Gynaecologic update

Anatomy of abnormal uterine bleeding

Moreton Bay Obstetrics & Gynaecology PTY LTD

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The Science of Sure

Learning objectives

- ☑ Understand the definition and anatomy of abnormal uterine bleeding (AUB) and its impact on patients
- ☑ Understand the aetiology of AUB according to the underlying mechanism and appreciate the differences between its structural and non-structural causes
- ☑ Feel more confident in assessing women who present with AUB, including ordering appropriate investigations
- ☑ Understand treatment options available for AUB and be able to select which patients may be appropriate for these

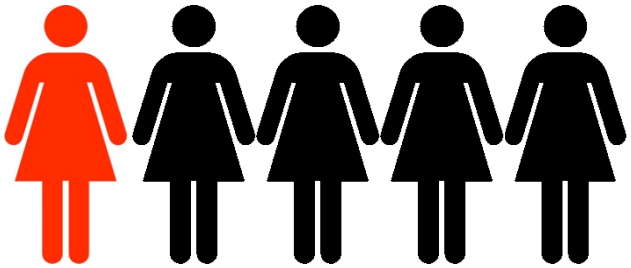
Abnormal uterine bleeding (AUB) defined[1]

- Any variation from the normal menstrual cycle, including changes in regularity and frequency of menses, in duration of flow, or in amount of blood loss
- Heavy menstrual bleeding (HMB) is the most common complaint of AUB and is defined as excessive menstrual blood loss which interferes with the woman's physical, social, emotional and/or material quality of life that can occur alone or in combination with other symptoms
  - Anovulatory bleeding, which is more common near menarche and the perimenopause, is often irregular, heavy and prolonged
- Often the patient's perception of the bleeding may not be quantifiable. Thus, the woman's experience and impact on her quality of life ultimately determine the degree to which intervention may be required

1. Singh S *et al. J Obstet Gynaecol Can* 2013;35(5 eSuppl):S1–S28.

Heavy menstrual bleeding (HMB) is common

- ~5% of referrals of premenopausal women to specialist gynaecologists are for evaluation and treatment of HMB[1]
- However, because menstrual disorders are often managed conservatively by GPs, the actual prevalence could be as high as 20% of the reproductive age female population[1]



Less than one third of women will seek treatment[2]

1. Knight B *et al. Australian Doctor* 6 March 2009:31–8. 2. National Women's Health Resource Center (United States). Excessive menstrual bleeding, 2005.

The anatomy of AUB

FIGO classification system (PALM-COEIN) for causes of AUB in non-gravid women of reproductive age[1,2]

Abnormal uterine bleeding:
- Heavy menstrual bleeding (AUB/HMB)
- Intermenstrual bleeding (AUB/IMB)

PALM—structural causes:
- **P**olyp (AUB-P)
- **A**denomyosis (AUB-A)
- **L**eiomyoma (AUB-L)
  - Submucosal leiomyoma (AUB-LSM)
  - Other leiomyoma (AUB-LO)
- **M**alignancy and hyperplasia (AUB-M)

COEIN—nonstructural causes:
- **C**oagulopathy (AUB-C)
- **O**vulatory dysfunction (AUB-O)
- **E**ndometrial (AUB-E)
- **I**atrogenic (AUB-I) /infections
- **N**ot yet classified (AUB-N)

(plus localised lesions or infections)

Determining the cause is important for achieving optimal outcomes as the underlying cause can affect response to treatment[3]

Adapted from: 1. American College of Obstetricians and Gynecologists (ACOG). Committee Opinion. Management of Acute Abnormal Uterine Bleeding in Nonpregnant Reproductive-Aged Women. Number 557. April 2013. 2. Munro MG *et al. Int J Gynaecol Obstet* 2011;113:3–13. 3. Knight B *et al. Australian Doctor* 6 March 2009:31–8.

History taking for AUB[1,2]

1. Menstrual history
2. Sexual history
3. Fertility and pregnancy
4. Associated symptoms
5. Medical history
6. Medications
7. Family history

1. NICE clinical guideline 44. Heavy menstrual bleeding. Issue date: January 2007. 2. Knight B *et al. Australian Doctor* 6 March 2009:31–8.

Associated symptoms[1]

- **Anaemia:** lethargy, shortness of breath, palpitations
- **Thyroid dysfunction:** changes in weight, cold intolerance, fatigue, constipation
- **Androgen excess:** acne, hirsutism
- **Pituitary adenomas/prolactinomas:** galactorrhoea, headache, visual field disturbances
- **Bleeding disorders:** easy bruising
- **Hypothalamic suppression:** weight loss, excessive exercise, stress
- **Malignancy:** bloating, unexplained weight loss

1. Shaw JA. Medscape, Jan 18, 2013. Available at: http://emedicine.medscape.com/article/255540-overview. Accessed July 2014.

Questions to ask your patients when assessing AUB[1]

Volume	Are you bothered by the amount of bleeding?
Frequency	Do you wake up during the night to change sanitary protection or require frequent changes during the day?
Irregular	Are you bleeding or experiencing “spotting” between your regular cycles?
Sexual activity	Do you experience bleeding after intercourse?
Pain	Are your periods painful?
Mood	Does your period make you depressed, tired and moody?
Impact	Are your periods affecting your social, athletic, or sexual activity or causing you to miss work?

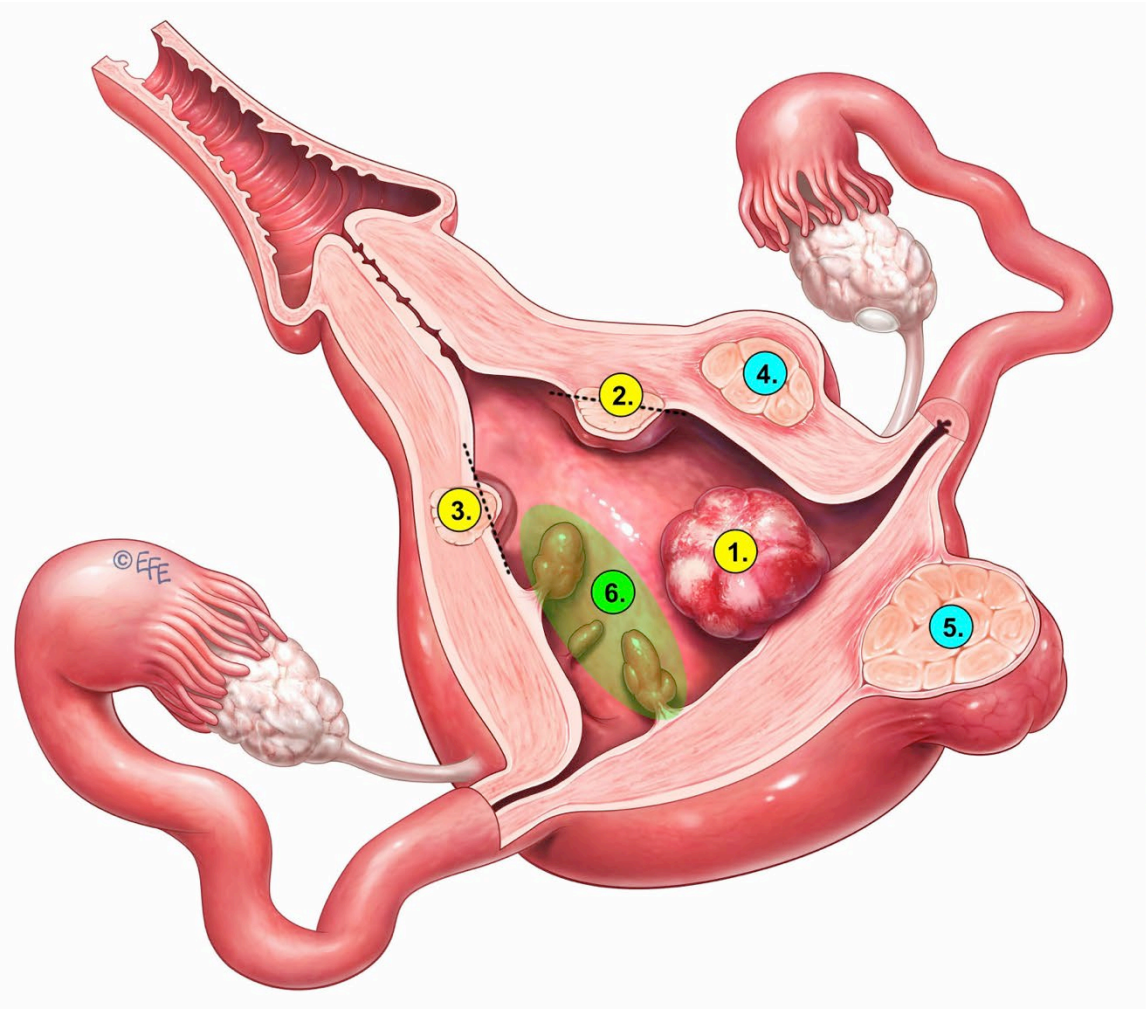
1. Shaw JA. Medscape, Jan 18, 2013. Available at: http://emedicine.medscape.com/article/255540-overview. Accessed July 2014.

Investigating AUB[1,2]

Type of test	
Laboratory	• **Essential:** full blood count, β-HCG, Fe studies • **Suggested:** prolactin, sex hormone binding globulin (SHBG), free androgen index (FAI), testosterone, OGTT, Fe, TFTs, LH,FSH
Physical	• Swab (for STI's) • Pap test
Imaging	• Transvaginal ultrasound (TVUS), 3D a bonus

1. Shaw JA. Medscape, Jan 18, 2013. Available at: http://emedicine.medscape.com/article/255540-overview. Accessed July 2014.
2. NICE clinical guideline 44. Heavy menstrual bleeding. Issue date: January 2007.

Structural pathology identifiable by TVUS and the relationship to AUB



Submucous fibroids - more likely to be associated with AUB (AUB-L):

1. Submucosal fibroid entirely within the uterine cavity
2. Submucosal fibroid with >50% presence within cavity
3. Submucosal fibroid with <50% presence within cavity

Fibroid types typically not associated with AUB:

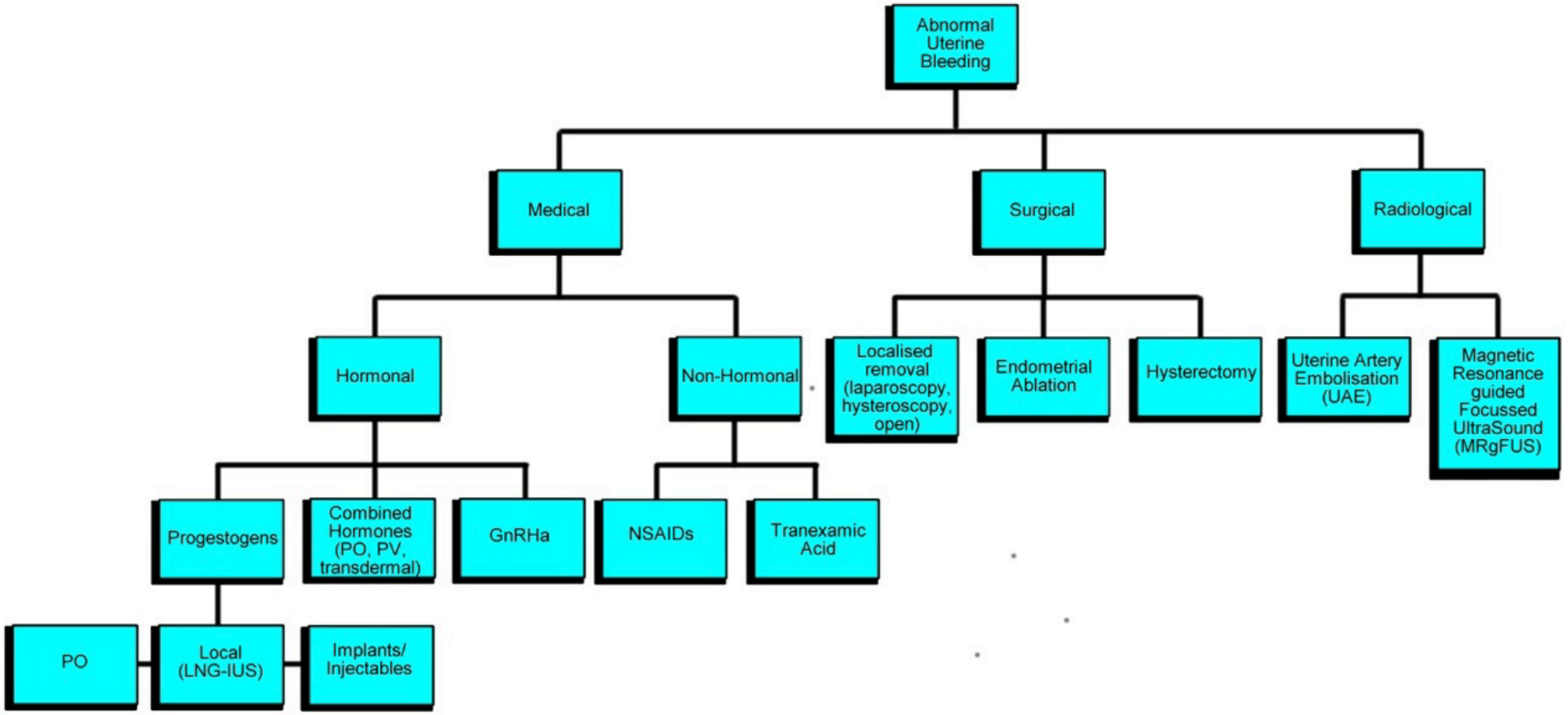
4. Entirely within uterine wall (intramural)
5. Presenting on outside of uterine cavity (extracorporeal)

Endometrial polyps:

6. Epithelial tissue which are extensions of the endomterium - also may be responsible for AUB (AUB-P)

1. Munro MG *et al. Int J Gynaecol Obstet* 2011;113:3–13.

Summary of AUB management options[1,2]



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Medical management of AUB

	Dosage	Treatment Goal
Combined oral contraceptive pills (COCP)		
Progestin only Pill	20–35 µg ethinyl estradiol plus progestogen (monophasic) taken daily Slinda /Microlut/Miconor	Cycle regulation/control Contraception Prevention of endometrial hyperplasia
Progestogens		
Medroxyprogestrone acetate	5–10 mg bd for 21 days of the month or alternatively days 16-25 of cycle 10 mg tds until menses stops then taper every 3 days	Cycle regulation Management of non-emergency heavy bleeding
Norethisterone	5 mg od for 21 days of the month 5 mg tds Does not seem to work well long term	Cycle regulation Management of non-emergency heavy bleeding
Non-hormonal medications		
Tranexamic Acid NSAIDs	1g qid day 1-2 menese 2 tablets, 3-4 times a day	Management of non-emergency heavy bleeding

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Advantages of current management approaches[1,2]

Management approach	Advantages
Non-hormonal medications	• No hormonal side-effects • Self-administered • Inexpensive
Oestrogen and/or progestogen **pill**	• Self-administered • Contraceptive • Fertility retained when therapy is stopped
Etonogestrel implant	• Convenient — can last for three years • Inexpensive • Can be removed if side effects occur
Hormone-releasing IUD	• Does not require taking pills • Contraceptive • Fertility restored when removed
Endometrial ablation	• Fast procedure • Does not require hormonal pre-treatment • Can be done in hospital or day surgery unit • General anaesthetic is typically used • Recovery in 1–2 days
Hysterectomy	• Permanently eliminates HMB

1. Knight B *et al. Australian Doctor* 6 March 2009:31–8. 2. Apgar BS *et al. Am Fam Physician* 2007;75:1813–9.

Disadvantages of current management approaches

Management approach	Disadvantages
Non-hormonal medications	• Not as effective as other treatments[1]
Oestrogen and/or progestogen pill	• About 50% of patients experience side effects[1] • Hormonal side effects can include depression, acne, headache, weight gain, breast tenderness[2] • Ongoing cost • Requires patient compliance
Etonogestrel implant	• Same side effects as oral progestogen[2] • Can be very difficult to remove if not inserted properly[2]
Hormone-releasing IUD	• Must be removed and replaced every 5 years[3] • 70% of women experience initial intermenstrual bleeding/spotting[4] • 30% of women experience hormonal side effects[4] • Hormonal side effects may include: depression, acne, headaches, nausea, weight gain, and hair loss[3,5] • Other potential side effects include abdominal pain, infection, and difficulty inserting the device, requiring cervical dilation[4,5]

1. Cooper KG *et al. Br J Obstet Gynecol* 1997;104:1360–66. 2. Knight B *et al. Australian Doctor* 6 March 2009:31–8. 3. Mirena Product Information. 20 March 2014. 4. Hurskainen R *et al. JAMA* 2004;291:1456–63. 5. Backman T *et al. BJOG* 2000;107:335–9.

Disadvantages of current management approaches (cont'd)

Management approach	Disadvantages
Endometrial ablation[1,2]	• Only appropriate for women who are finished having children – after an ablation the uterus is not able to properly support foetal development so some form of birth control is required • Risks of complications associated with minimally invasive procedures • Cannot be reversed
Hysterectomy[3]	• Involves major invasive surgery • Risks of complications associated with major surgery • Requires general or regional anaesthesia • 2 to 8 week recovery time • May result in early onset of menopause/possible need for future hormone treatment • Non-reversible – loss of fertility

1. American College of Obstetricians and Gynecologists (ACOG). Practice Bulletin. Endometrial Ablation. Number 81. May 2007.
2. NovaSure Instructions for Use, Hologic. 3. American College of Obstetricians and Gynecologists (ACOG). Frequently Asked Questions. Hysterectomy. Available at: www.acog.org/~/media/For%20Patients/faq008.pdf?dmc=1&ts=20140720T2009509467.

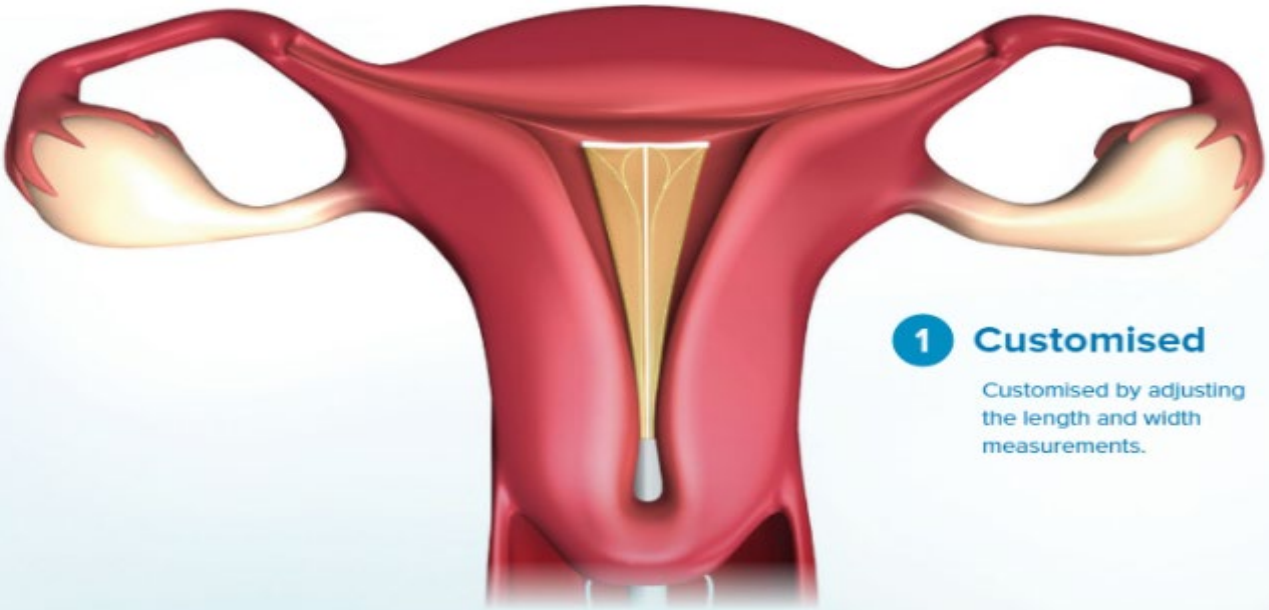
When to refer patients to a specialist

- For further assessment to rule out possible causes, and or treat specific pathologies i.e. myomas, polyps, congenital abnormalities and malignancies[1]
- With any Post Menopausal, Post Coital Bleeding
- After failure of conservative management especially in patients older than 35[1]
- At patient request following initial discussion of treatment options
- Where the GP has concerns regarding the presentation

1. Knight B *et al. Australian Doctor* 6 March 2009:31–8.

How does NovaSure® technology work?

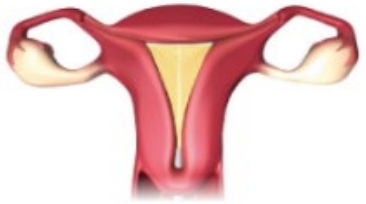
The NovaSure procedure provides a customised endometrial ablation treatment in an average of 5 minutes or less. [5]



1 Customised

Customised by adjusting the length and width measurements.

2 Pro-active Safety Feature: Cavity Integrity Assessment

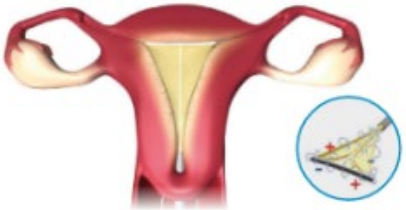


Maintaining pressure at 50mmHg for a minimum of 3 seconds to ensure the uterine cavity is intact – perforations >18 gauge needle can be detected.

4 SureClear™ Fluid removal system

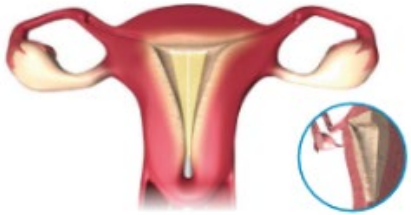
SureClear fluid removal system draws the tissue onto the array using vacuum and removes steam, moisture and by products of the ablation.

3 Impedance Controlled



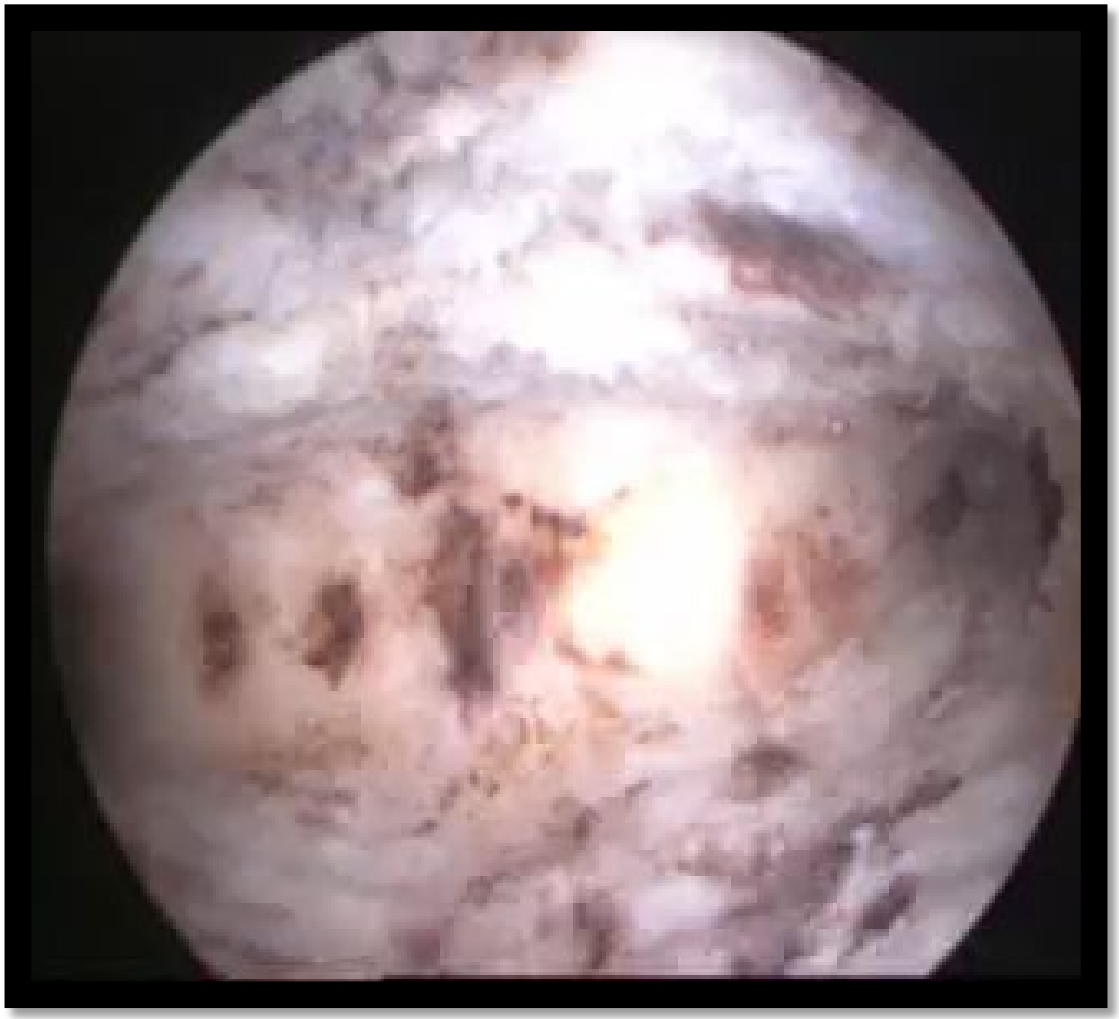
Radiofrequency energy is delivered through 4 electrodes in the array to monitor tissue impedance and terminate the procedure once 50 ohms of impedance has been reached or after 2 minutes.

5 Tapered Depth of Ablation



Once the ablation is complete, the uterine lining has been desiccated down to the superficial myometrium. The ablation profile depth is tapered to each patient.

Post Ablative Cavity



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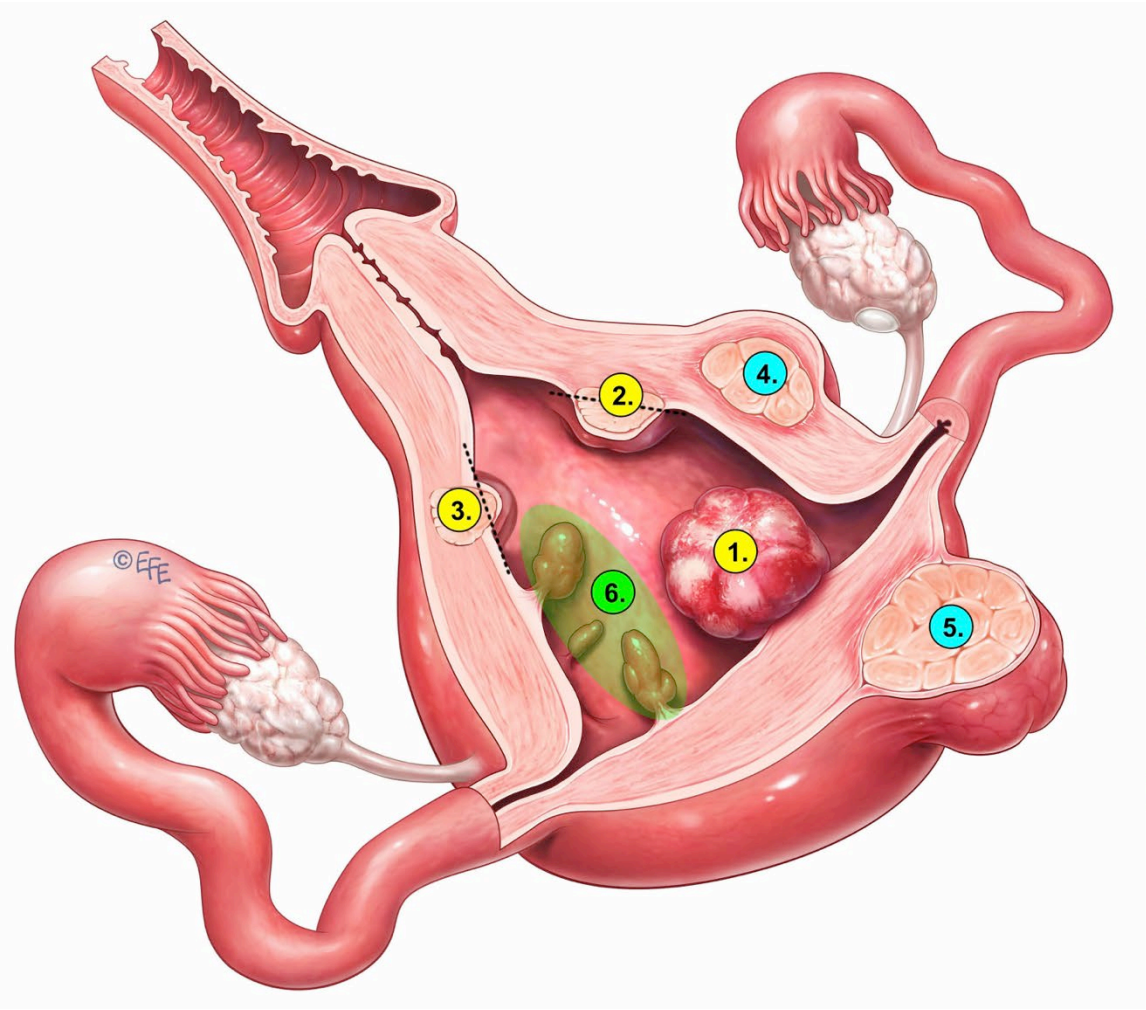

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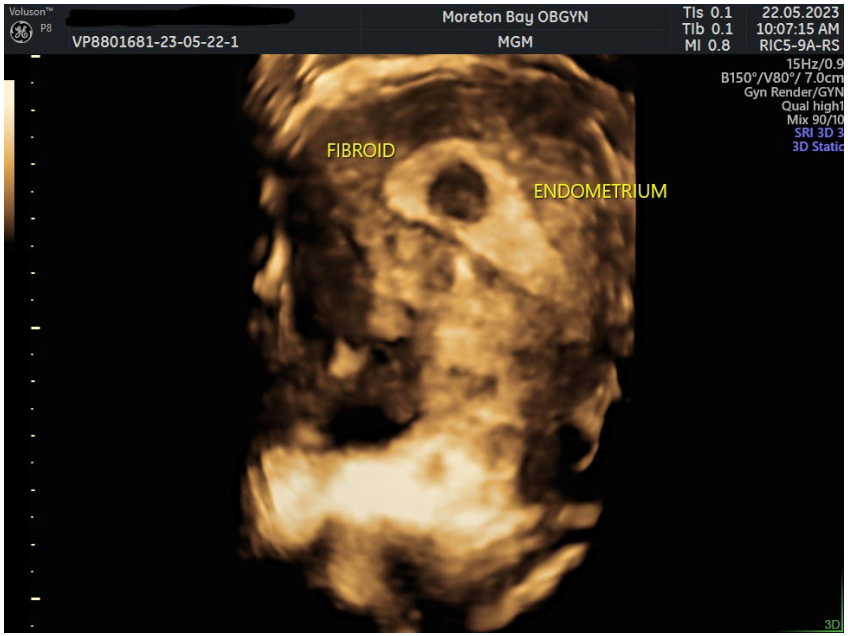
4cm Myoma Removal

Myosure Polypectomy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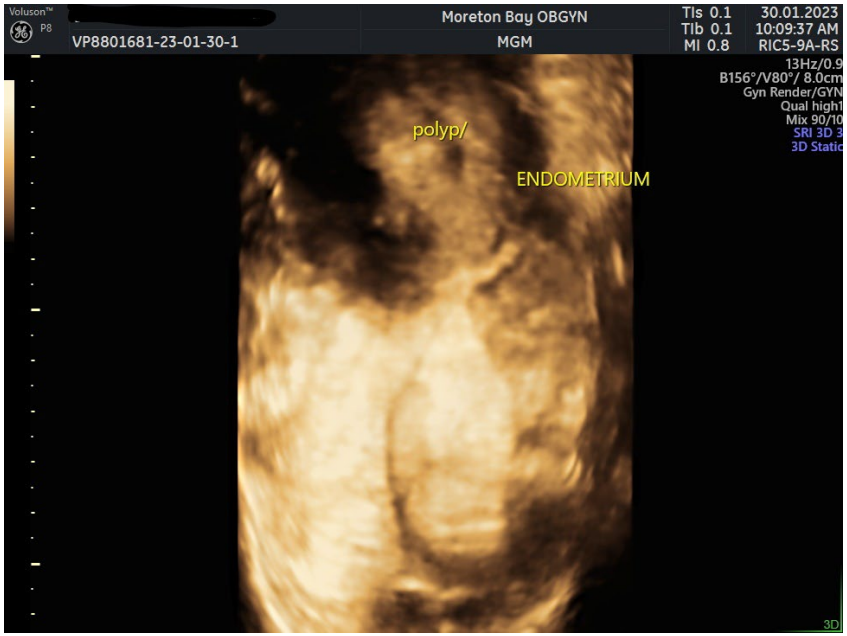
RIC5-9A-RS
FIBROID
ENDOMETRIUM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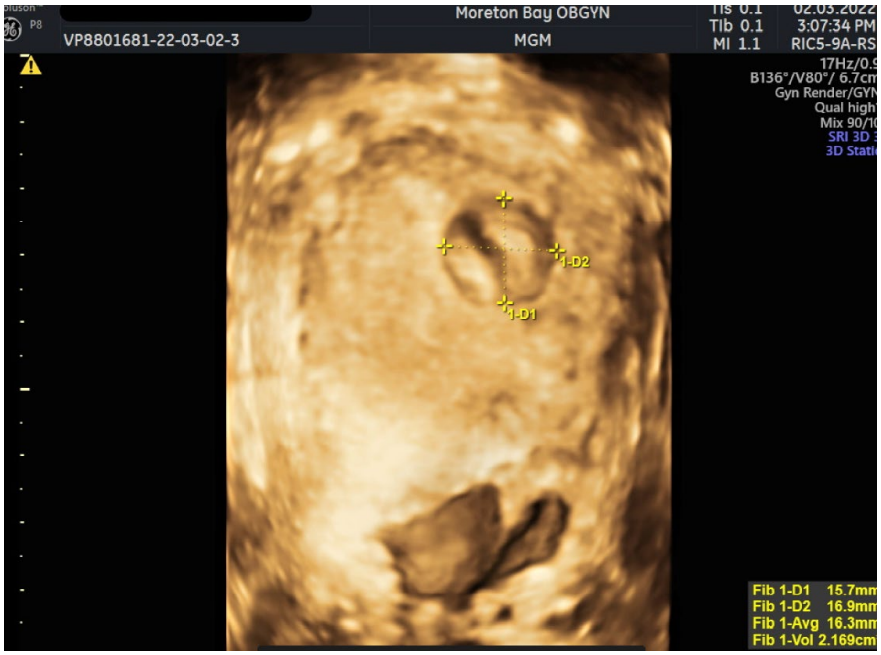
10:09:37 AM
RIC5-9A-RS
polyp/
ENDOMETRIUM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RIC5-9A-RS
1-D2
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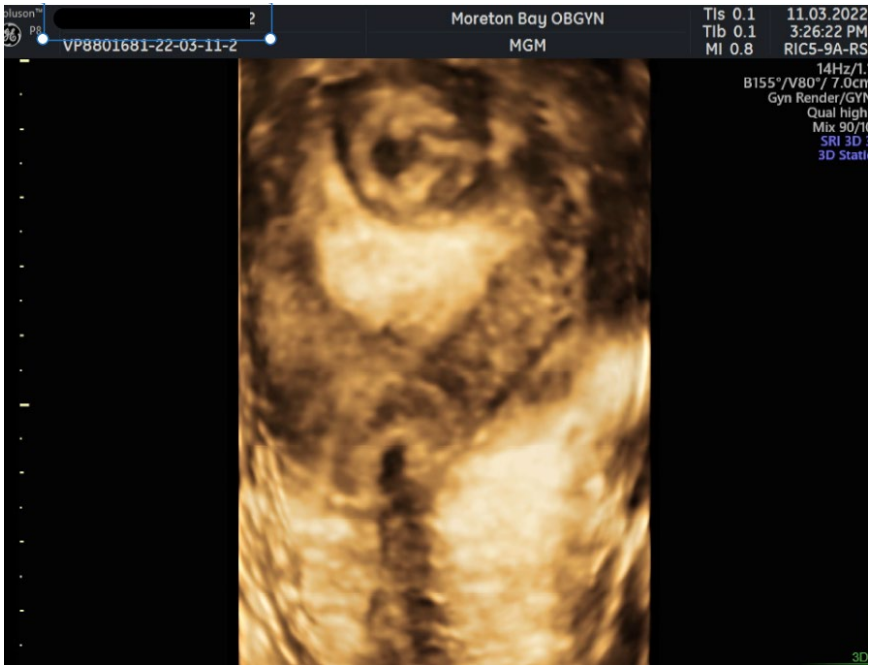
Fib 1-D1 15.7mm
Fib 1-D2 16.9mm
Fib 1-Avg 16.3mm
Fib 1-Vol 2.169cm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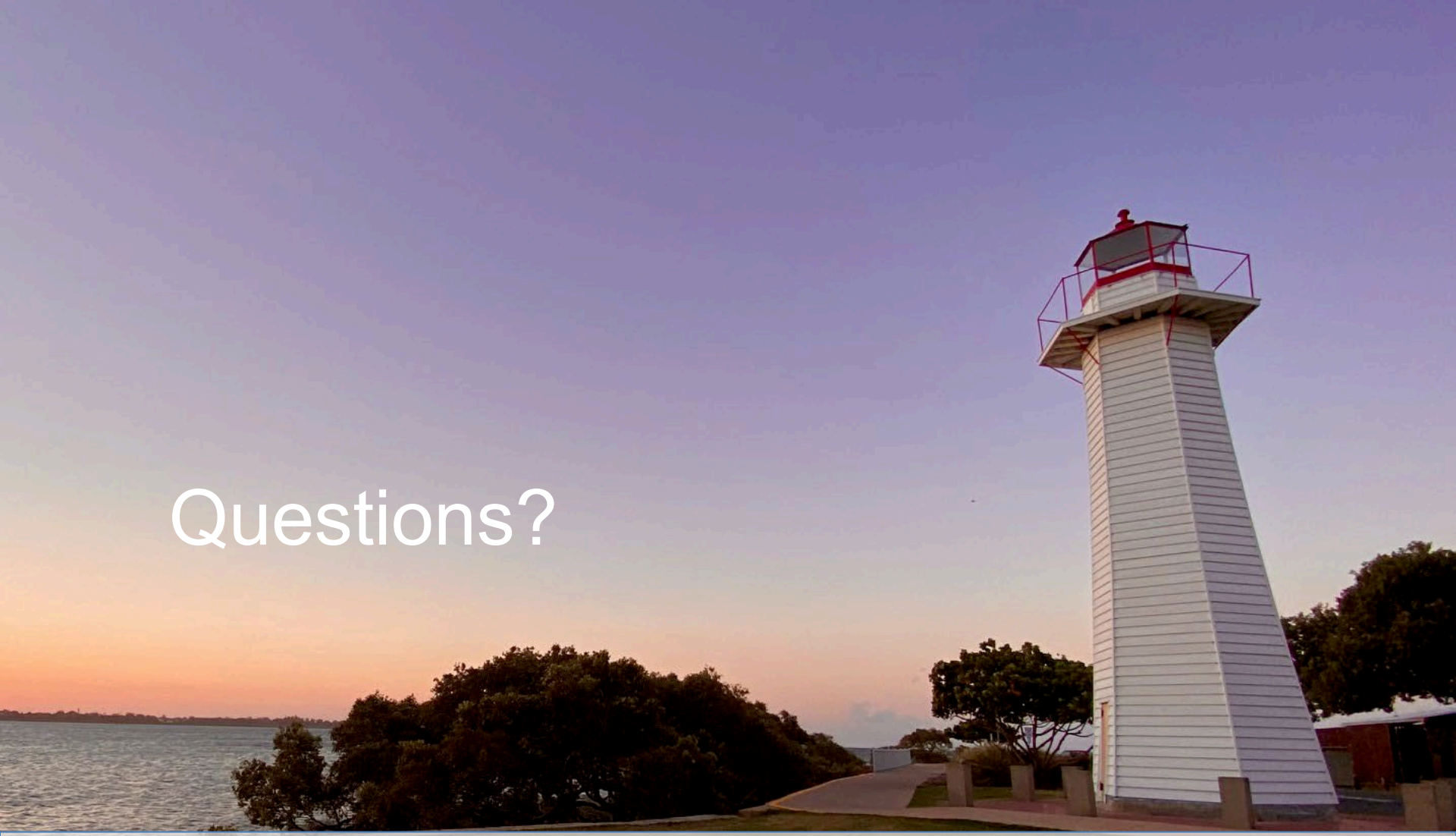

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