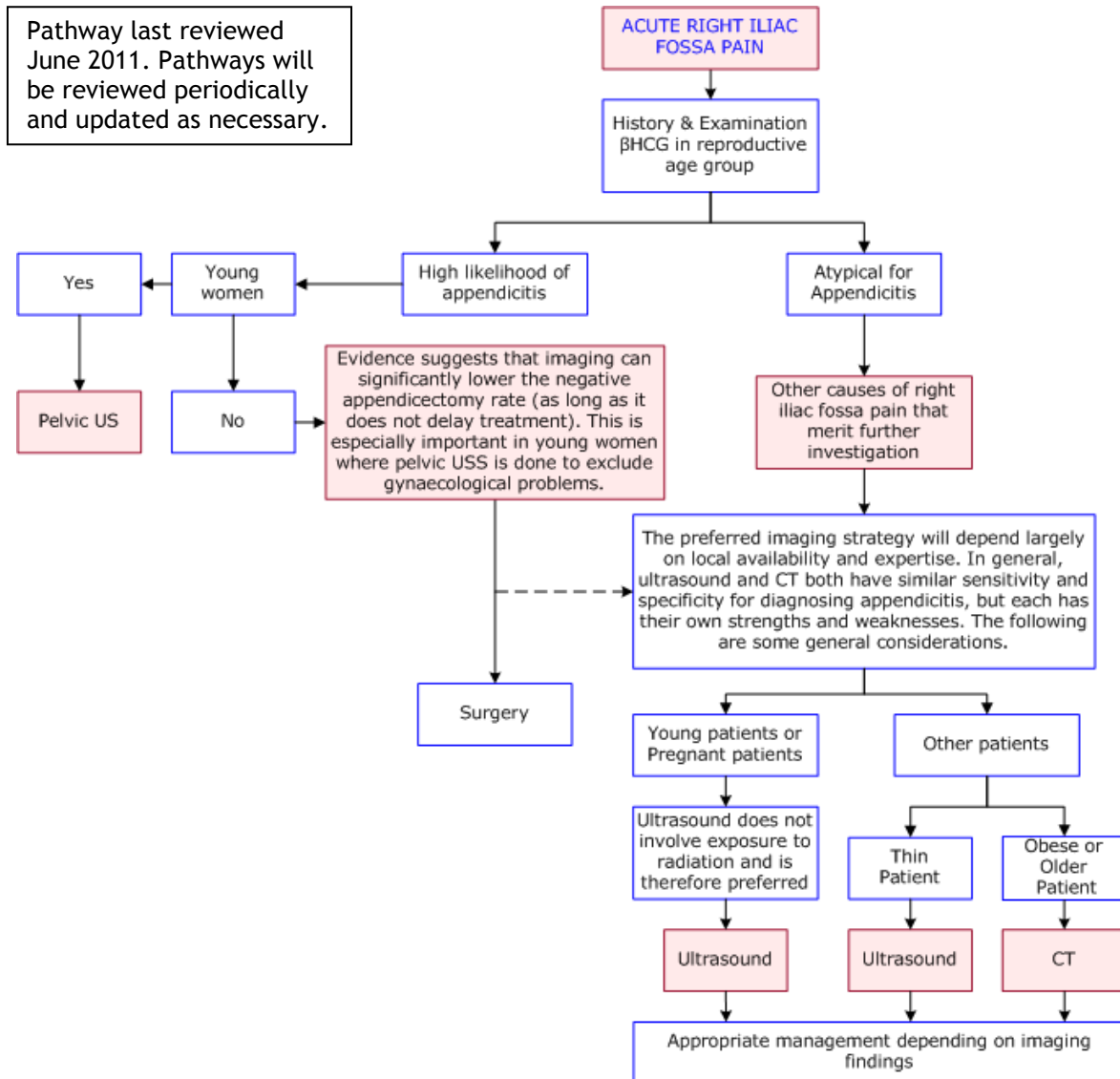




DIAGNOSTIC IMAGING PATHWAYS

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ACUTE RIGHT ILIAC FOSSA PAIN

Common Causes:

- Tubo-ovarian pathology and ectopic pregnancy in females
- Mesenteric adenitis
- Right sided diverticulitis
- Inflammatory bowel disease
- Epiploic appendagitis
- Omental torsion/infarction
- Renal colic

Tubo-ovarian pathology includes:

- Pelvic inflammatory disease (salpingitis, tubo-ovarian abscess)
- Ovarian cyst accident (ruptured ovarian cyst, haemorrhage, ovarian or fallopian tube torsion)
- Endometriosis
- Ectopic pregnancy

ULTRASOUND

- Has a sensitivity and specificity of approximately 75-90% and 78-100% respectively for the diagnosis of acute appendicitis. 1-5
- Performed using the graded compression technique, which involves applying anterior compression to reduce the depth of the abdominal cavity between the appendix and the transducer. 1
- Features of appendicitis on ultrasound include: 6
 - An outer appendix diameter of 6mm or larger.
 - Positive sonographic McBurney sign.
 - Non compressibility of the appendix.
 - Echogenic periappendiceal inflammatory fat change.
- Advantages:
 - Non-invasive and involves no exposure to ionising radiation.
 - Rapid and inexpensive.
 - Can diagnosis an alternate cause for abdominal pain.
 - If necessary can be used with transvaginal ultrasound to provide information regarding the uterus, adnexa and ovaries in young women with right lower quadrant/pelvic pain. 16
- Disadvantages:
 - Lower sensitivity and specificity for perforated appendicitis. 7
 - Less accurate with obese patients and those with a retrocaecal appendix. 8
 - Operator dependent

COMPUTED TOMOGRAPHY

- Has a sensitivity and specificity of approximately 76-100% and 83-97% respectively for the diagnosis of acute appendicitis. 5,9-12
- The scanning technique has varied between studies with some using no contrast agents and others using one or more of oral, intravenous and rectal contrast. The optimum technique is uncertain. 13-14
- Advantages:
 - Generally considered to be more accurate than ultrasound in obese patients.
 - Can diagnose an alternate cause for abdominal pain.
- Disadvantages:
 - Can be difficult to identify the appendix. 15
 - Can be more difficult to diagnose a perforated appendix.

- Exposure to ionising radiation.
- Risk of contrast reaction if used.

IMAGING IN PATIENTS WITH HIGH LIKELIHOOD OF APPENDICITIS

- The clinical diagnosis of appendicitis is unreliable, and atypical presentations are frequent. Delayed diagnosis is associated with an increased rate of perforations and post-operative complications. This must be balanced against the negative appendicectomy rate, which is higher in pre-menopausal females compared to males due to acute gynaecological conditions. [17,18](#)
- Evidence suggests that preoperative imaging of suspected appendicitis is associated with a significantly lower rate of negative appendicectomies, without delaying the time-to-surgery, or the perioperative complication rate. [17,18](#)

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