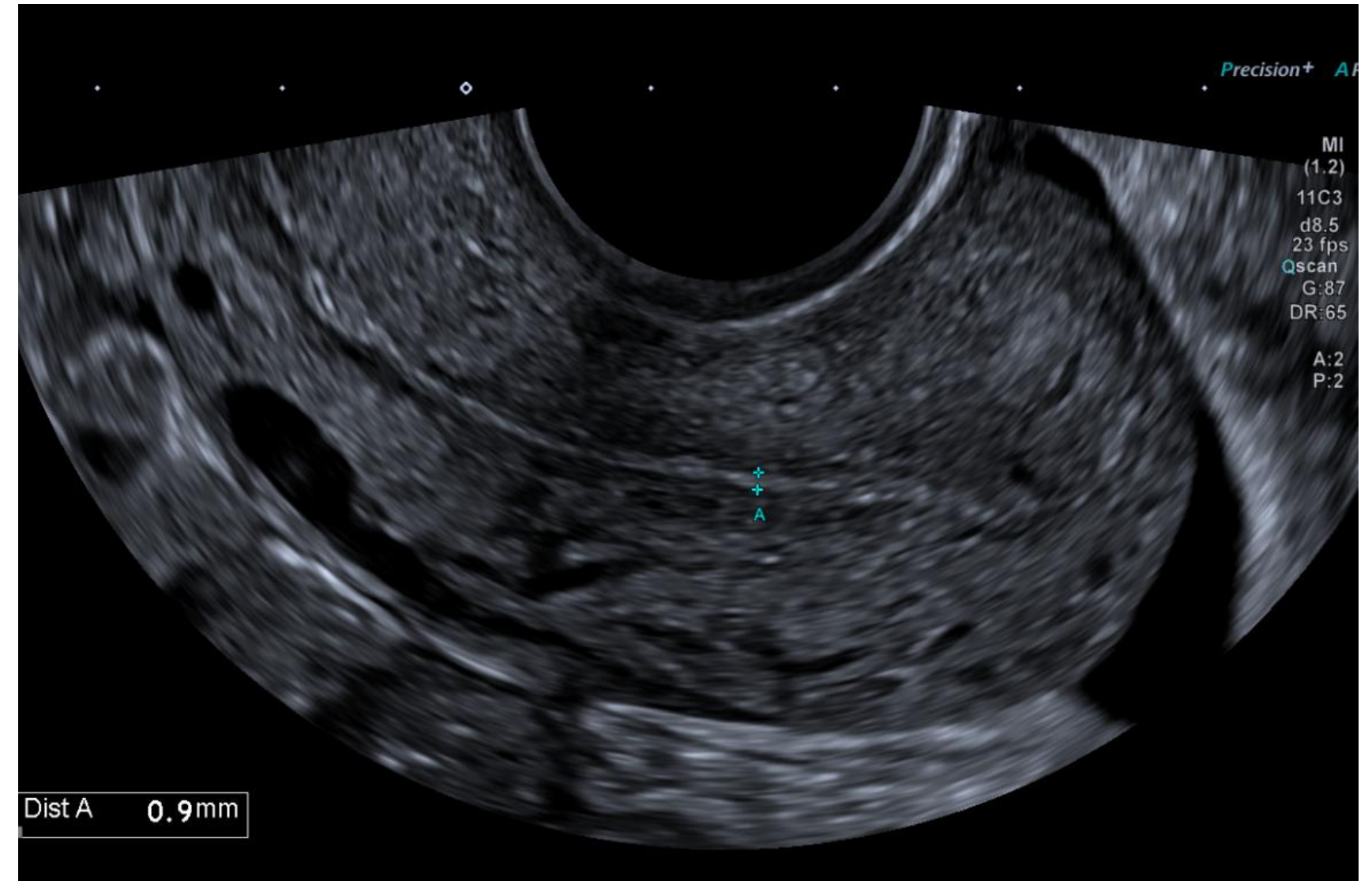


BMUS)))

Endometrial Assessment, Hormone Replacement Therapy (HRT) and BMS Guidance.

Ciara McClintock
WHST



Disclaimer

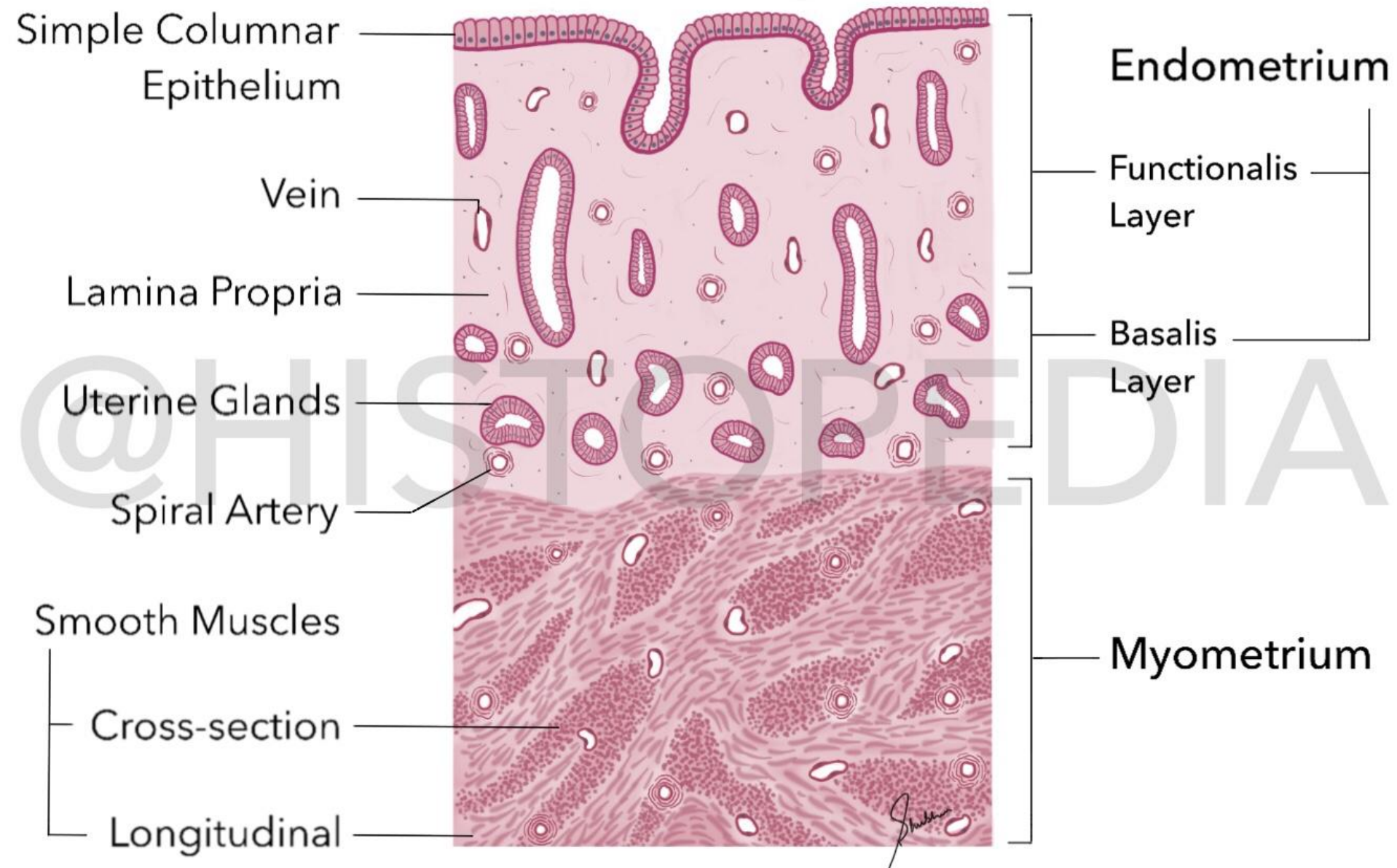
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Objectives

- **Revise structure and appearance of pre and postmenopausal endometrium**
- **Understand how HRT affect the endometrium and its ultrasound appearances.**
- **Understand risk factors for endometrial cancer**
- **Understand and apply BMS guidance in daily practice.**
- **Identify ultrasound features of endometrial cancer**

Endometrial Structure and Function

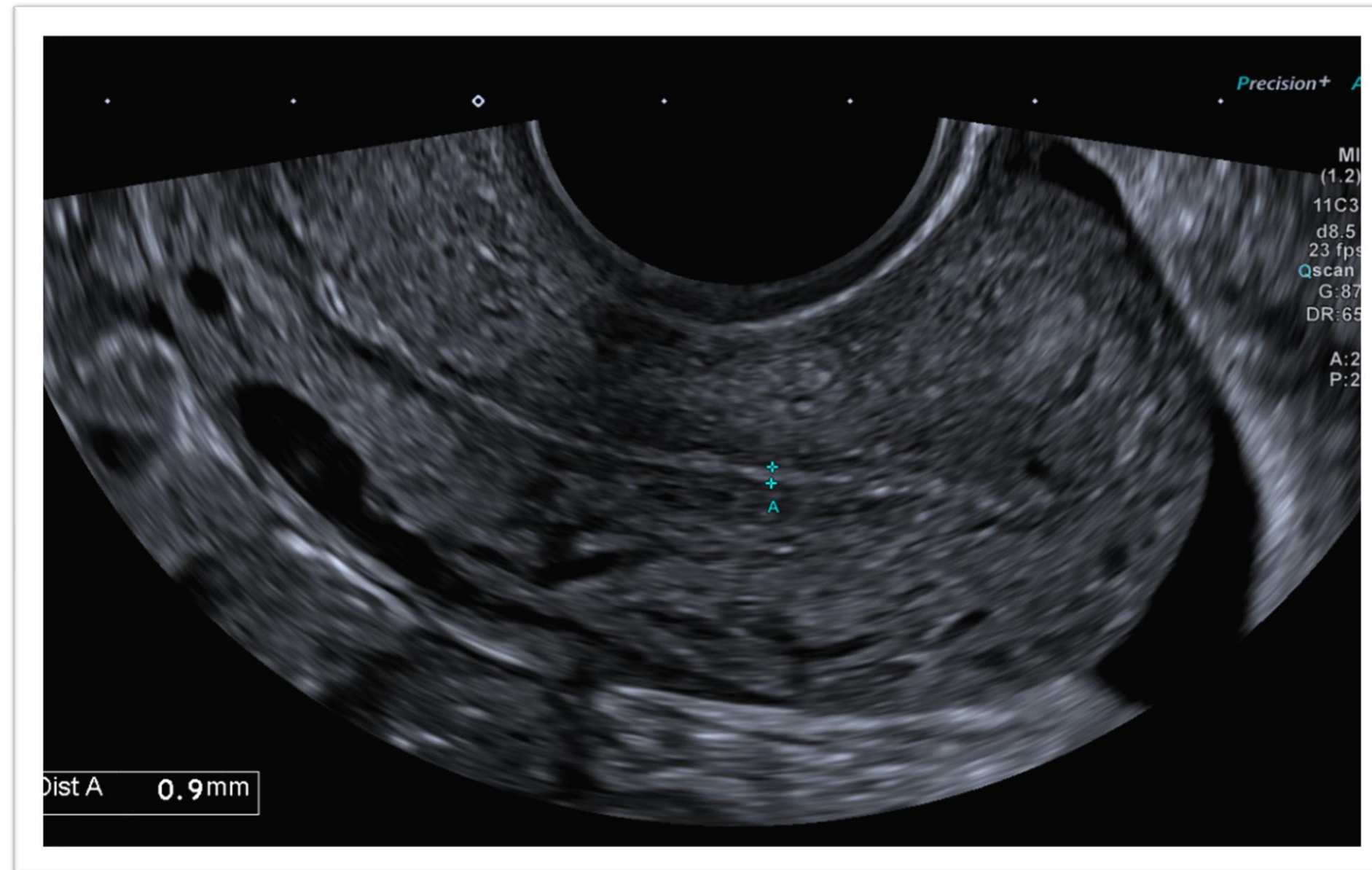


Uterus

Follicular / Proliferative Phase

Premenopausal Endometrial Appearances

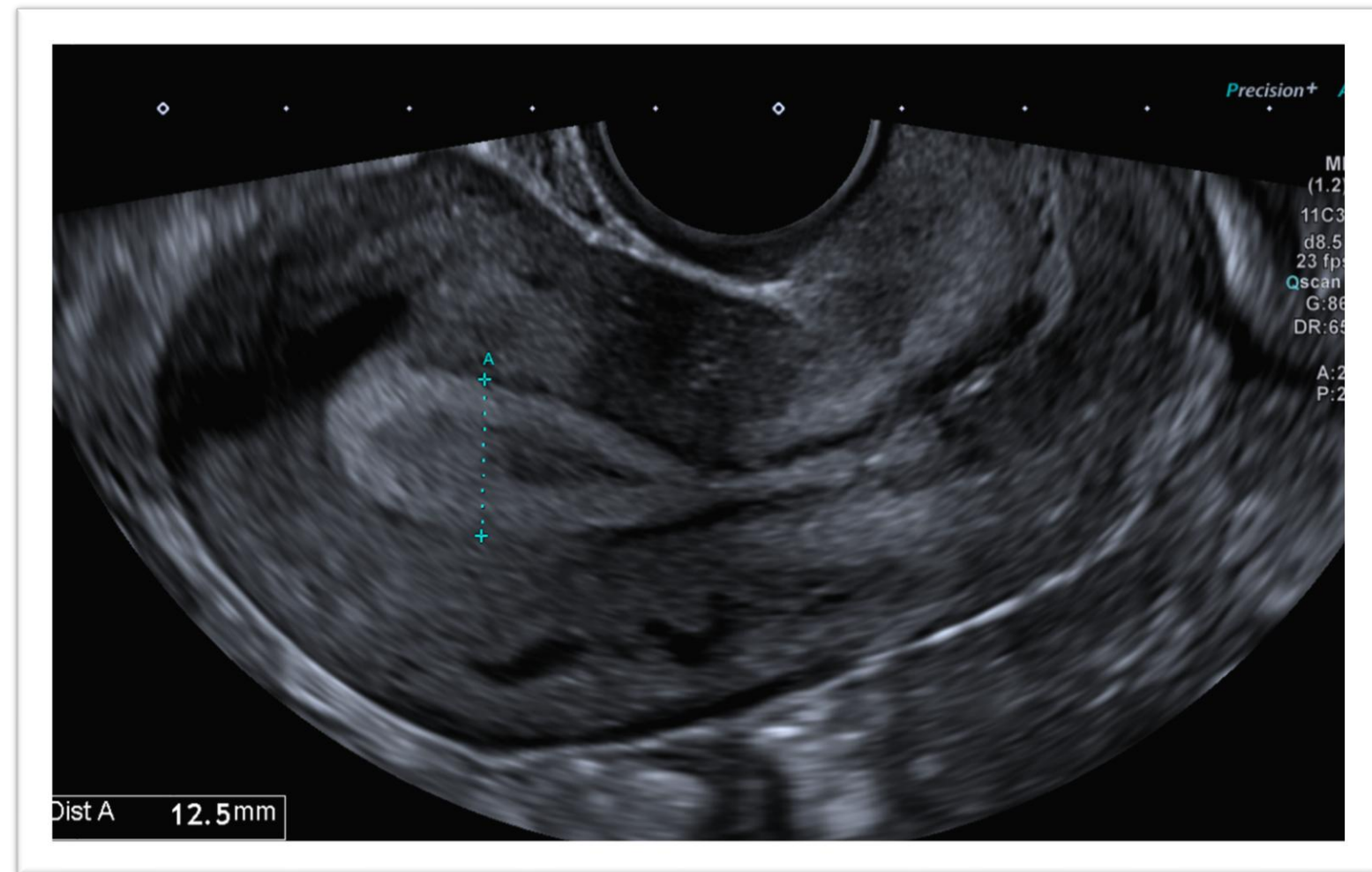
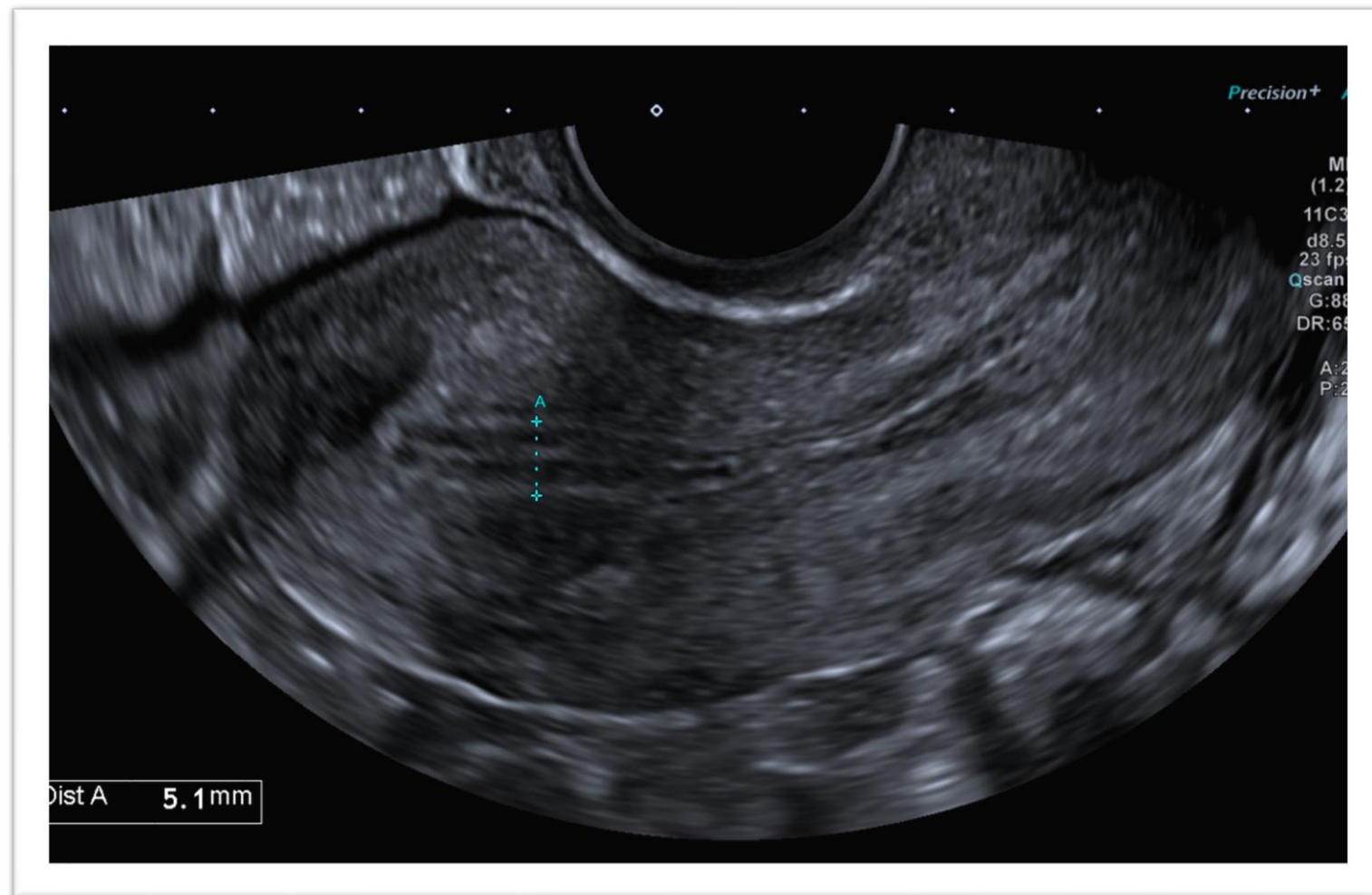
- Menstrual phase (Day 1-5)



Premenopausal Endometrial Appearances

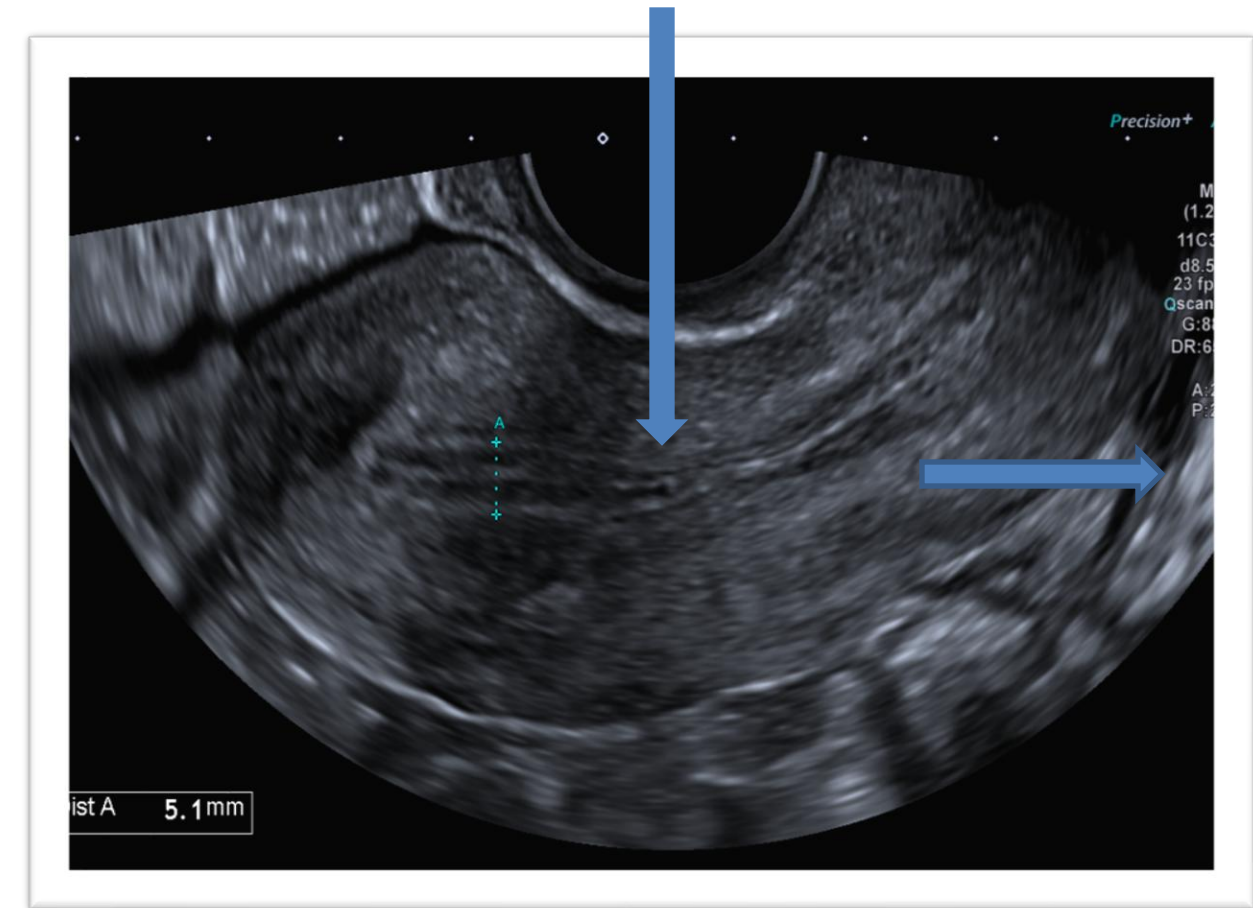
- Proliferative Phase (Day 6-14)

- Secretory Phase (Day 15-28)



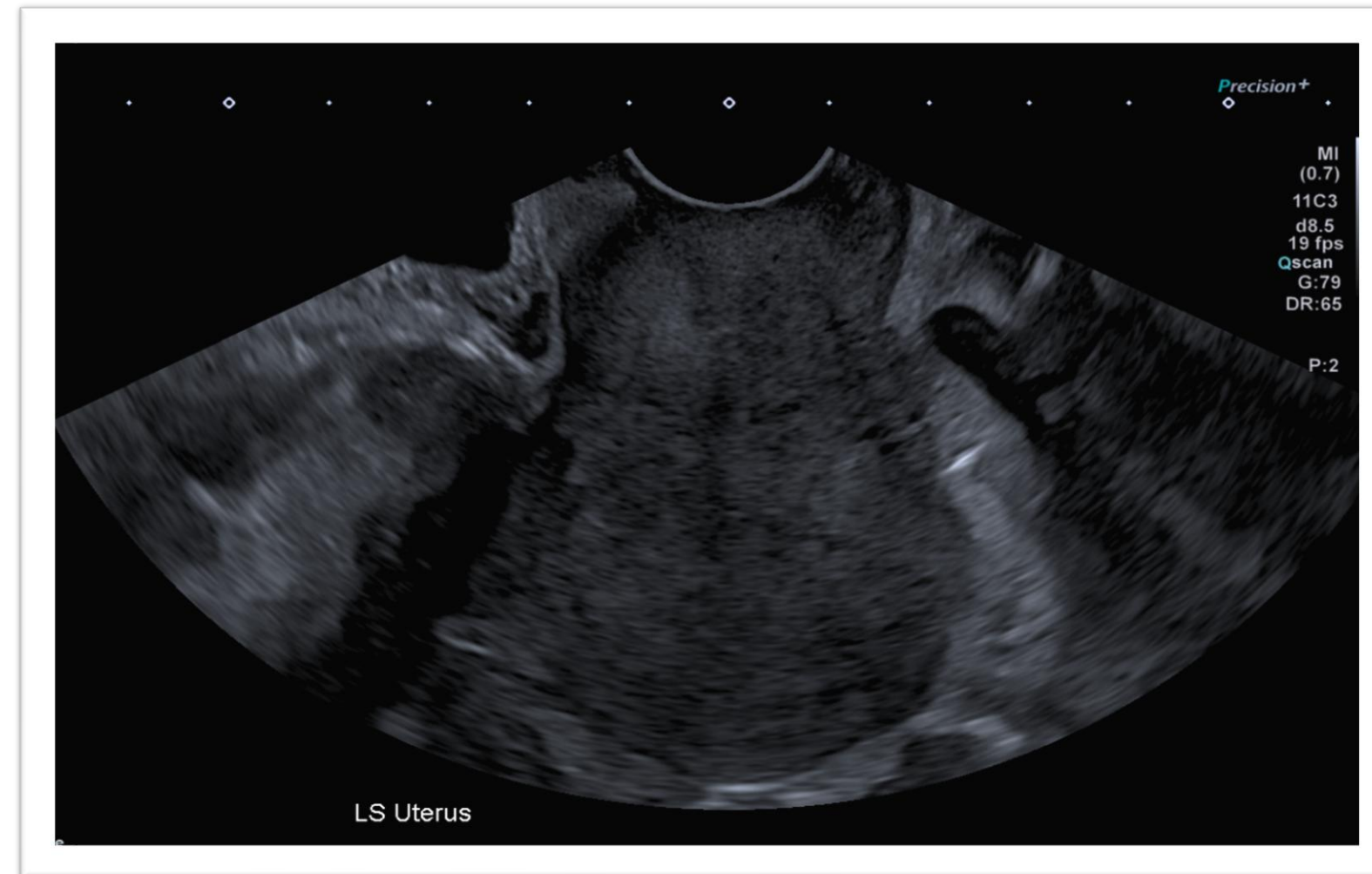
Measurement technique

- Sagittal plane at appropriate depth/zoom
- Focal zone at level of endometrium
- Endometrium continuous from cervix to fundus
- Angle of insonation between the endometrium and the ultrasound beam should be 90°
- When intracavitary fluid is present, the thickness of both single layers are measured and the sum is recorded
- When the endometrium cannot be seen clearly in its entirety, it should be reported as 'non-measurable' and no attempt made to measure it.

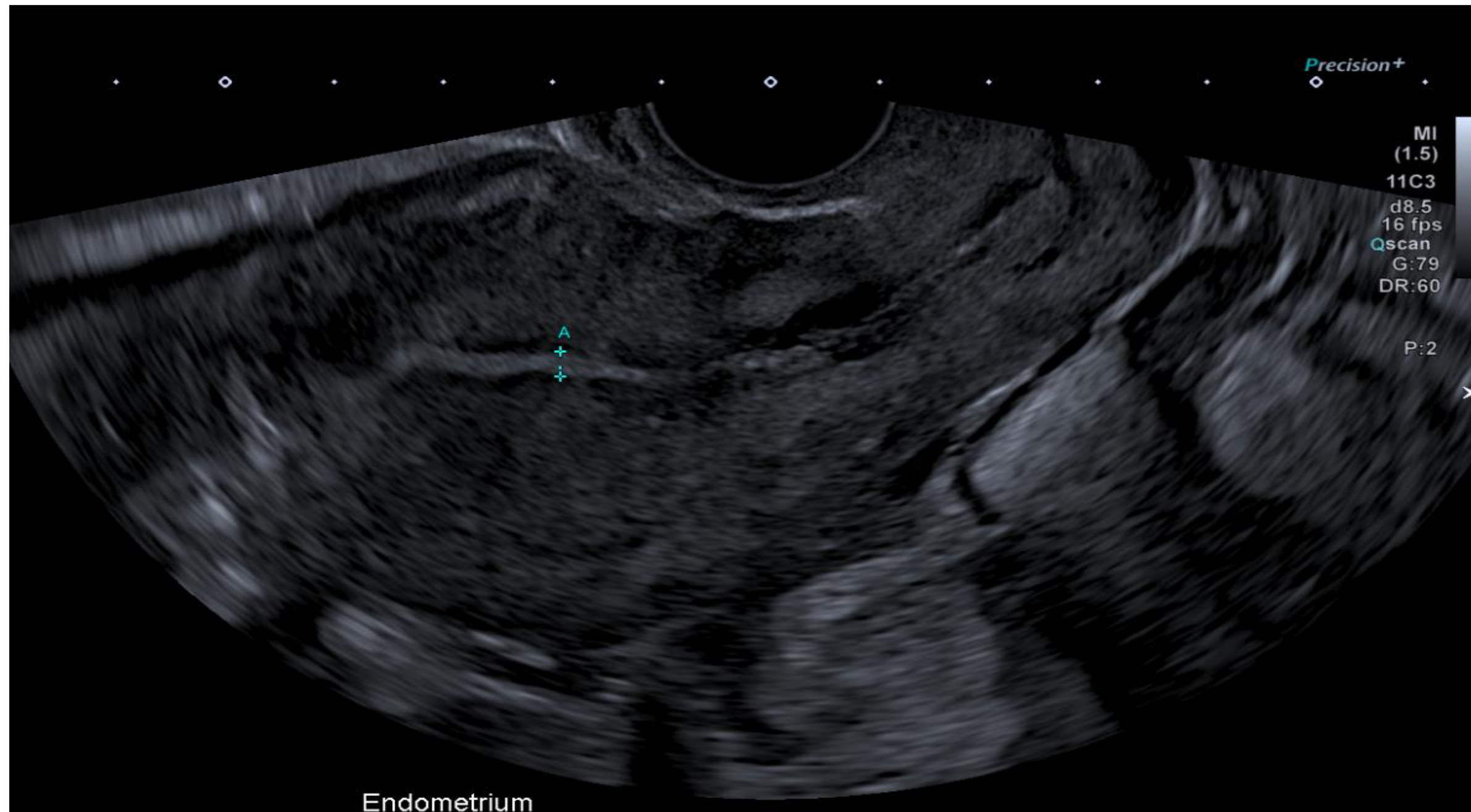


Limitations

- Fibroids
- Adenomyosis
- Axial/rotated uterine orientation



Post Menopausal Endometrial Appearances (absence of HRT)



Why HRT?

- **Hot flushes**
- **Night sweats**
- **Poor sleep**
- **Mood changes**
- **Brain fog**
- **Vaginal dryness**
- **Long term effects of low oestrogen**

Sequential HRT

- Prescribed for woman in perimenopause who are still having periods so they maintain a predictable cycle.
- Oestrogen (Oestradiol) daily + cyclical Progesterone (progestogen) for part of cycle (normally 12-14 days of cycle as per BMS)
- Induces a monthly withdrawal bleed during progestogen-free interval
- BMS recommends women taking a sequential preparation (sHRT) over the age of 45 should be changed to continuous combined HRT (ccHRT) after five years of use or by age 54 (whichever comes first).

Continuous Combined HRT

- Oestrogen (Oestradiol) daily + continuous Progesterone (Progestogen)
- Prescribed post menopause (12 months post last cycle)
- No scheduled withdrawal bleed
- Safest long-term systemic HRT option

Ultrasound appearances

- **Sequential HRT** Similar to premenopausal cyclical appearances with maximum ET = 7mm
- **ccHRT** Thin, atrophic endometrium with maximum ET = 4mm

Endometrial Cancer

- **Both HRT regimens are designed to protect the endometrium against endometrial cancer**
- **Most common gynaecological malignancy in the UK**
- **9700 new cases annually (BMJ)**
- **Typically presents with post menopausal bleeding**
- **Early stage disease is often curable**

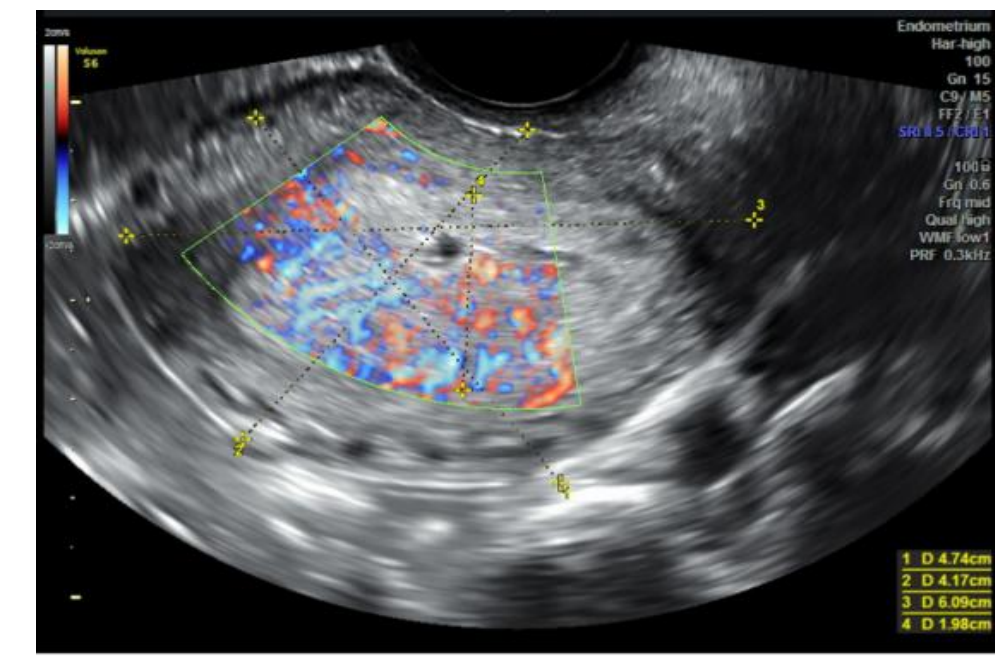
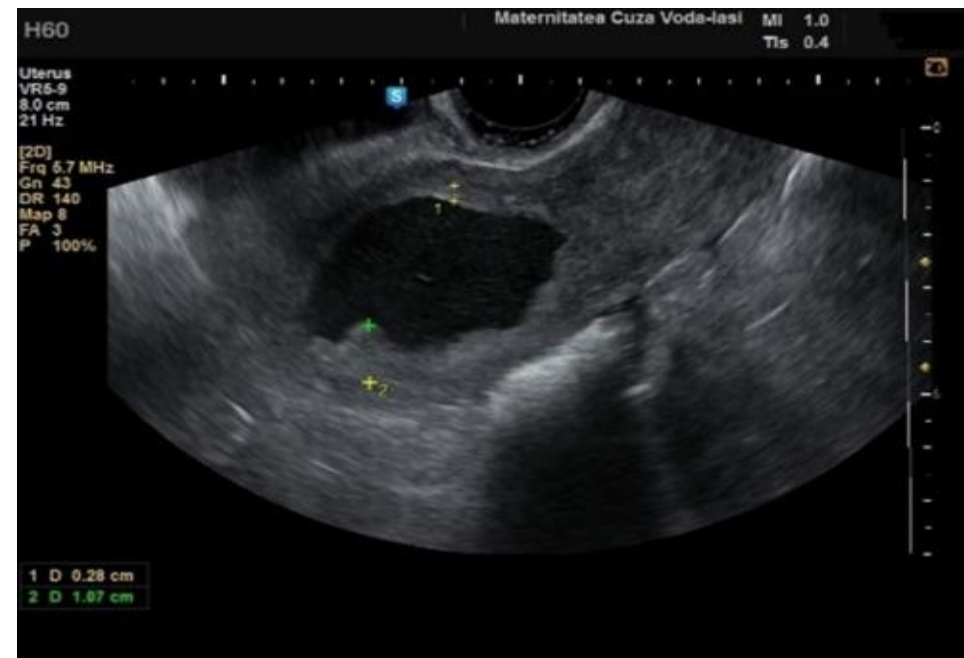
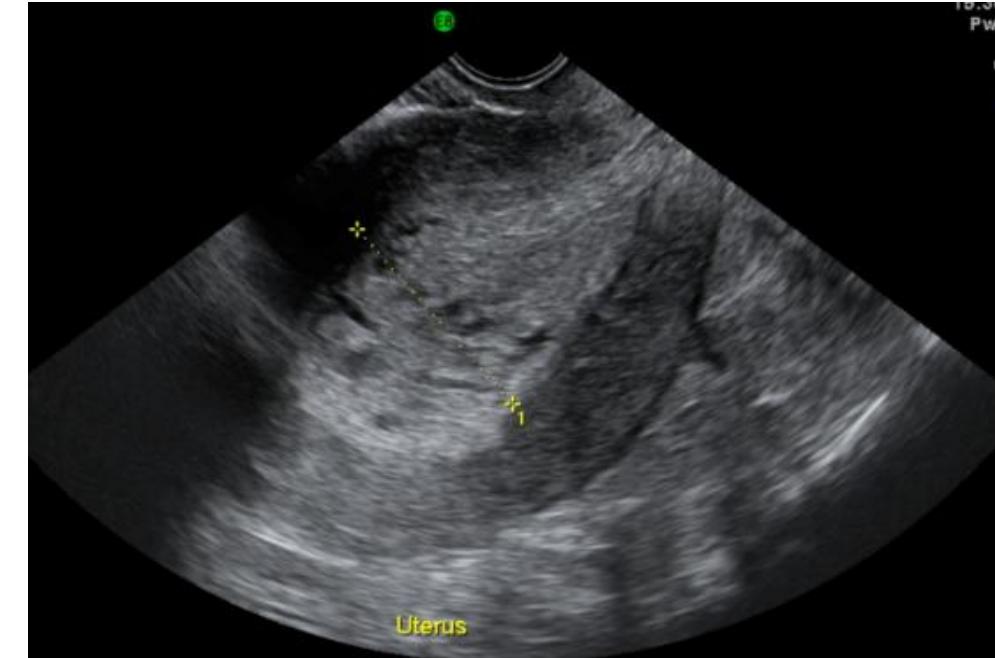
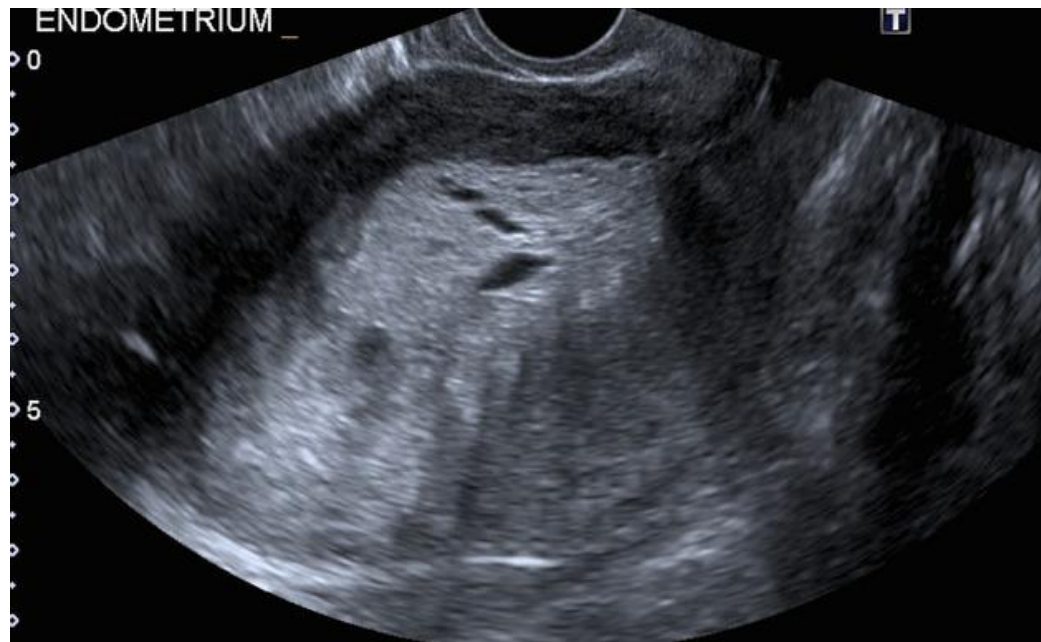
Ultrasound Appearances

- **Features can be non-specific and endometrial thickening can also be due to benign conditions like endometrial hyperplasia or polyps.**

Level of suspicion raised in the presence of :

- **heterogeneous / irregular endometrial thickening**
- **polypoid mass lesion**
- **intrauterine fluid**
- **disruption of the subendometrial halo to suggestive of myometrial invasion.**

Ultrasound Appearances



Risk Factors Endometrial Cancer

- **Obesity**
- **Unopposed Oestrogen**
- **Genetic predisposition (Lynch/Cowden Syndrome)**
- **PCOS**
- **Early menarch / late menopause**
- **Low parity**

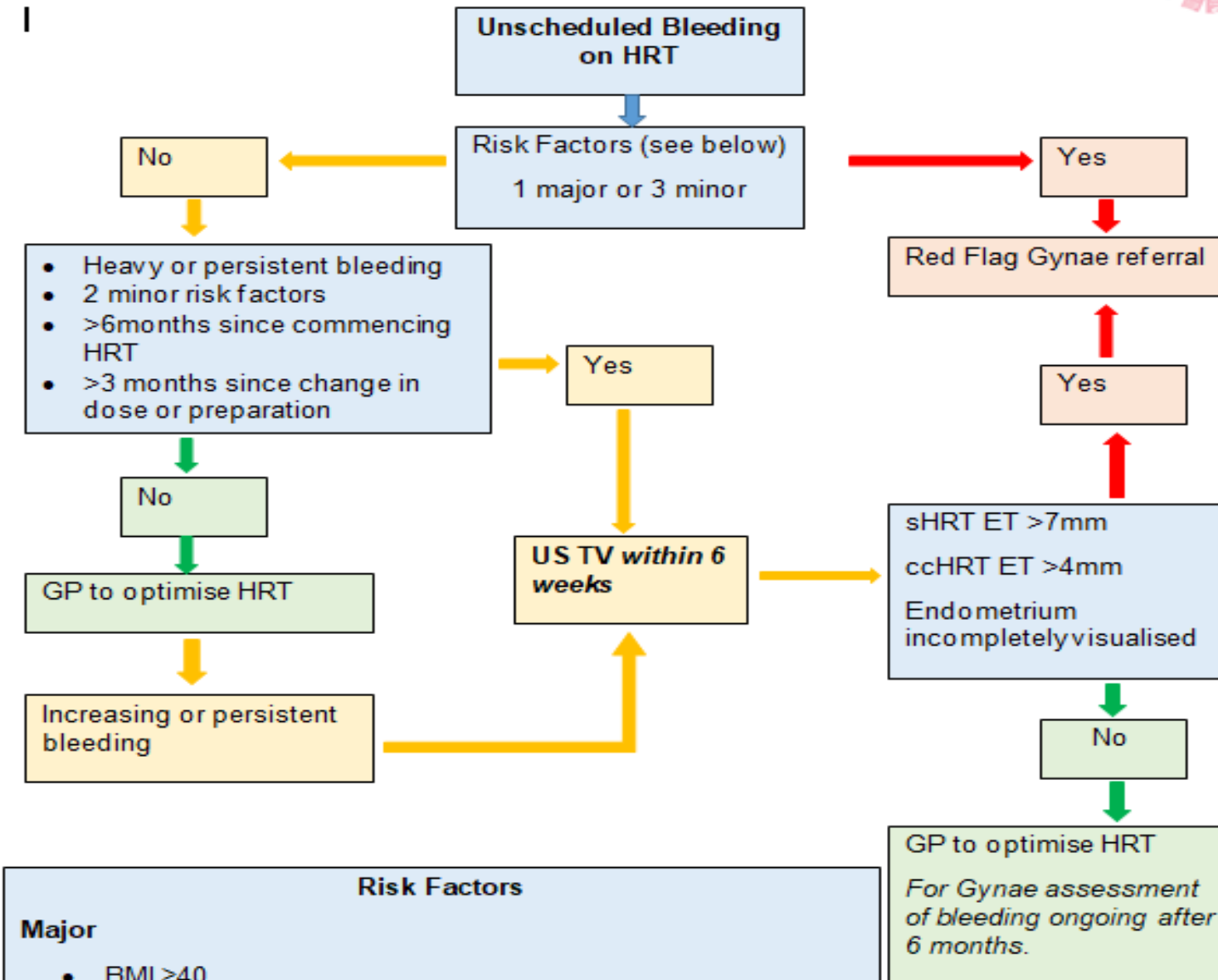
Unscheduled Bleeding on HRT

- **Bleeding or spotting outside expected bleeding pattern**
- **GP should conduct comprehensive review detailing bleeding patterns, HRT preparations and individual risk factors for endometrial cancer**
- **In the absence of risk factors, offer adjustments in the HRT preparation**
- **Where Risk factors are present bleeding should be investigated in line with BMS Guidance.**

British Menopause Society (BMS)

- Specialist authority for menopause and post reproductive health in the UK
- The BMS educates, informs and guides healthcare professionals, working in both primary and secondary care, on menopause and all aspects of post reproductive health.
- Comprehensive joint guidelines on management of unscheduled bleeding on HRT (April 2024)





- Risk Factors**
- Major**
- BMI ≥ 40
 - Unopposed oestrogen >6 months
 - Oestrogen with 3 monthly progesterone >12 months
 - >12 months of not using HRT as prescribed
 - Prolonged use of HRT (>5yrs when commenced ≥ 45 years of age)
 - Genetic predisposition (Lynch or Cowden syndrome)
- Minor**
- BMI 30 – 39
 - Diabetes
 - Anovulatory cycle (e.g. PCOS)
 - Unopposed oestrogen > 3 months but < 6 months
 - Oestrogen with 3 monthly progesterone > 6 months but < 12 months
 - > 6 months but < 12 months of not using HRT as prescribed

Conclusion

- **Measure endometrium accurately using IETA guidance**
- **Know risk factors for endometrial cancer.**
- **Do not be afraid to call an endometrium immeasurable.**
- **Do not hesitate to report ET above upper limits of normal.**

References

- **Endometrial cancer - Symptoms, diagnosis and treatment | BMJ Best Practice**
- **Leone et al (2010), Terms, definitions and measurements to describe the sonographic features of the endometrium and intrauterine lesions: a consensus opinion from the International Endometrial Tumor Analysis**
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- **Mariette-JB (2025). Management of unscheduled bleeding on hormone replacement therapy (HRT). [online] British Menopause Society. Available at: <https://thebms.org.uk/publications/bms-guidelines/management-of-unscheduled-bleeding-on-hormone-replacement-therapy-hrt/>.**