	Medium	5-10 mSv
	High	>10 mSv

Pathway Diagram

Adapted from King Edward Memorial Hospital guidelines for the management of ectopic pregnancy

Date reviewed: October 2013
 Please note that this pathway is subject to review and revision

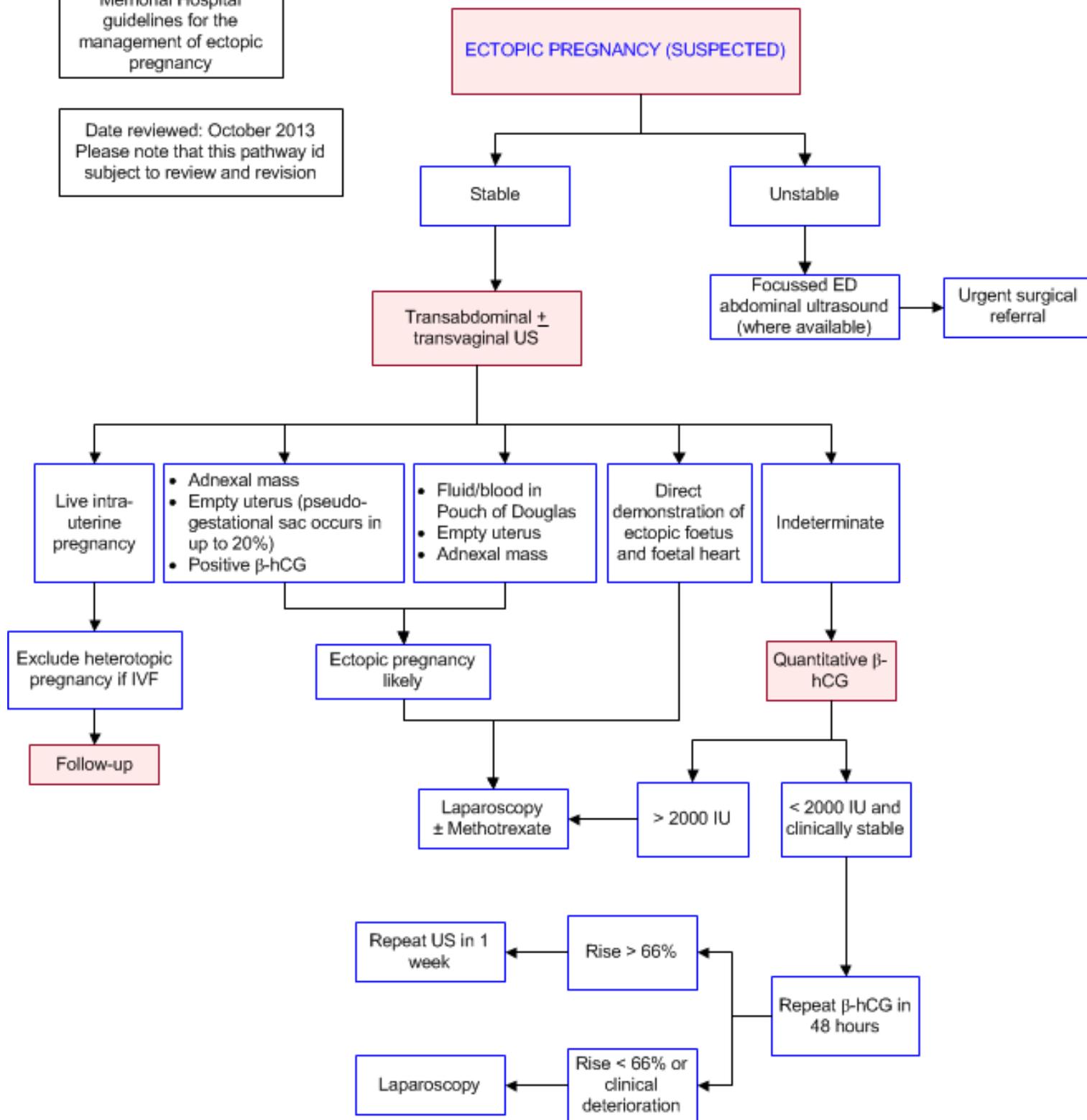


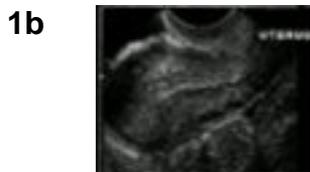
Image Gallery

Note: These images open in a new page



Ectopic Pregnancy

Images 1a and b (Transvaginal Ultrasound): Views demonstrating an adnexal mass containing an embryo (Image 1a) and an empty uterus (Image 1b).



Ectopic Pregnancy

Image 2a and 2b (HE, x20). Resection of fallopian tube with an ectopic tubal pregnancy. The histological section shows ulceration of the tubal epithelium, haemorrhage and chorionic villi (arrows) which confirm the presence of products of conception.



Teaching Points

- Transvaginal and abdominal US combined with the measurement of serum β -hCG are the investigations of choice for suspected ectopic pregnancy
- In a small proportion of cases the TVUS may be non-diagnostic. Follow up of these patients is dependant on the value of the quantitative β -hCG -
 - A β -hCG > 1500 IU should proceed to laparoscopy
 - A β -hCG < 1500 IU should be repeated in 48hrs if the patient is clinically stable, expecting a rise of > 66%
- A normal US does not exclude an ectopic pregnancy

Ectopic Pregnancy (Suspected)

- Clinical diagnosis may be difficult as classical features of pain, vaginal bleeding and an adnexal mass/tenderness may not be reliable [1,2](#)

Serum Human Chorionic Gonadotrophin (β -hCG) Levels

- Levels of 1000-1500iu/l should be associated with the presence of an intrauterine gestation on transvaginal US (6000-6500 iu/l for transabdominal), although in multiple pregnancy this level may be higher [8](#)
- Serum β -hCG levels double approximately every 48 hours in 85% of normal intrauterine pregnancies of between 4 and 6 weeks' gestation [20](#)
- 80% of ectopic pregnancies are associated with a rise in β -hCG of less than 66% [19,20](#)

Transabdominal +/- Transvaginal Ultrasonography

- Pelvic ultrasonography (transabdominal US +/- transvaginal US) combined with measurement of serum β -hCG levels, is an effective screening strategy for diagnosing ectopic pregnancy [3-6](#)
- Allows identification of an intrauterine pregnancy, which is the single most important finding for the exclusion of ectopic gestation as the presence of both intra- and extra-uterine pregnancy, is very rare [1,3-6](#)
- Compared to transabdominal ultrasonography, transvaginal ultrasonography is more sensitive and has a lower discriminatory zone (the range of serum β -hCG concentrations above which gestational sac can be visualised consistently). This allows earlier diagnoses of intrauterine or ectopic pregnancies [7-11](#)
- Sensitivity for transvaginal ultrasonography ranges from 69 to 96% and specificity from 84 to 99% [1,3,9,12](#)
- When used in conjunction with serum β -hCG levels, transvaginal ultrasound has comparable sensitivity and specificity for ectopic pregnancy to laparoscopy [13](#)
- Presence of an adnexal mass and/or free pelvic fluid is strong predictor of an ectopic pregnancy [10,14-17](#)
- Findings suggestive of ectopic pregnancy include [13](#)
 1. Fluid in the pouch of Douglas, an adnexal mass and an empty uterus
 2. An adnexal mass, empty uterus or pseudogestational sac and a positive β -hCG
 3. Direct demonstration of ectopic fetus and fetal heart
- Normal US does not exclude the diagnosis of ectopic pregnancy [3,14,15](#)
- Patients with indeterminate ultrasonography findings require further evaluation with quantitative β -hCG levels +/- follow-up US or laparoscopy as about 15-20% of these patients will have a final diagnosis of ectopic pregnancy [18,19](#)

References

Date of literature search: July 2013

The search methodology is available on request. [Email](#)

References are graded from Level I to V according to the Oxford Centre for Evidence-Based Medicine, Levels of Evidence. [Download the document](#)

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Further Reading

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