# *Ultrasound and Advanced Practice Nursing in Ambulatory Gynaecology*

*Rachel Cormack RANP, RNP, RGN*

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# Background

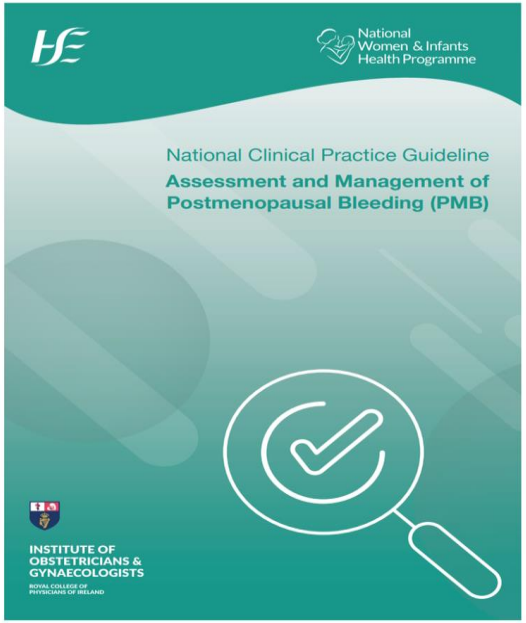
- RANP, RNP, Nurse Hysteroscopist, Nurse Sonographer.
- ANP led and ANP delivered care.
- ‘See and Treat’ clinics for abnormal uterine bleeding.
    - Postmenopausal bleeding (PMB).
    - Heavy menstrual bleeding (HMB).
    - Intermenstrual bleeding (IMB).
    - Postcoital bleeding (PCB).
- Clear pathway of referral to consultant colleagues if surgical input required or malignancy suspected.

# Background

- Benign ambulatory gynaecology clinic:
  - Benign complex ovarian cysts - management and surveillance.
  - Pelvic pain.
  - Amenorrhoea/oligomenorrhoea.
  - Vaginismus/sexual dysfunction.
  - Mirena insertion.
- Clear pathway of referral to consultant colleagues if surgical input required or malignancy suspected.
- Bleeding disorder MDT – admitting rights for pre-procedural coagulation treatment.

# Key Performance Indicators

- Hysteroscopy KPIs regarding postmenopausal bleeding (PMB) set out by the National Women and Infants Health Programme (NWIHP) (NWIHP, 2022).



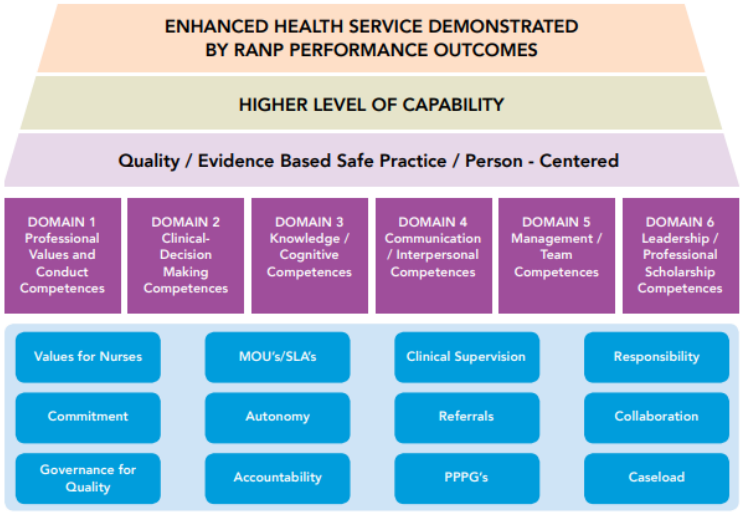

**Triage System**

Weekly or twice weekly review of referrals. Patients who meet PMB criteria are fast tracked into appointment system and given appointment to be seen within 28 days.

# Key Performance Indicators

- Currently 3 individualised standard operating procedures (SOPs) relating to the RANPs patient cohort and practice (Gough and Hamrell, 2010).
- Job description dynamic and ever-changing.
- **Providing timely access to ambulatory gynaecology, offering holistic assessment, intervention and management.**

Underpinned by the Advanced Practice Nursing Model (NMBI, 2017).



# Guidelines for practice

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ACOG
The American College of Obstetricians and Gynecologists

Royal College of Obstetricians & Gynaecologists

NICE National Institute for Health and Care Excellence

National Women & Infants Health Programme

Bord Altranais agus Cnáimhseachais na hÉireann
Nursing and Midwifery Board of Ireland

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# Ultrasound and Advanced Nursing Practice

## Premenopausal ovarian masses

- The overall incidence of a symptomatic ovarian cyst in a premenopausal female being malignant is approximately 1:1000 increasing to 3:1000 at the age of 50.
- A pelvic ultrasound is the single most effective way of evaluating an ovarian mass with transvaginal ultrasonography being preferable (RCOG, 2011).
- CA125, AFP, HCG, LDH (complex cysts).
- Calculation of the RMI (RMI = U x M x CA-125).
- Management of presumed benign masses.
  - Women with < 50 mm diameter simple ovarian cysts, no follow up/repeat ultrasound in 3 months.
  - Simple ovarian cysts of 50–70 mm in diameter should have yearly ultrasound follow-up and those with larger simple cysts should be considered for either further imaging (MRI) or surgical intervention.
- Ovarian cysts that persist or increase in size are unlikely to be functional and may warrant surgical management.

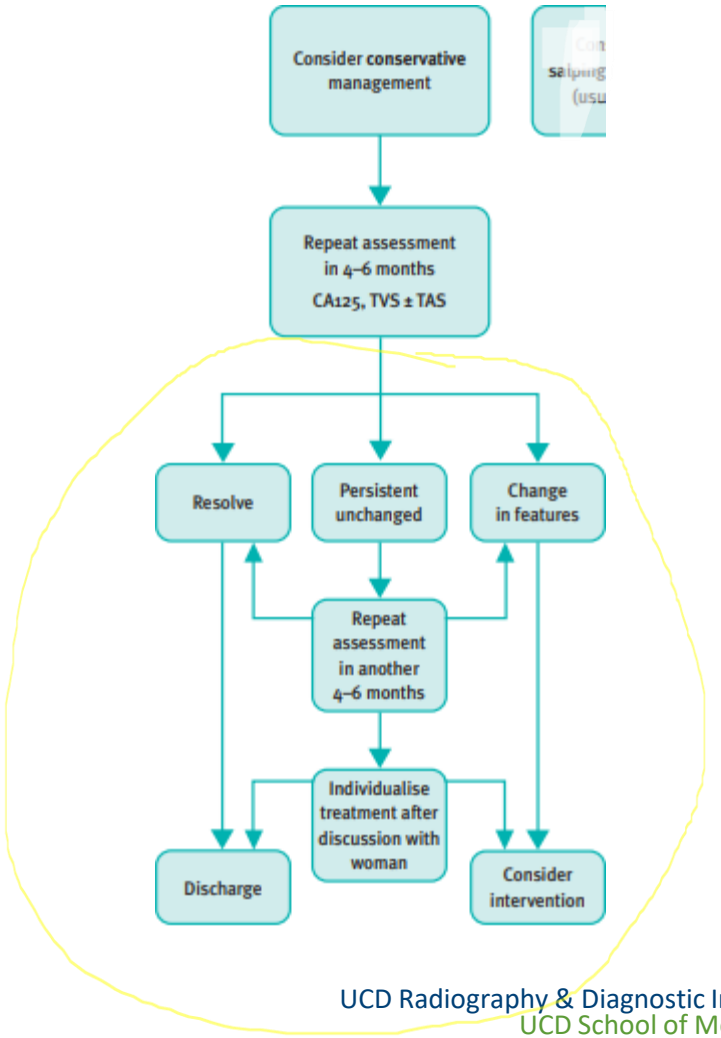

**Table 1.** Types of adnexal masses

| | |
|---|---|
| **Benign ovarian** | Functional cysts<br>Endometriomas<br>Serous cystadenoma<br>Mucinous cystadenoma<br>Mature teratoma |
| **Benign non-ovarian** | Paratubal cyst<br>Hydrosalpinges<br>Tubo-ovarian abscess<br>Peritoneal pseudocysts<br>Appendiceal abscess<br>Diverticular abscess<br>Pelvic kidney |
| **Primary malignant ovarian** | Germ cell tumour<br>Epithelial carcinoma<br>Sex-cord tumour |
| **Secondary malignant ovarian** | Predominantly breast and gastrointestinal carcinoma. |

# Ultrasound and Advanced Nursing Practice

## Postmenopausal ovarian masses

- A pelvic ultrasound is the single most effective way of evaluating an ovarian mass with transvaginal ultrasonography being preferable due to its increased sensitivity over transabdominal ultrasound (RCOG, 2016).
- CA125 should be the only serum tumour marker used for primary evaluation as it allows the Risk of Malignancy Index (RMI) of ovarian cysts in postmenopausal women to be calculated.
- Asymptomatic, simple, unilateral, unilocular ovarian cysts, less than 5 cm in diameter, have a low risk of malignancy. In the presence of normal serum CA125 levels, these cysts can be managed conservatively, with a repeat evaluation in 4–6 months. It is reasonable to discharge these women from follow-up after 1 year if the cyst remains unchanged or reduces in size, with normal CA125, taking into consideration a woman's wishes and surgical fitness (RCOG, 2016).

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# Ultrasound and Advanced Nursing Practice

## Postmenopausal ovarian masses

**6.4 Management algorithm**

| |
|---|
| **Low risk**<br>• Management in a general gynaecology unit.<br>• Simple cysts less than 5 cm in diameter with a normal serum CA125 level may be managed conservatively.<br>• Conservative management should include ultrasound scans and serum CA125 measurement at three months, then 6 monthly for three years.<br>• If the cyst does not fit the above criteria or if the woman requests surgery then laparoscopic oophorectomy is acceptable. |
| **Moderate risk**<br>• Management in a cancer centre by a gynaecological oncologist.<br>• Laparoscopic bilateral salpingo-oophorectomy is acceptable in selected cases.<br>• If a malignancy is discovered then a full staging procedure should be undertaken. |
| **High risk**<br>• Management in a cancer centre by a gynaecological oncologist. |

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# See and Treat

## Abnormal Uterine Bleeding

- In 2011, The International Federation of Gynaecology and Obstetrics (FIGO) developed a classification system for the causes of abnormal uterine bleeding (AUB). They summarise the structural (PALM) and non-structural (COEIN) causes for a women's menstrual irregularities (Munro, 2011).

| | |
|---|---|
| P | Polyps (endometrial, cervical) |
| A | Adenomyosis |
| L | Leiomyoma |
| M | Malignancy and hyperplasia |
| C | Coagulopathy (Warfarin, von Willebrand's disease, thrombocytopenia) |
| O | Ovulatory dysfunction (PCOS, Cushing's, Hyperprolactinaemia, Hypothyroid) |
| E | Endometrial (Chronic Endometritis) |
| I | Iatrogenic (Contraceptives, Tamoxifen, Uterine perforation) |
| N | Not yet classified (Chronic renal or hepatic disease, endometriosis) |

# See and Treat

## Postmenopausal bleeding

### Transvaginal Ultrasound (TVUS)

Transvaginal ultrasound is accepted as the first investigation in PMB internationally/worldwide [14,32,33]. It should be available in all gynaecology service settings. Provision and delivery of this service can include sonographers, radiographers, gynaecologists and radiologists.

In gynaecology units where a "one stop" ambulatory clinic whereby women can be seen, investigated and treated in one session is not yet available, consideration should be given to arranging a scan prior to the appointment if feasible, whilst ensuring this does not delay an outpatient assessment.

A recent committee opinion by the ACOG recommended a cut-off of 4mm as it has a 99% negative predictive value for endometrial cancer, however for women with persistent PMB and a normal endometrial thickness, it is recommended that they undergo further evaluation of the endometrial cavity.

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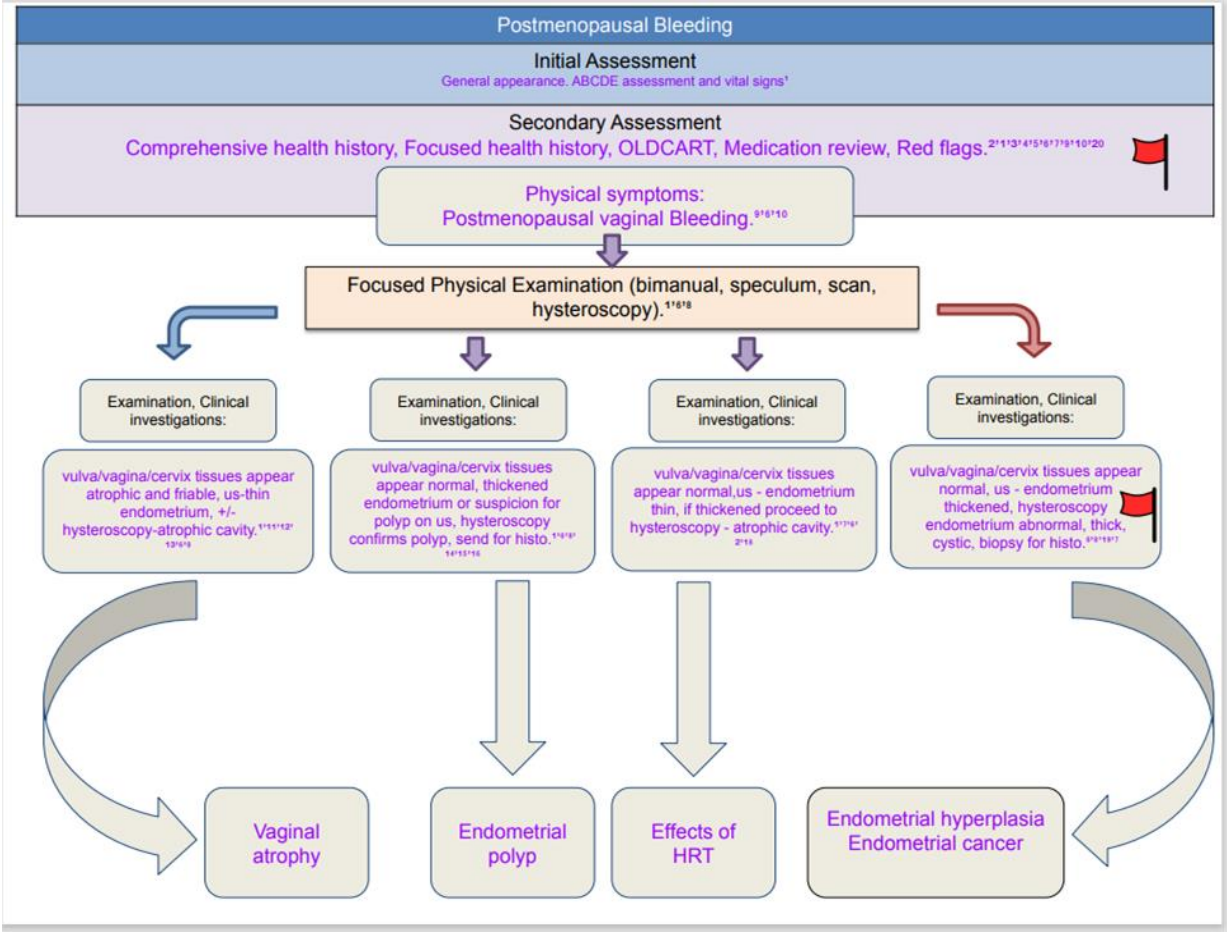
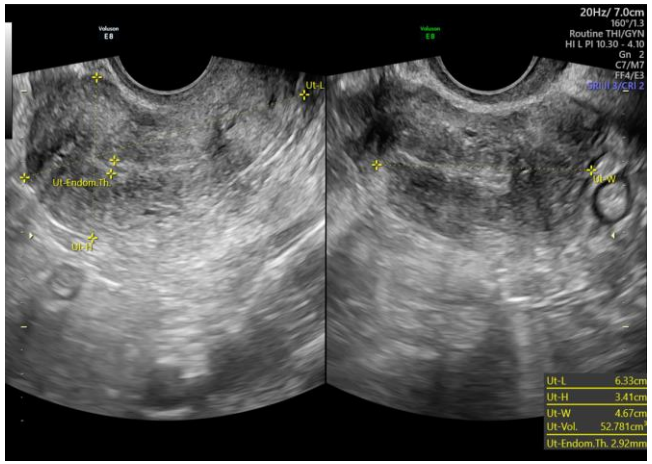
# See and Treat

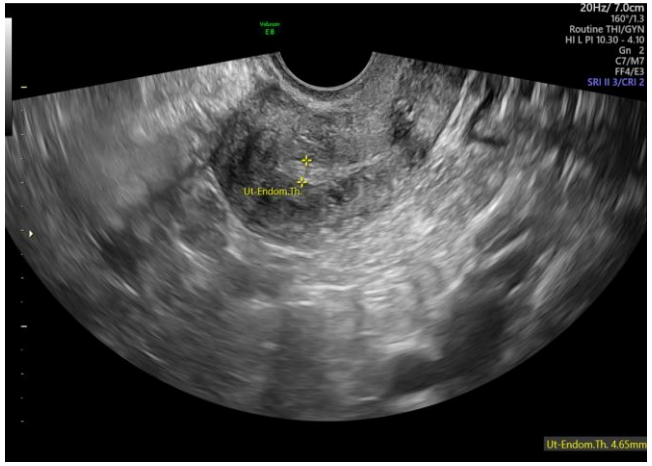
## Postmenopausal bleeding

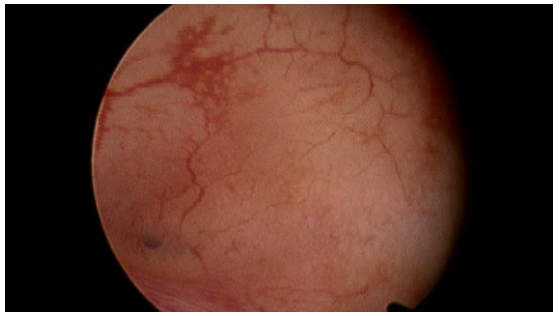


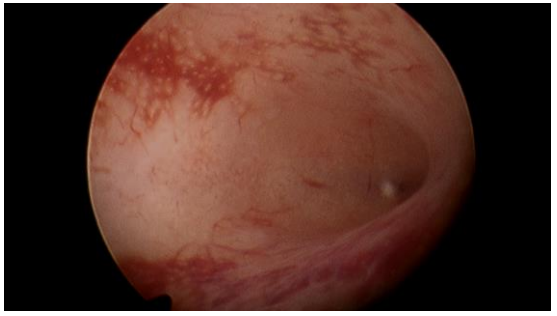
# See and Treat

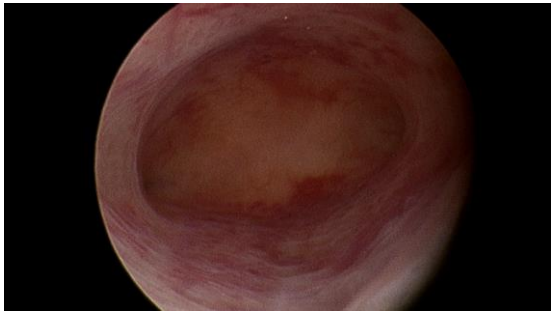
## Postmenopausal bleeding







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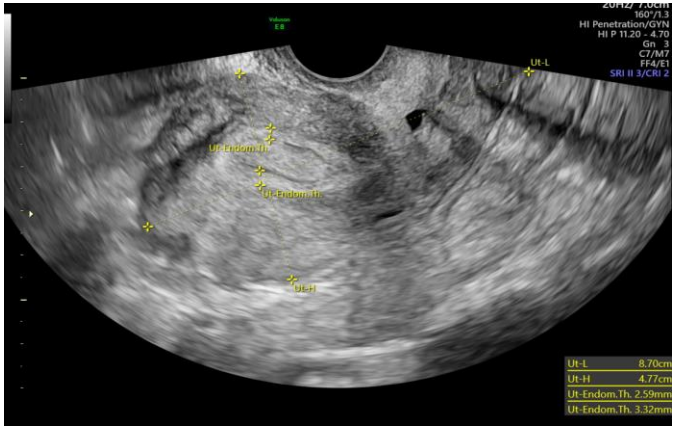
# See and Treat

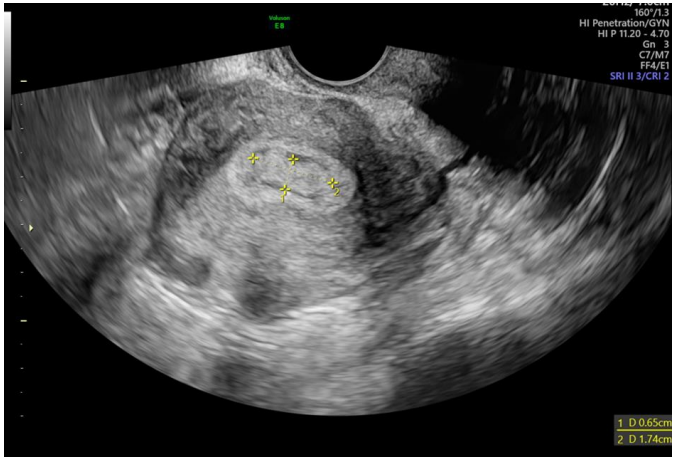
## Intermenstrual Bleeding/Irregular bleeding

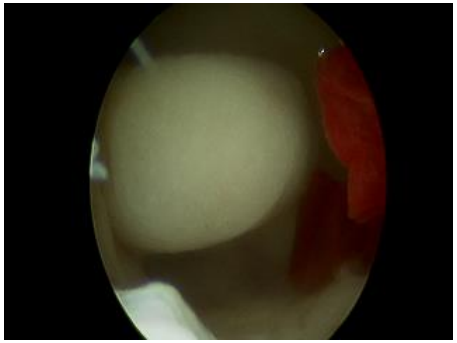
- Cyclic mid cycle IMB: Bleeding in mid cycle. Can be physiological due to elevated oestradiol levels at time of ovulation.
- Cyclic pre- or post-menstrual IMB: Early in the cycle (follicular phase) or late cycle (luteal phase), and typically presents as very light vaginal bleeding for a few days.
- Acyclic IMB: Bleeding is not cyclical or predictable.
- May be caused by a polyp (uterine/cervical).
- Infection.
- Malignancy.

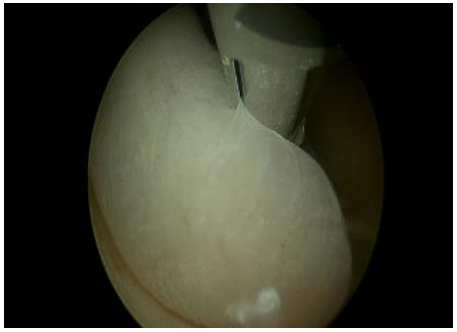
# See and Treat

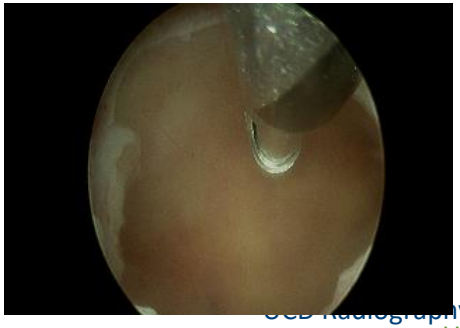
## Intermenstrual Bleeding/Irregular bleeding







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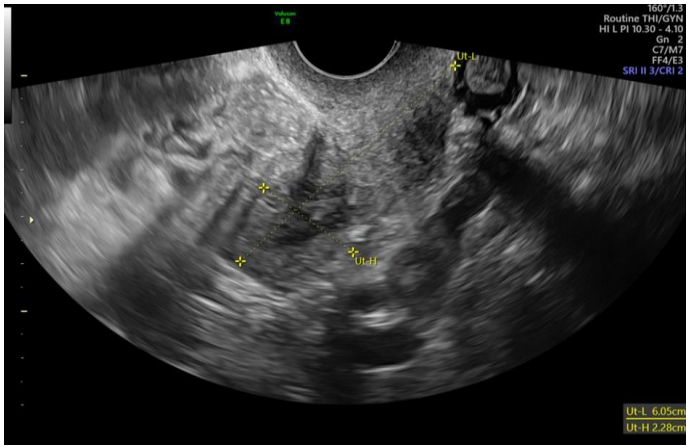
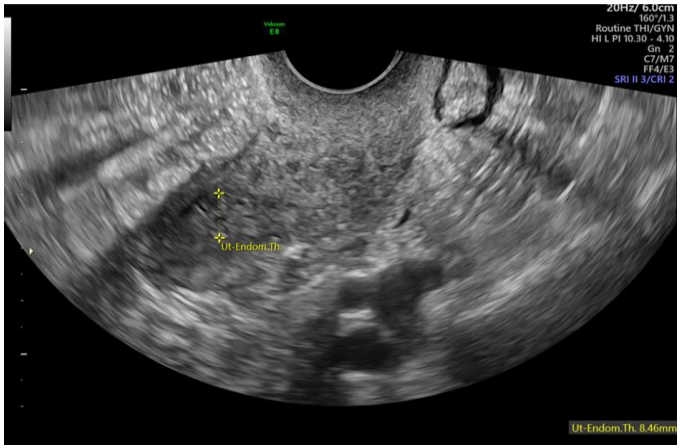
# See and Treat

## Tamoxifen effects

We recommend that all women with abnormal bleeding on Tamoxifen require referral for investigation. *Best practice*

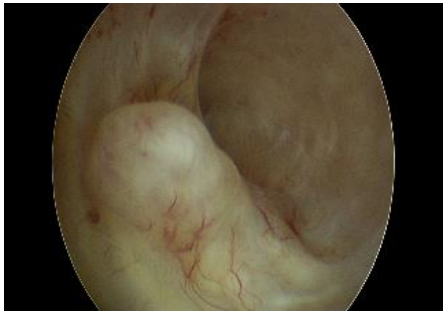
Endometrial hyperplasia and endometrial cancer are commonly associated with multiple risk factors and the aim of assessment should be to identify, monitor and modify these factors. Unopposed oestrogen hormone replacement therapy was associated with an increased risk of endometrial hyperplasia, and therefore is not recommended in women with a uterus [6]. Other known risk factors for endometrial hyperplasia and endometrial cancer include Tamoxifen [7,19], obesity, advancing age [5,20] and Hereditary Non-Polyposis Colorectal Cancer [9].

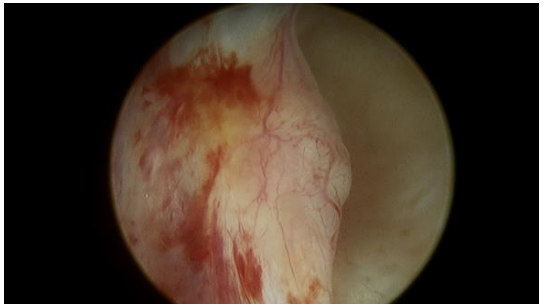


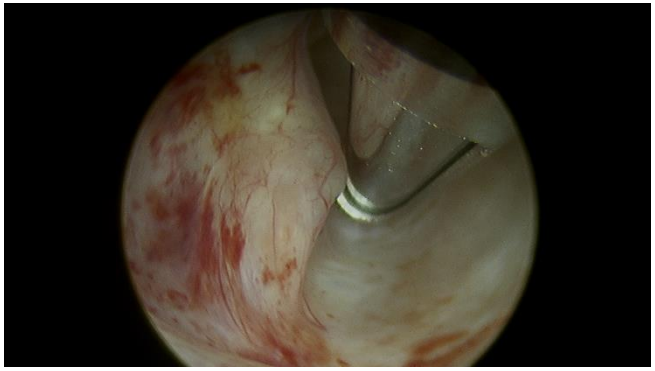



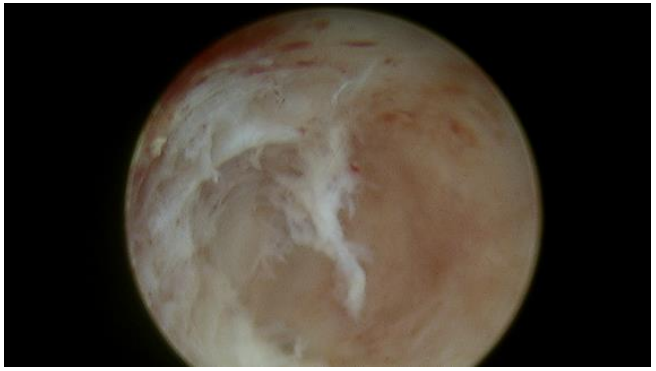
# See and Treat

## Tamoxifen effects









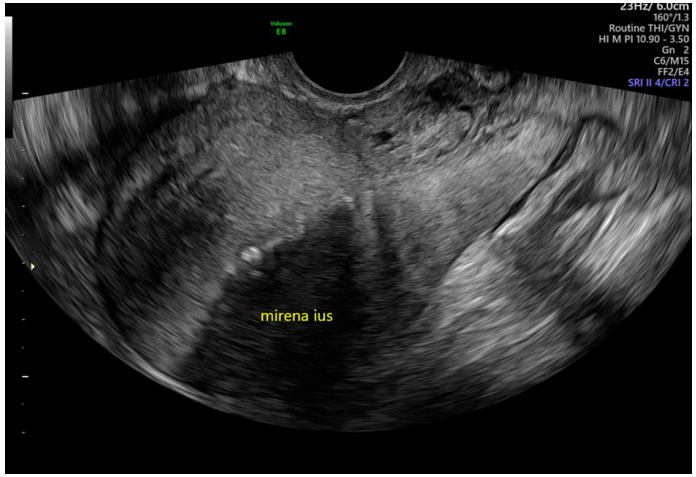
# See and Treat

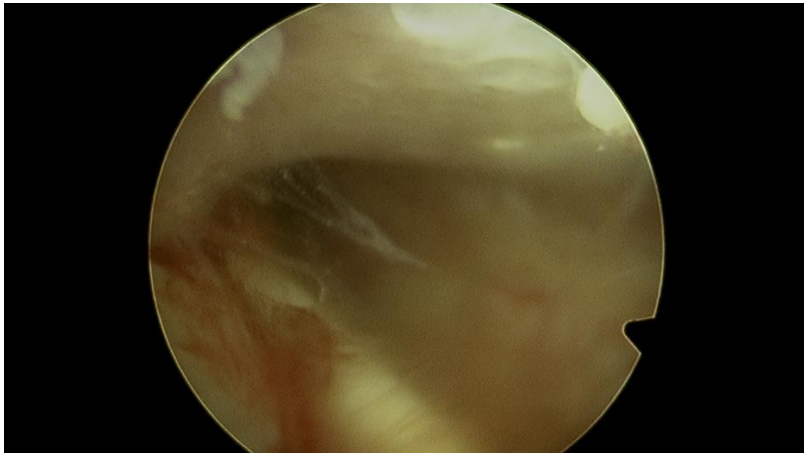
## Lost coil

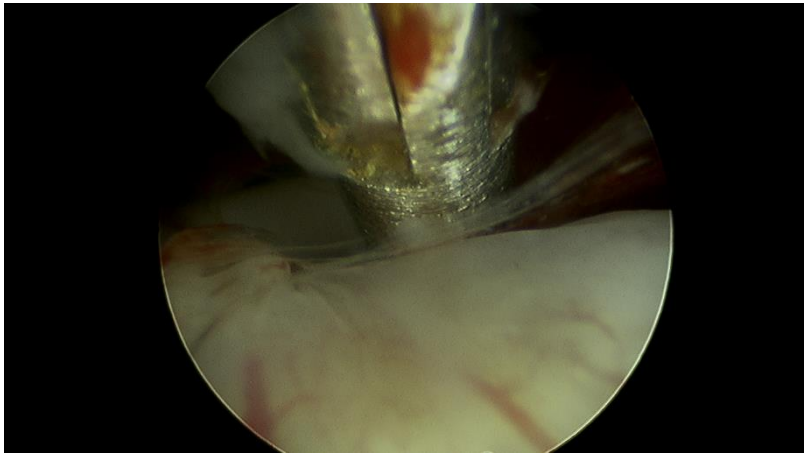
- **Transvaginal ultrasound is important to establish that the device remains in the uterine cavity (Connor and Clark eds. 2020).**
- Outpatient hysteroscopy is a feasible and practical way of removing retained intrauterine devices/systems (including LNG-IUS) with or without visible strings.
- It is reasonable to attempt removal of the misplaced device with a thread retriever, IUD hook or perhaps a cervical brush, with or without ultrasound guidance. However these procedures can cause discomfort and are rarely successful, therefore clinicians should only attempt this for a minimal amount of time before proceeding to hysteroscopic removal.
- Outpatient hysteroscopy without anaesthesia an acceptable and highly effective approach for the retrieval of misplaced IUD/IUS (Vitale *et al.* 2022).

# See and Treat

## Lost coil





# Other areas ultrasound enhances my practice

## Polycystic Ovarian Syndrome

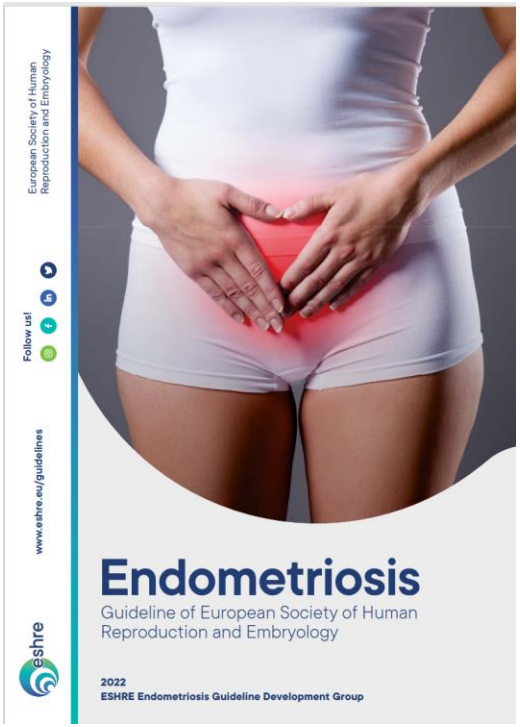
| | Ultrasound and polycystic ovarian morphology |
|---|---|
| EBR | Follicle number per ovary (FNPO) should be considered the most effective ultrasound marker to detect polycystic ovarian morphology (PCOM) in adults. |
| EBR | Follicle number per ovary (FNPO), follicle number per cross-section (FNPS) and ovarian volume (OV) should be considered accurate ultrasound markers for PCOM in adults. |
| CR | PCOM criteria should be based on follicle excess (FNPO, FNPS) and/or ovarian enlargement (OV). |
| CR | Follicle number per ovary (FNPO) ≥ 20 in at least one ovary should be considered the threshold for PCOM in adults. |
| CR | Ovarian volume (OV) ≥ 10 ml or follicle number per section (FNPS) ≥ 10 in at least one ovary in adults should be considered the threshold for PCOM if using older technology or image quality is insufficient to allow for an accurate assessment of follicle counts throughout the entire ovary. |

International Evidence-based Guideline for the assessment and management of polycystic ovary syndrome 2023

# Other areas ultrasound enhances my practice

## Pelvic Pain/Endometriosis

| | | |
|---|---|---|
| 5 | Clinicians are recommended to use imaging (US or MRI) in the diagnostic work-up for endometriosis, but they need to be aware that a negative finding does not exclude endometriosis, particularly superficial peritoneal disease. | ⊕⊕◯◯ |
| 6 | In patients with negative imaging results or where empirical treatment was unsuccessful or inappropriate, the GDG recommends that clinicians consider offering laparoscopy for the diagnosis and treatment of suspected endometriosis. | |
| 7 | The GDG recommends that laparoscopic identification of endometriotic lesions is confirmed by histology although negative histology does not entirely rule out the disease. | |
| | Both diagnostic laparoscopy and imaging combined with empirical treatment (hormonal contraceptives or progestogens) can be considered in women suspected of endometriosis. There is no evidence of superiority of either approach and pros and cons should be discussed with the patient. | |
| 8 | Follow-up and psychological support should be considered in women with confirmed endometriosis, particularly deep and ovarian endometriosis, although there is currently no evidence of benefit of regular long-term monitoring for early detection of recurrence, complications, or malignancy. | ⊕◯◯◯ |



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# Questions


thank you
danke
謝謝
ngiyabonga
شكراً جزيلاً
teşekkür ederim
спасибо
gracias
dziękuję
obrigado
bedankt
merci
go raibh maith agat
mochchakkeram
dank je
tapadh leat
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ANY
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