

Diagnostic Imaging Pathways - Bleeding (Abnormal Pre-Menopausal)

Population Covered By The Guidance

This pathway provides guidance on the imaging of adult female patients with unexplained premenopausal bleeding.

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

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

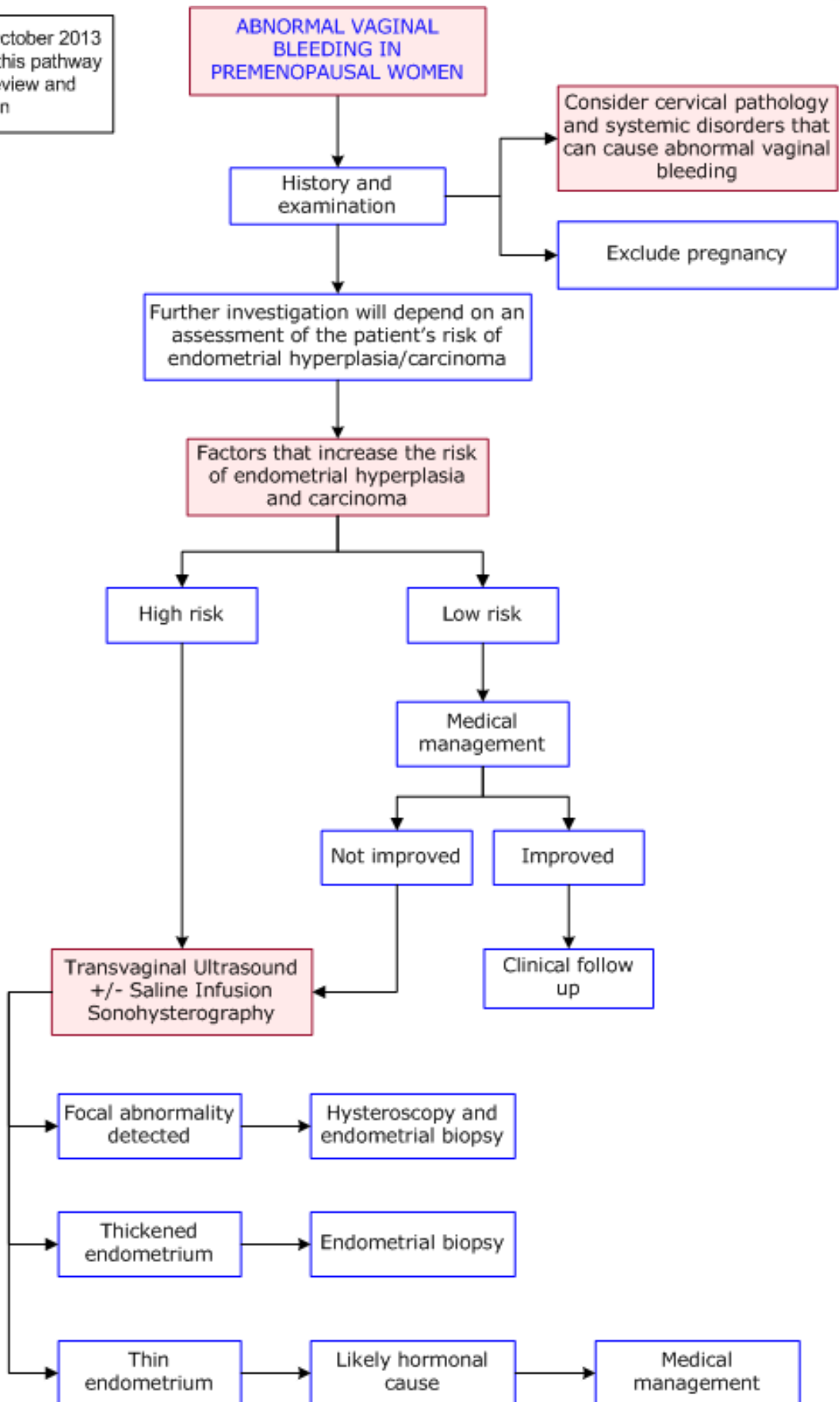


Image Gallery

Note: These images open in a new page



Uterine Fibroid

Image 1a (Transvaginal Ultrasound): Image demonstrating a thickened hyperechoic endometrium.



Image 1b (Saline Infusion Sonography): Image confirming that the endometrial thickening is due to a submucosal fibroid.



Uterine Fibroid

Image 2a: Hysterectomy showing expansion of the myometrium by a single intramural fibroid (leiomyoma) demonstrating the typical well circumscribed appearance with a white whorled cut surface.



Image 2b (H&E, x2.5) and 2c (H&E, x10): Histological sections showing a uterine leiomyoma with pushing margins and composed of sweeping and intercepting fascicles of uniform spindled smooth muscle cells.



Teaching Points

- Causes of abnormal premenopausal bleeding
 - Benign uterine pathology
 - Dysfunctional uterine bleeding
 - Endometrial Carcinoma
 - Cervical Pathology
 - Systemic Disorder
 - Pregnancy
- If the patient has factors that predispose to endometrial hyperplasia/carcinoma, a transvaginal ultrasound is indicated
- Further investigations may include a hysteroscopy and endometrial biopsy

Abnormal Vaginal Bleeding in Premenopausal Women

- Causes of abnormal pre-menopausal bleeding include
 - Dysfunctional bleeding
 - Benign uterine pathology; e.g. submucous fibroids, polyps, endometrial hyperplasia, adenomyosis
 - Endometrial cancer
 - Cervical pathology; e.g. infection
 - Systemic disorders; e.g. hypothyroidism, liver and renal disease, coagulopathy

Factors That Increase The Risk of Endometrial Carcinoma / Hyperplasia

- Age >35
- Obesity
- Infertility
- Chronic anovulation
- Family history of colon or endometrial carcinoma
- Patient on tamoxifen
- Diabetes / insulin resistance
- Polycystic ovarian syndrome

Transvaginal Ultrasound (TVUS) +/- Saline Infusion Sonohysterography (SIS)

- Although significant endometrial pathology is not particularly common in premenopausal women, up to 20% of cases of endometrial carcinoma do occur in this group. The majority of these occur in women aged between 40 and 50 [2,3](#)
- Endometrial hyperplasia is a recognised precursor for endometrial carcinoma, with the likelihood of progression depending on the degree of hyperplasia
- Features of TVUS
 - Useful for excluding endometrial carcinoma and structural lesions such as fibroids and polyps
 - Should be performed during the follicular phase and preferably on day 4,5 or 6 of the bleeding cycle when the endometrium is at its thinnest [4](#)
 - If the endometrial thickness is less than 12mm the likelihood of endometrial hyperplasia is low [5-7](#)
 - The sensitivity of TVUS for the detection of endometrial hyperplasia or carcinoma has varied from 33-100% and the specificity from 79-99% [7-15](#)
- Features of SIS
 - Improves the diagnostic accuracy of TVUS
 - Involves the installation of 5-10mls of sterile saline into the endometrial cavity and visualisation with transvaginal ultrasonography
 - More accurate than TVUS alone for diagnosing intracavitary lesions and is more accurate than hysteroscopy in diagnosing endometrial hyperplasia [13,14,16](#)
 - Approximately equivalent accuracy to hysteroscopy in the diagnosis of endometrial carcinoma [15](#)

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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