SPOTLIGHT ON SPOTTING

MASTERING ABNORMAL UTERINE BLEEDING IN PRIMARY CARE

ALLYSON ADAMS, MD
KATIE PUTNAM, MD MPH
EMILY WATERMAN, MD MPH

OBJECTIVES

- Learn framework for differentiating structural and non-structural causes of abnormal uterine bleeding (AUB)
- Review evidence-based tools for assessing AUB and appropriate diagnostic work-up
- Emerge with confidence around appropriate treatment strategies

ADOLESCENTS

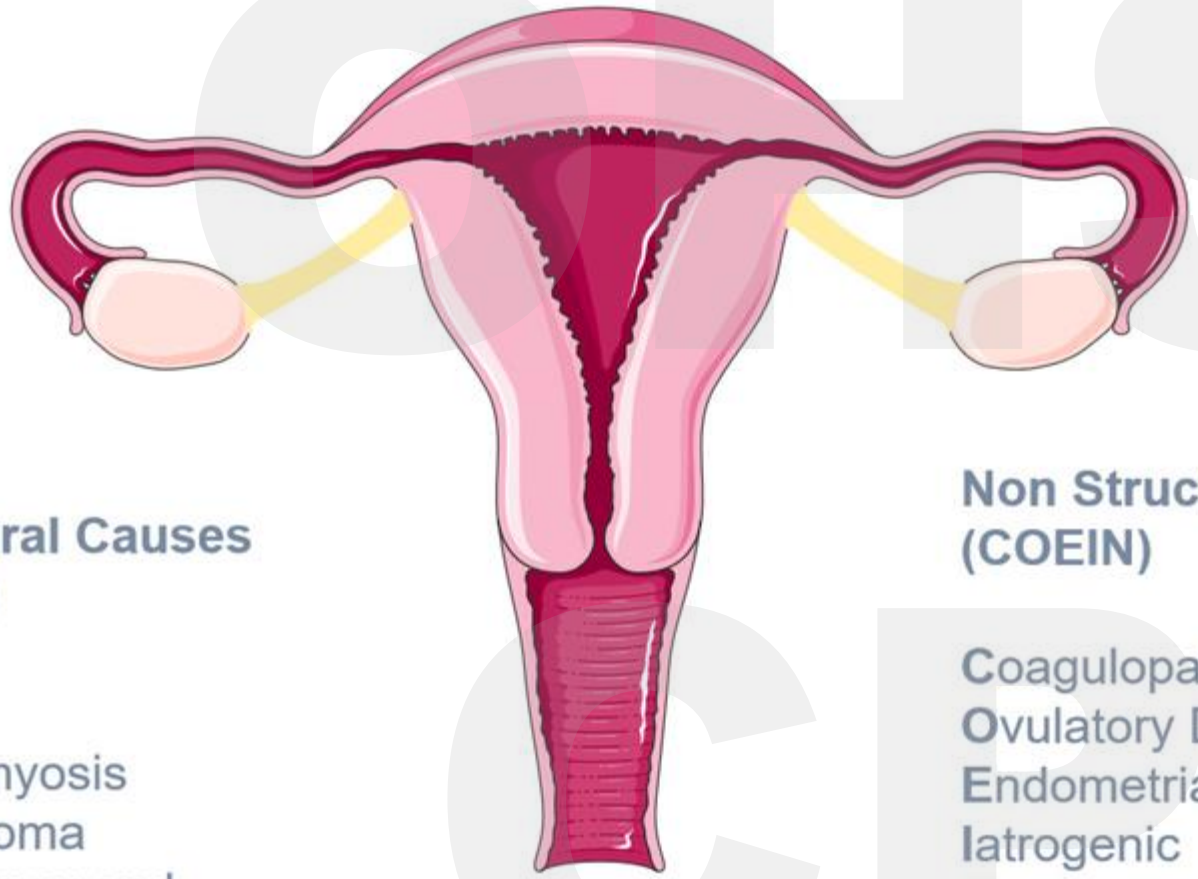
Image source: Shutterstock

CASE 1: TAYLOR

- 13-year-old presents with their mom
- Reports heavy periods and irregular cycles
- Menarche was approximately 1 year ago (age 12)
- Cycles occur every 28 – 37 days
- Occasionally miss a cycle
- Menses last 8-9 days with 5 heavy days, sometimes with quarter-sized clots

Image source: YF Gender Identity Night – Resource Center

PALM - COEIN Classification



Structural Causes (PALM)

Polyp
Adenomyosis
Leiomyoma
Malignancy and Hyperplasia

Non Structural Causes (COEIN)

Coagulopathy
Ovulatory Dysfunction
Endometrial
Iatrogenic
Not Otherwise Classified

- International Federation of Gynecology and Oncology (FIGO) classification system for abnormal uterine bleeding
- Framework for differential considerations for abnormal uterine bleeding

Kontogiannis A, Matsas A, Valsami S, Livanou ME, Panoskaltsis T, Christopoulos P. Primary Hemostasis Disorders as a Cause of Heavy Menstrual Bleeding in Women of Reproductive Age. J Clin Med. 2023 Sep 1;12(17):5702.

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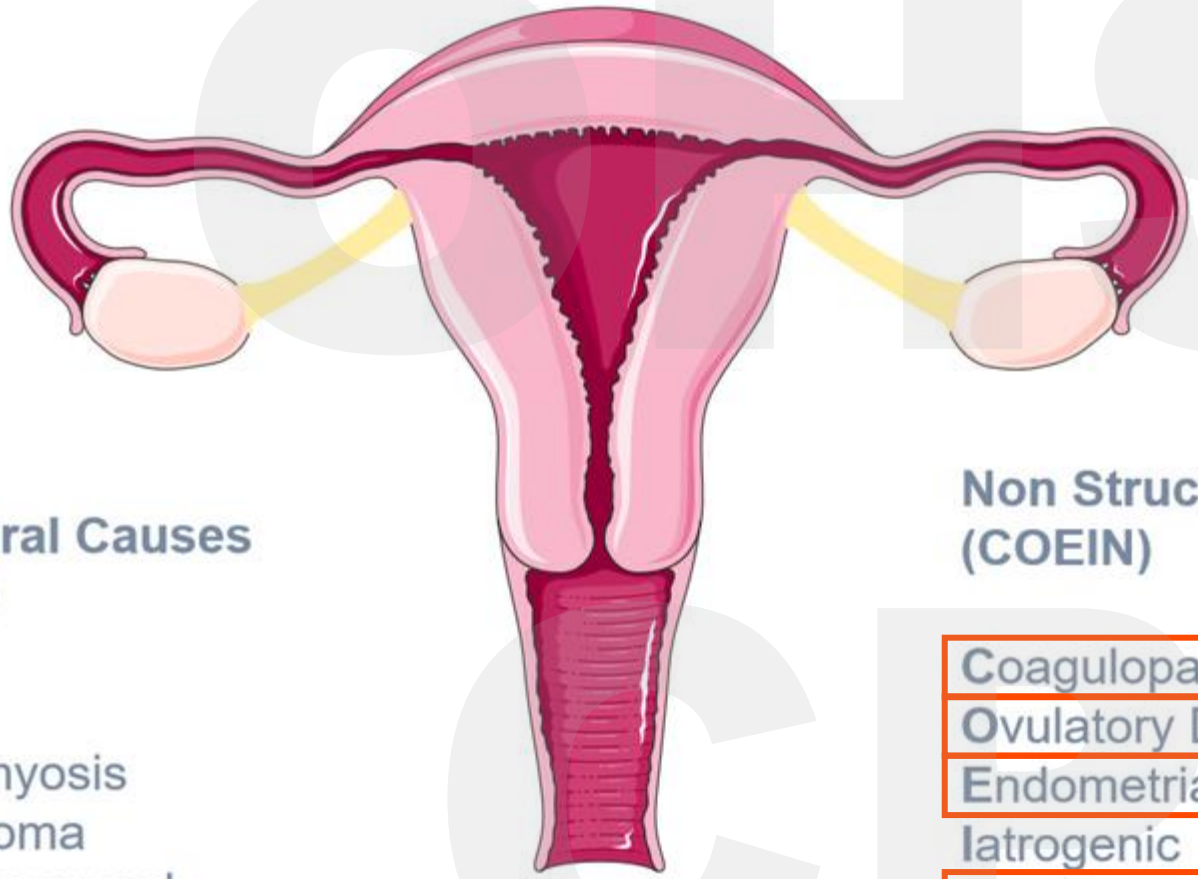

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- Ovulatory Dysfunction: Immaturity of Hypothalamic-Pituitary-Ovarian axis; Polycystic Ovary Syndrome (PCOS)
- Endometrial: Infections
- Not Otherwise Classified: Hormonal or Metabolic Imbalances

Kontogiannis A, Matsas A, Valsami S, Livanou ME, Panoskaltsis T, Christopoulos P. Primary Hemostasis Disorders as a Cause of Heavy Menstrual Bleeding in Women of Reproductive Age. J Clin Med. 2023 Sep 1;12(17):5702.

TAKING THE HISTORY

Menstrual

- Age at menarche
- Cycle length
- Duration
- Regularity

Bleeding

- Approximate volume during menses
- Assess for heavy bleeding:
  - Soaking through pads/tampons every 1-2 hours; Passage of clots; Changing menstrual products at night; Bleeding though clothes and sheets
- Nosebleeds, bleeding after procedure, or prolonged bleeding after wound

Medical

- Endocrine disorders (thyroid, PCOS)
- Recent weight change
- Stress
- New medications or supplements

Family

- Bleeding disorders such as von Willebrand disease

Reproductive

- Pregnancy possible?
- STI risk
- Contraceptive use

ASSESSMENT TOOLS (FIGO)

Parameter	Normal	Abnormal	☑
Frequency	Absent (no bleeding) = amenorrhea		☐
	Infrequent (>38 days)		☐
	Normal (≥24 to ≤38 days)		☐
	Frequent (<24 days)		☐
Duration	Normal (≤8 days)		☐
	Prolonged (>8 days)		☐
Regularity	Normal or "Regular" (shortest to longest cycle variation: ≤7-9 days)*		☐
	Irregular (shortest to longest cycle variation: ≥8-10 days)*		☐
Flow Volume (patient determined)	Light		☐
	Normal		☐
	Heavy		☐

Intermenstrual Bleeding (IMB) Bleeding between cyclically regular onset of menses	None		☐
	Random		☐
	Cyclic (Predictable)	Early Cycle	☐
		Mid Cycle	☐
		Late Cycle	☐

Unscheduled Bleeding on Progestin ± Estrogen Gonadal Steroids (birth control pills, rings, patches or injections)	Not Applicable (not on gonadal steroid medication)	☐
	None (on gonadal steroid medication)	☐
	Present	☐

FIGO System 1. Definition of normal and abnormal uterine bleeding.

ASSESSMENT TOOLS (ACOG)

TABLE 1

Screening Tool to Identify Adolescents with Heavy Menstrual Bleeding

1. How many days does your period usually last, from the time bleeding begins until it completely stops?
   - ☐ Less than seven days
   - ☐ Seven days or more
   - ☐ Don't know
2. How often do you experience a sensation of flooding or gushing during your period?
   - ☐ Never, rarely, or sometimes
   - ☐ All or most of the time
   - ☐ Don't know
3. During your period, have you ever bled through a tampon or pad in two hours or less?
   - ☐ Never, rarely, or sometimes
   - ☐ All or most of the time
   - ☐ Don't know
4. Have you ever been treated for anemia?
   - ☐ No
   - ☐ Yes
   - ☐ Don't know
5. Has anyone in your family ever been diagnosed with a bleeding disorder?
   - ☐ No
   - ☐ Yes
   - ☐ Don't know
6. Have you ever had a tooth extracted or had dental surgery?
   - ☐ No (if no, go to question 7)
   - ☐ Yes
   - ☐ Don't know

6a. Did you have a problem with bleeding after tooth extraction or dental surgery?
   - ☐ No
   - ☐ Yes
   - ☐ Don't know

7. Have you ever had surgery other than dental surgery?
   - ☐ No (if no, go to question 8)
   - ☐ Yes
   - ☐ Don't know

7a. Did you have bleeding problems after surgery?
   - ☐ No
   - ☐ Yes
   - ☐ Don't know

8. Have you ever been pregnant?
   - ☐ No (if no, stop)
   - ☐ Yes
   - ☐ Don't know

8a. Have you ever had a bleeding problem following delivery or after a miscarriage?
   - ☐ No
   - ☐ Yes
   - ☐ Don't know

How to use the screening tool

If one of the following four criteria are met, adolescents should undergo laboratory screening for a bleeding disorder.

1. Duration of menses was seven days or more, and the patient reported flooding or bleeding through a tampon or pad in two hours or less with most periods
2. History of treatment of anemia
3. Family history of a diagnosed bleeding disorder
4. History of excessive bleeding with tooth extraction, delivery or miscarriage, or surgery

Adapted with permission from Philipp CS, Faiz A, Dowling NF, et al. Development of a screening tool for identifying women with menorrhagia for hemostatic evaluation. Am J Obstet Gynecol. *2008;198(2):163.e1-e8.*

1. Costlow, Laurie. "Heavy Menstrual Bleeding in Adolescents: ACOG Management Recommendations." American Family Physician 101.10 (2020): 633-635.
2. ACOG Practice Bulletin 785: Screening and Management of Bleeding Disorders in Adolescents With Heavy Menstrual Bleeding
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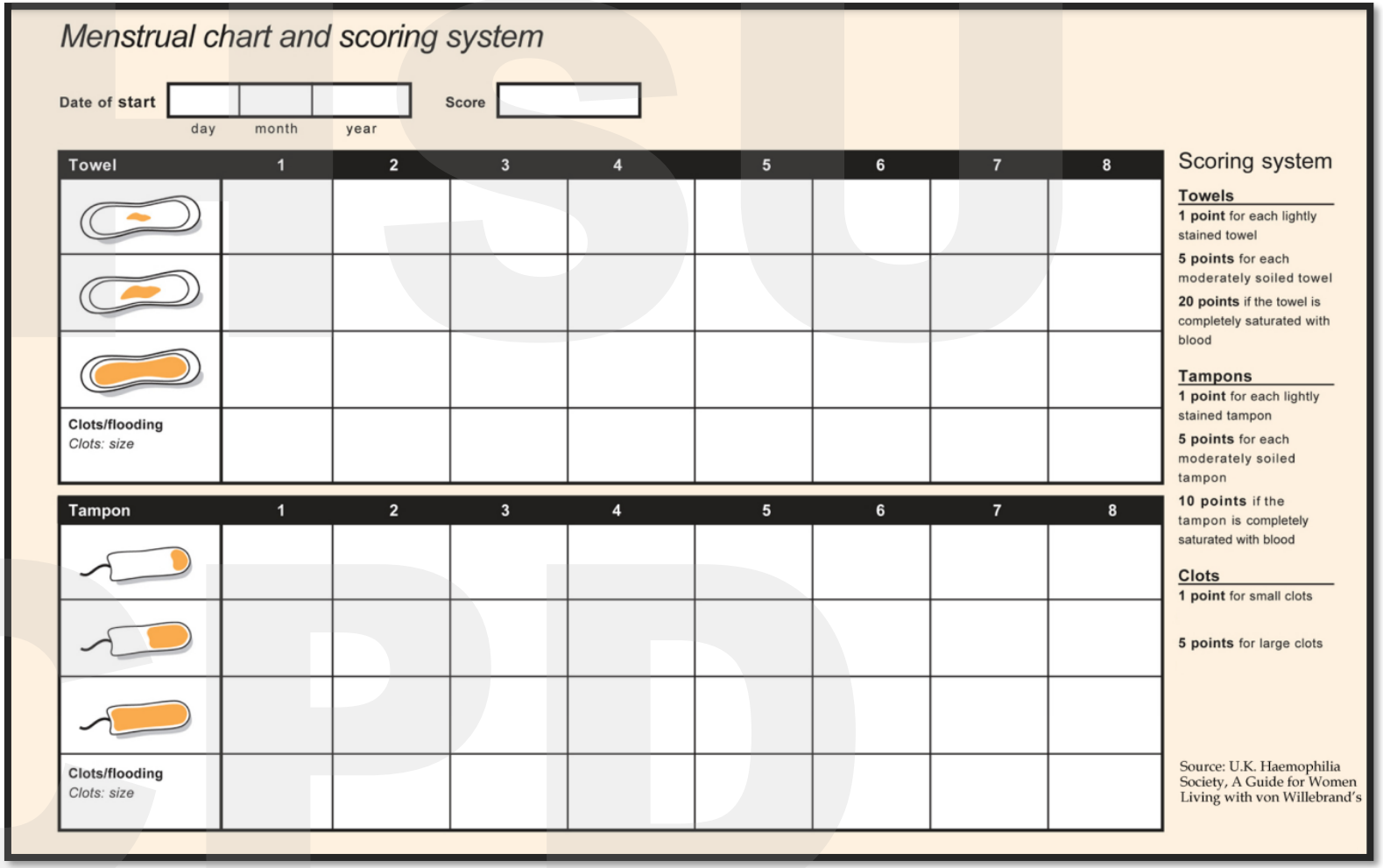
ASSESSMENT TOOLS (PBAC)

- Consider use of chart to help patients document bleeding
- Multiple available pictographs, the Pictorial Blood Loss Assessment Chart (PBAC) is most common
- Score>100 concerning for AUB



Menstrual chart and scoring system

Date of start ____ ____ ____ (day / month / year) Score ____

Towel	1	2	3	4	5	6	7	8
Clots/flooding *Clots: size*								

Tampon	1	2	3	4	5	6	7	8
Clots/flooding *Clots: size*								

Scoring system

Towels

1 point for each lightly stained towel

5 points for each moderately soiled towel

20 points if the towel is completely saturated with blood

Tampons

1 point for each lightly stained tampon

5 points for each moderately soiled tampon

10 points if the tampon is completely saturated with blood

Clots

1 point for small clots

5 points for large clots

Source: U.K. Haemophilia Society, A Guide for Women Living with von Willebrand's

WORKUP

	ACOG[1]	AAFP[2]	JAMA Peds[3]
Pelvic exam			
Urine HCG	?	?	?
GC/CT	?	?	?
CBC + ferritin	✓	✓	✓
Coagulation labs	✓	✓	?
TSH	✓	✓	✓
PCOS labs	?	✓	?
Pelvic ultrasound			
Endometrial biopsy			

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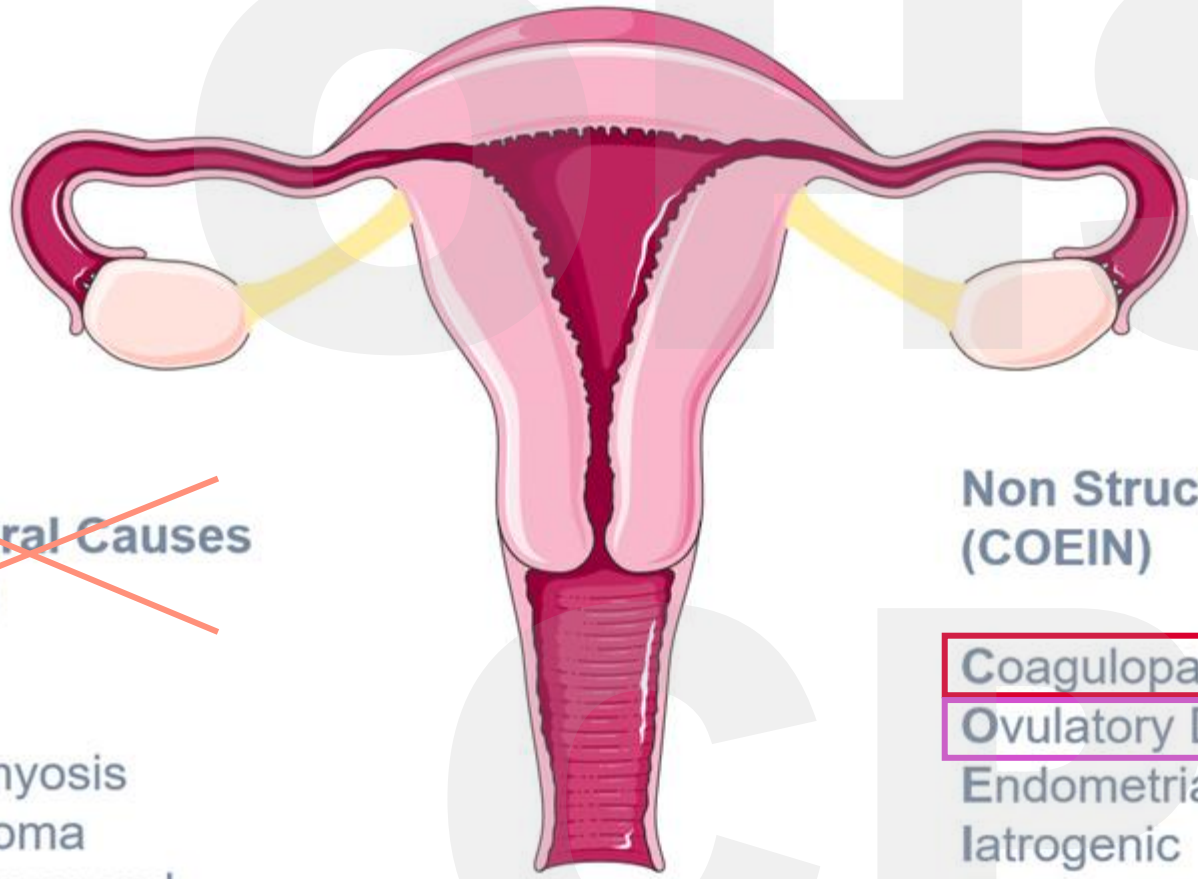

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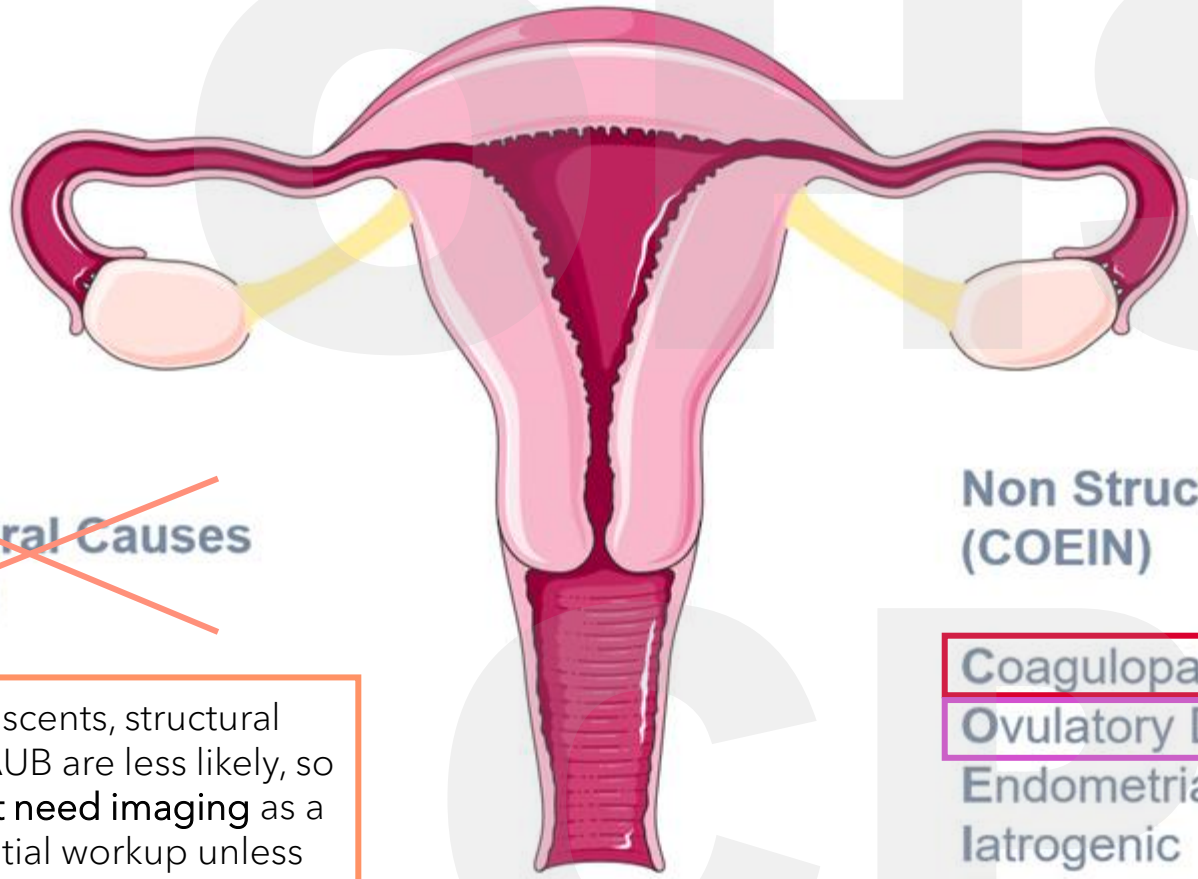

~~Structural Causes (PALM)~~

In adolescents, structural causes of AUB are less likely, so **you do not need imaging** as a part of initial workup unless there is a specific concern or if refractory to treatment

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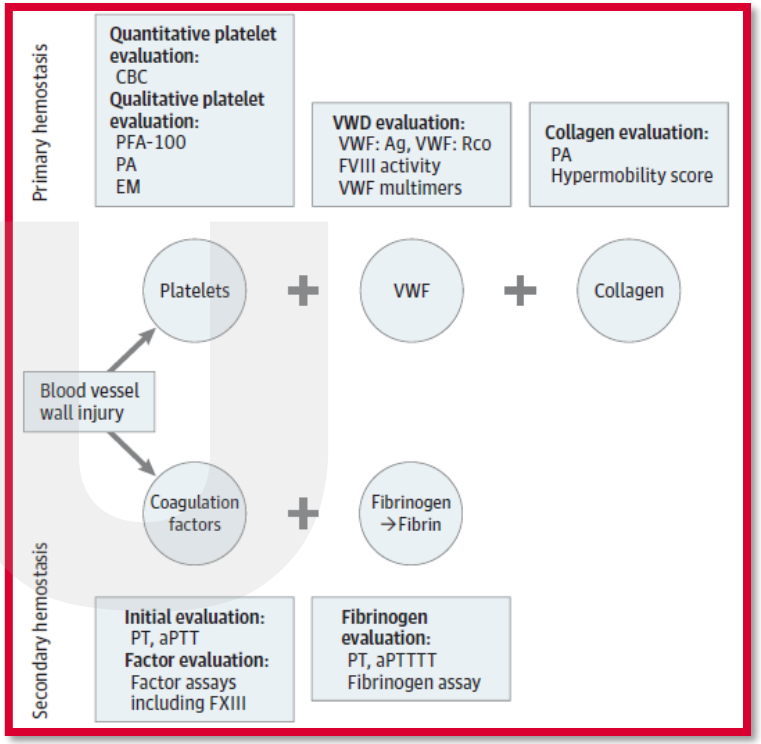

If **hyperandrogenism** present or suspicion for **PCOS**, consider
Free T, total T, DHEAS, prolaction

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CASE 1: TAYLOR

- VSS, no orthostasis
- Labs show:
  - Hemoglobin 11, ferritin 5
  - TSH 2.8
  - Normal INR, PT, PTT, fibrinogen
  - Normal prolactin
  - Normal testosterone and DHEAS
- They are still bleeding and have a big soccer tournament this weekend. Can you help?

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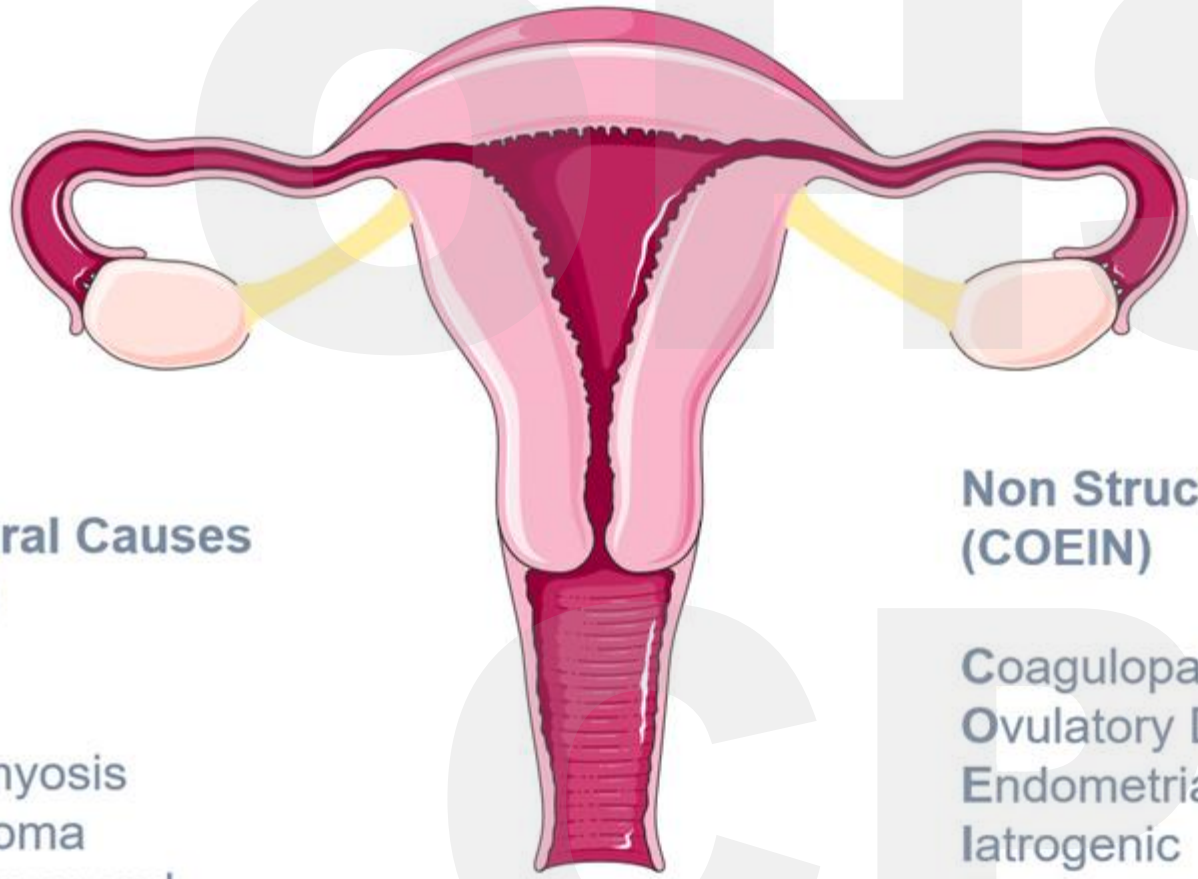

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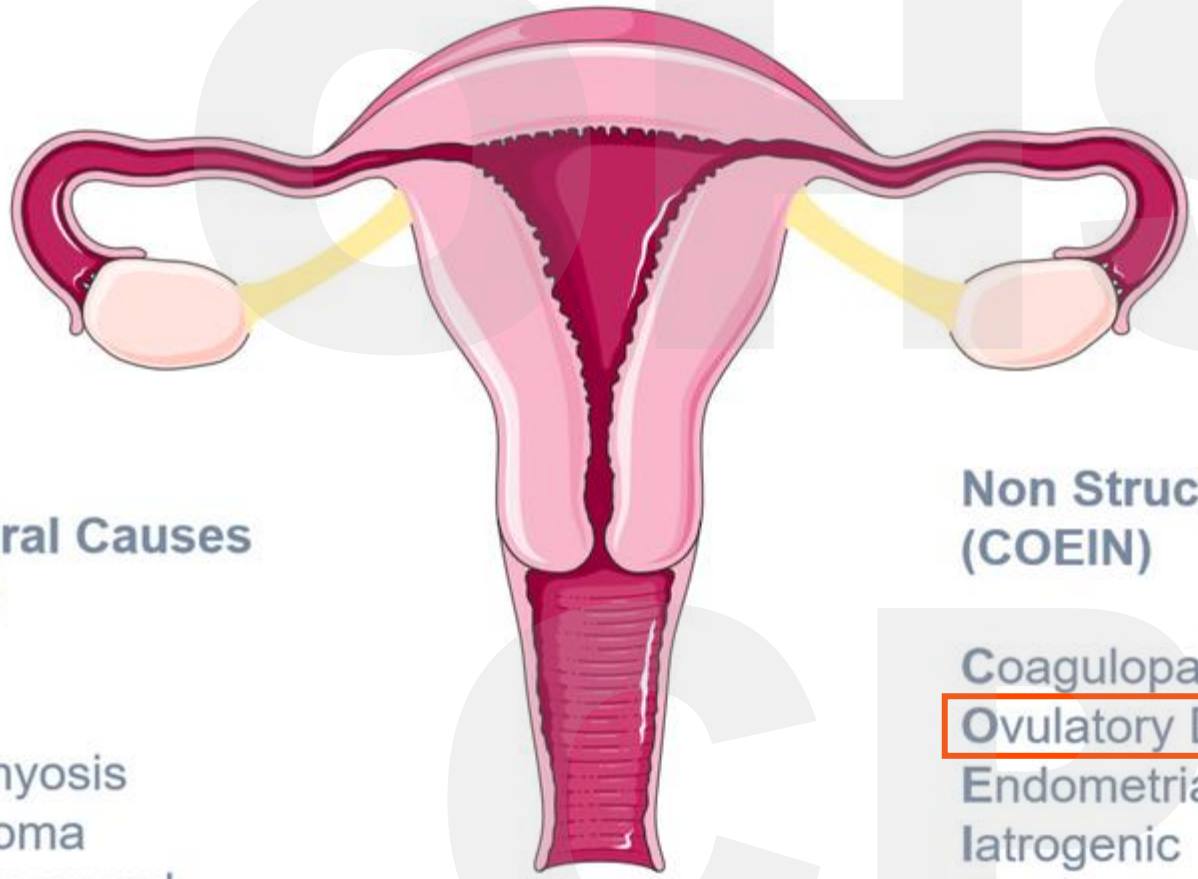

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ACUTE MANAGEMENT OF AUB

- If a patient is presenting with:
  - Current, ongoing bleeding, and
  - Is stable for outpatient management
  - Consider treatment to **quickly stop the bleeding**
- IV vs PO regimens
- Both hormonal and nonhormonal options
- Then taper to ongoing management

Box. Medication Regimens Used to Control Acute Heavy Menstrual Bleeding

Intravenous Regimens

- Conjugated equine estrogen: 25 mg every 4-6 h for 24 h
- Tranexamic acid: 10 mg/kg: (max 600 mg) every 8 h for 2-8 d
- Aminocaproic acid: 100-200 mg/kg (max 30 g/d) every 4-6 h

Oral Regimens

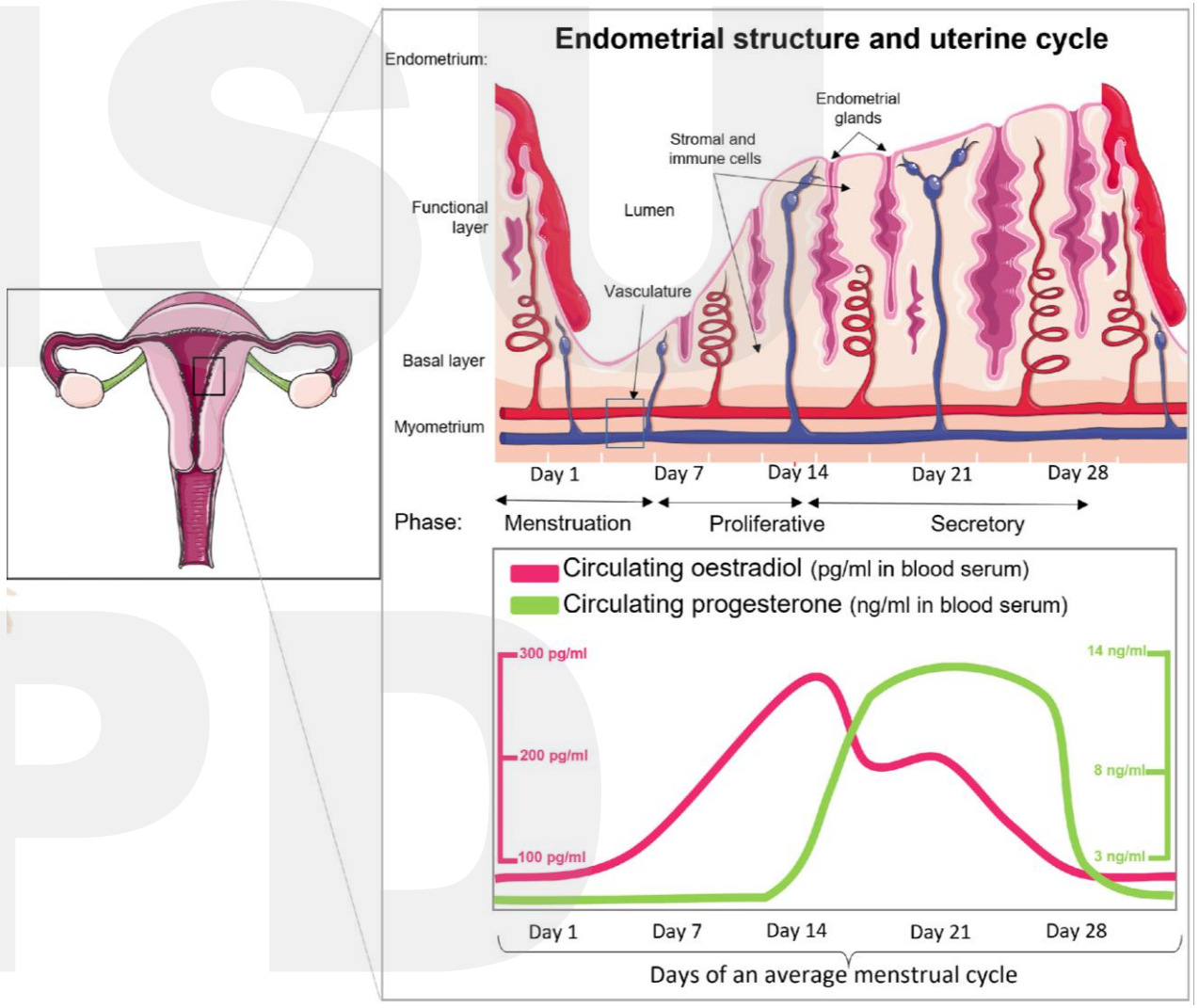
- Combined oral contraceptive containing 30-50 µg EE
  - Three times per d for 7 d, then taper to daily dosing
- Medroxyprogesterone acetate: 20 mg three times per d for 7 d, then taper to daily dosing
- Norethindrone acetate: 10 mg three times per d for 7 d, then taper to daily dosing
- Tranexamic acid: 1300 mg three times per d for 5 d
- Aminocaproic acid: 100-200 mg/kg (max 30 g/d) every 4-6 h

Adapted from ACOG Committee Opinion No. 557,[62] Moon et al,[66] and Haamid et al.[67]

Borzutzky C, Jaffray J. Diagnosis and Management of Heavy Menstrual Bleeding and Bleeding Disorders in Adolescents. JAMA Pediatr. 2020 Feb 1;174(2):186-194.

ONGOING MANAGEMENT OF AUB

- Consider starting hormonal contraceptives
  - **Progestin +/- estradiol**
  - **Progestin** downregulates estrogen receptors -> decrease glandular proliferation -> induce endometrial atrophy
- Treat iron deficiency anemia
  - CDC recommends 60-120 mg daily of iron[1]
    - Once daily or every other day dosing appropriate[2]
    - 3-6 month course then re-eval with CBC, ferritin



1. Recommendations to prevent and control iron deficiency in the United States. Centers for Disease Control and Prevention. MMWR Recomm Rep 1998;47(RR-3):1–29.
2. Stoffel NU, Cercamondi CI, Brittenham G, Zeder C, Geurts-Moespot AJ, Swinkels DW, et al. Iron absorption from oral iron supplements given on consecutive versus alternate days and as single morning doses versus twice daily split dosing in iron-depleted women: two open-label, randomised controlled trials. Lancet Haematol 2017;4: e524–33.
Image from: Tsolova AO, Aguilar RM, Maybin JA, Critchley HOD. Pre-clinical models to study abnormal uterine bleeding (AUB). EBioMedicine. 2022 Oct;84:104238. doi: 10.1016/j.ebiom.2022.104238. Epub 2022 Sep 5.

ONGOING MANAGEMENT OF AUB

Progestin-only

- Medoxyprogesterone acetate 2.5-5 mg daily, uptitrate to 20 mg as needed
- Norethindrone 2.5-5 mg daily, uptitrate to 20 mg as needed
- Drosperinone 4 mg daily

Combined estradiol-progestin

- Second generation progestin (levonorgestrel or norgestrel) preferred[3]
- 30-50 mcg ethinyl estradiol preferred[3]
- Consider estradiol valerate and dienogest (FDA approved for HMB)[4,5]

Non oral options are also acceptable!

- Patch, ring
- Progestin IUD

General tips

- Reference CDC or WHO MEC for contraindications[1]
- Avoid low dose progestin (minipill)[2]
  - Norethindrone 0.35 mg
- Avoid ultra-low estradiol (10 mcg) should be avoided due to association with breakthrough bleeding[2]
- Recommend continuous administration (skip placebo) until stabilized
- Progestin implant not recommended

1. Nguyen AT, Curtis KM, Tepper NK, et al. U.S. Medical Eligibility Criteria for Contraceptive Use, 2024. MMWR Recomm Rep 2024;73(No. RR-4):1–126
2. Borzutzky C, Jaffray J. Diagnosis and Management of Heavy Menstrual Bleeding and Bleeding Disorders in Adolescents. JAMA Pediatr. 2020 Feb 1;174(2):186-194.
3. ACOG Committee Opinion No. 785, Screening and Management of Bleeding Disorders in Adolescents With Heavy Menstrual Bleeding: Correction. Obstet Gynecol. 2023 Jan 1;141(1):228.
4. FDA approves Natazia for heavy menstrual bleeding [press release]. Wayne, NJ: Bayer HealthCare Pharmaceuticals Inc; March 14, 2012. https://www.drugs.com/newdrugs/u-s-fda-approves-first-only-oral-contraceptive-demonstrated-heavy-menstrual-bleeding-hmb-3150.html.
5. Yu Q, Zhou Y, Suturina L, Jaisamrarn U, Lu D, Parke S. Efficacy and Safety of Estradiol Valerate/Dienogest for the Management of Heavy Menstrual Bleeding: A Multicenter, Double-Blind, Randomized, Placebo-Controlled, Phase III Clinical Trial. J Womens Health (Larchmt). 2018 Oct;27(10):1225-1232.

CASE 1: TAYLOR

- Taylor elects to start combined oral contraceptives
- They successful have cessation of their bleeding with the TID dosing and transition to a daily pill
- They also started taking 60 mg iron daily

- After 3 months, they return for check up and their bleeding has stopped. Hemoglobin has improved to 12.5 and ferritin increased to 15.

REPRODUCTIVE AGED

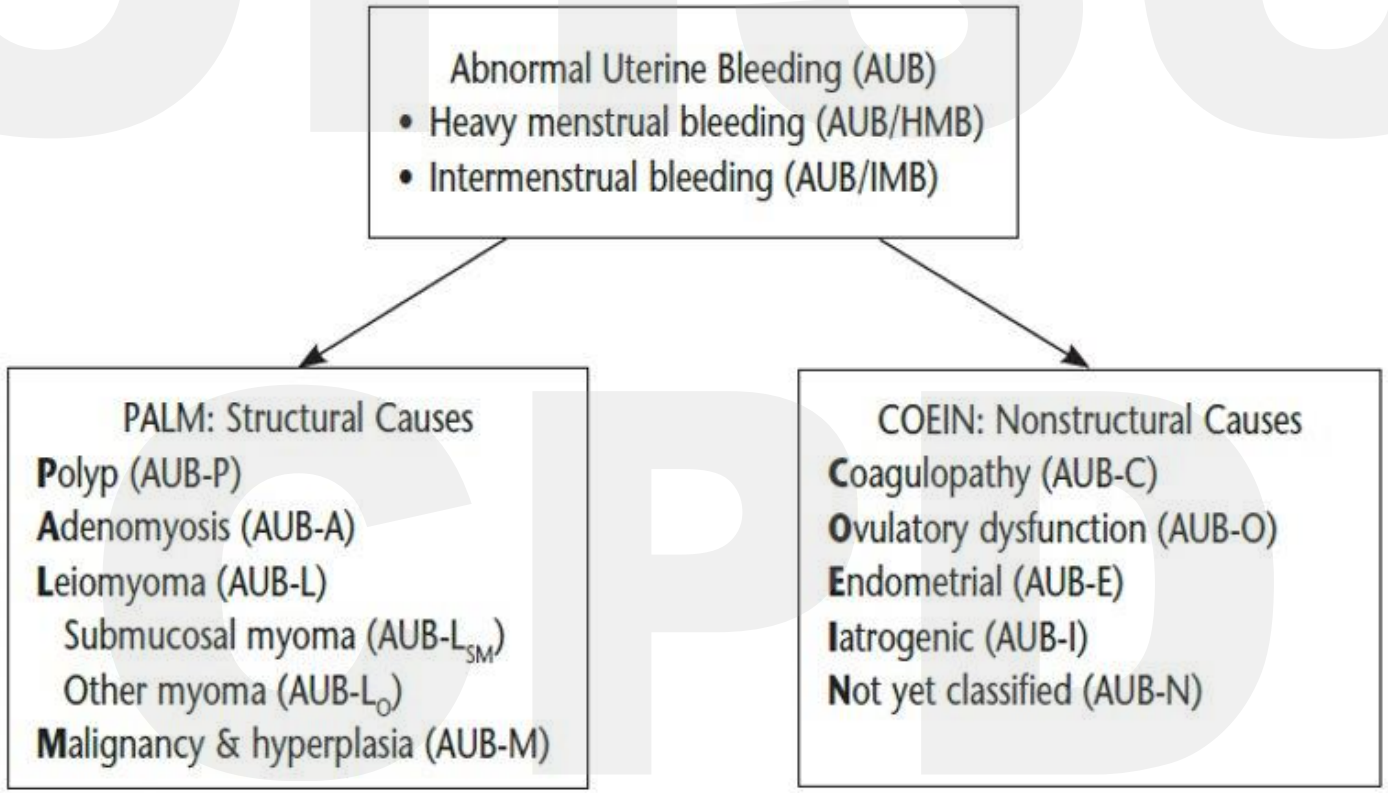
Image source: National Association of Colleges and Employers

CASE 2: SOFIA

- Sofia is a 36yo G3P3003 with Type II DM, HLD, BMI 34, history of cesarean x 2, bilateral salpingectomy
- Had normal periods until after her second pregnancy, which was delivered by c/s
- Now reporting ongoing intermenstrual and heavy bleeding

Image source: iStock

CASE 2: WHAT IS YOUR DDX?



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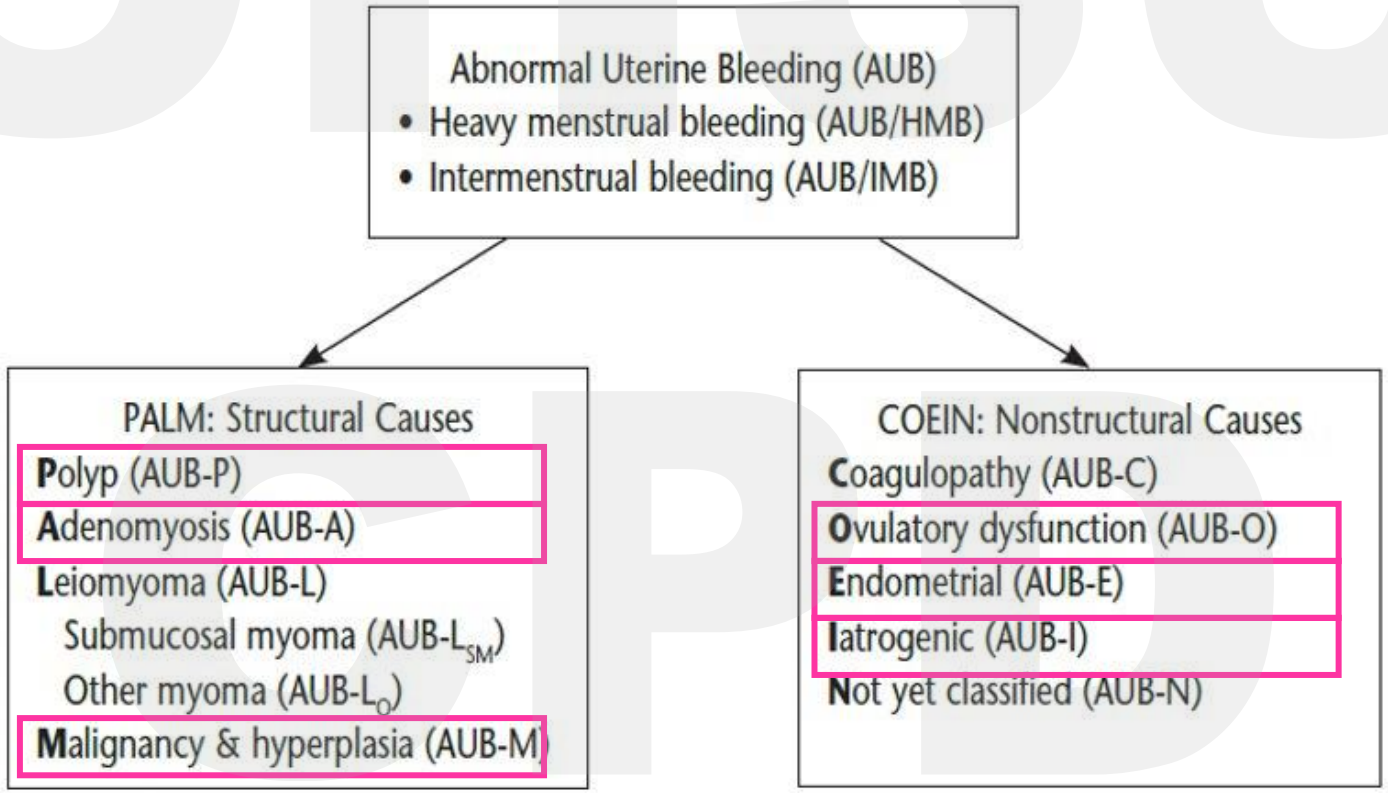
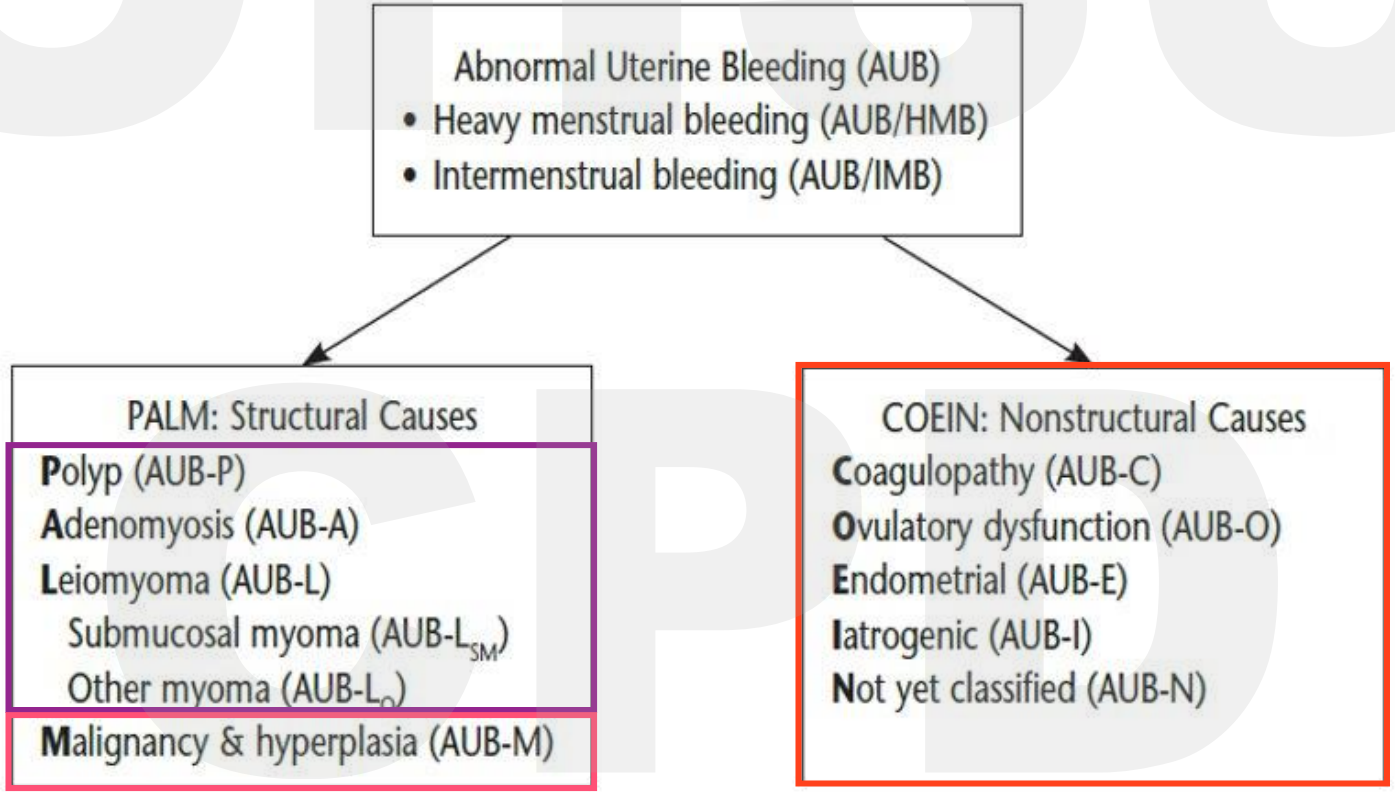


WHEN TO DO WHAT



TVUS to rule out

EMB to rule out

Labs to eval

MALIGNANCY RISK

- Most women are diagnosed after menopause, with only 15% diagnosed before age 50 years and only 5% before age 40 years

Table 1. Risk Factors for Type I Uterine Corpus Cancer

Factors Influencing Risk	Estimated Relative Risk*
Older age	2–3
Residency in North America or Northern Europe	3–18
Higher level of education or income	1.5–2
White race	2
Nulliparity	3
History of infertility	2–3
Menstrual irregularities	1.5
Late age at natural menopause	2–3
Early age at menarche	1.5–2
Long-term use of unopposed estrogen	10–20
Tamoxifen use	2–3†
Obesity	2–5
Estrogen-producing tumor	>5
History of type 2 diabetes, hypertension, gallbladder disease, or thyroid disease	1.3–3
Lynch syndrome	6–20‡

*Relative risks depend on the study and referent group employed.

Practice Bulletin No. 149: Endometrial cancer. Obstet Gynecol. 2015 Apr;125(4):1006-1026. doi: 10.1097/01.AOG.0000462977.61229.de..

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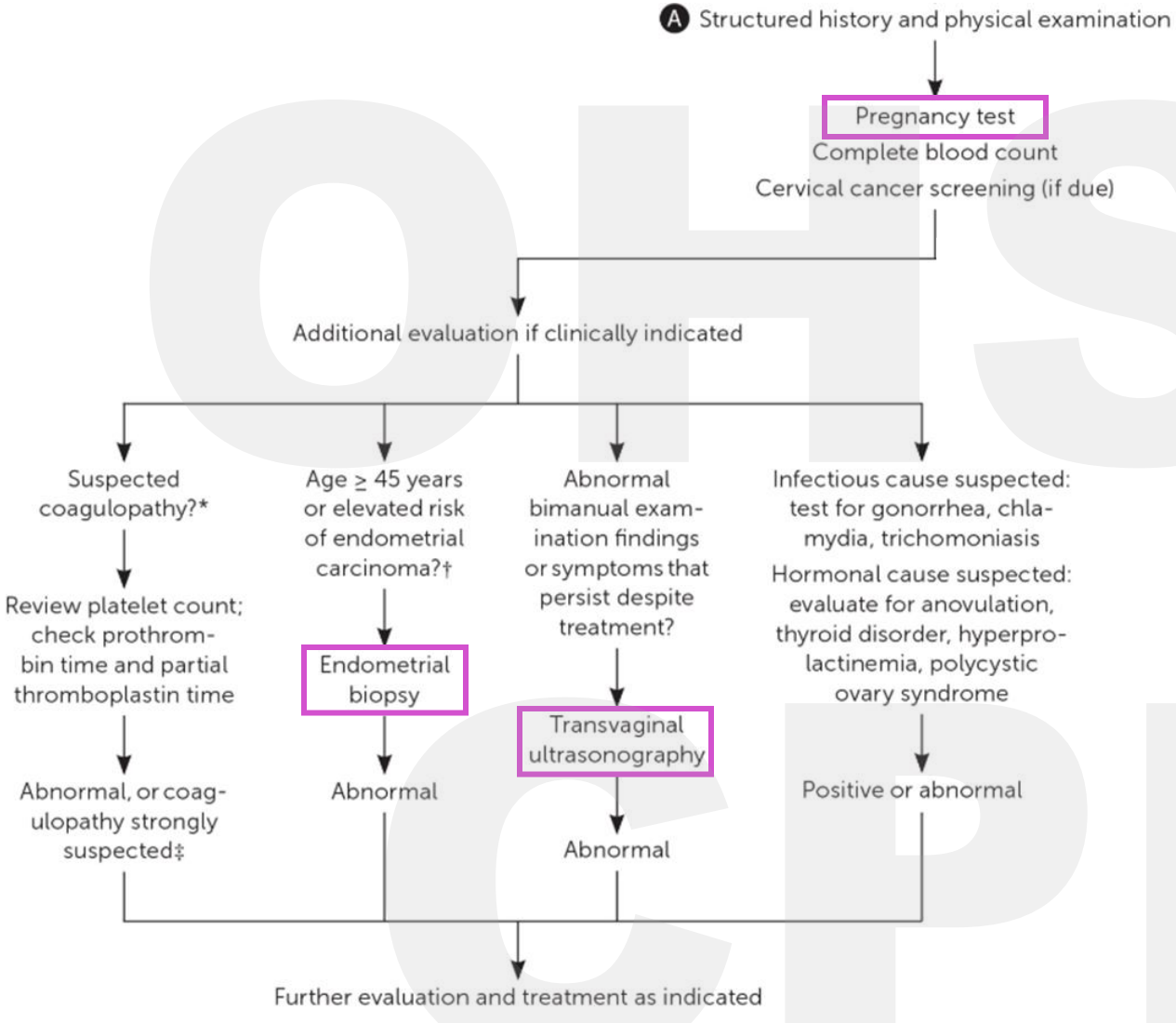


Take home points

- HCG for all
- Pelvic exam and TVUS to evaluate for structural causes
- Lab work pending clinical scenario
- EMB to rule out hyperplasia/malignancy
  - Always recommended for AUB >45 yo
  - For ≤45 yo if risk factors for endometrial hyperplasia
    - History of unopposed estrogen exposure: obesity, PCOS
    - Failed medical management of AUB
    - Persistent AUB

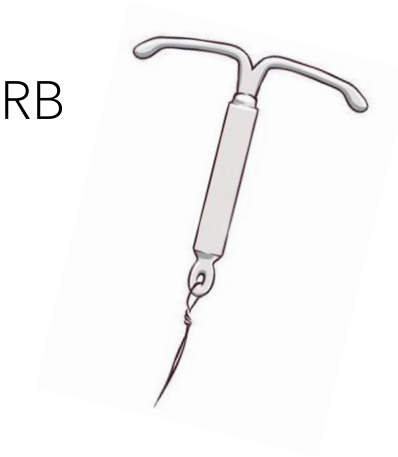
Wouk N, Helton M. Abnormal Uterine Bleeding in Premenopausal Women. Am Fam Physician. 2019 Apr 1;99(7):435-443.
Practice Bulletin No. 128: Diagnosis of Abnormal Uterine Bleeding in Reproductive-Aged Women. Obstetrics & Gynecology 120(1):p 197-206, July 2012.

CASE 2: SOFIA

- Hgb of 11.5, ferritin of 12, normal TSH, neg UPT
- TVUS was unremarkable
- She returns to the office - you perform an EMB and place an IUD
- The EMB is normal

LONG-ACTING REVERSIBLE CONTRACEPTION (LARC) FOR AUB

- Progesterone-containing IUDs[1]
  - Mirena/Liletta (52mg, 8 years): highest rates of amenorrhea and least BRB
    - 5 years of use recommended for endometrial protection
  - Kyleena (19.5 mg, 5 years)
  - Skyla (13.5 mg, 3 years)
- Nexplanon subdermal implant[2]
  - Not recommended for management of AUB due to risk of irregular spotting. Likely to help with dysmenorrhea
  - Not considered sufficient endometrial protection for HRT purposes
- Copper IUD (paragard) most likely to <u>increase</u> uterine bleeding



1. Data Sources: https://www.ncbi.nlm.nih.gov/pubmed/26916172, https://www.ncbi.nlm.nih.gov/pubmed/27125892; https://www.ohsu.edu/sites/default/files/2019-06/IUD-comparison-Chart-Final.pdf ; https://www.pi.bayer.com/sites/g/files/vrxlpx33726/files/2022-01/20211221_var_ap_BEC20783-18310_HCPI_Mirena_en_mt.pdf
2. Faculty of Sexual and Reproductive Healthcare (2023). FSRH Clinical Guideline: Contraception for Women Aged over 40 Years (August 2017, amended July 2023)
3. IUD image source: https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.plannedparenthood.org%2Flearn%2Fbirth-control%2Fiud&psig=AOvVaw1l71HrzKEzi7Oea4qViKNj&ust=1738095847929000&source=images&cd=vfe&opi=89978449&ved=0CBQQjRxqFwoTCKifseDdlosDFQAAAAAdAAAAABAE

CASE 2: SOFIA

- She returns 6 months later for continued spotting between periods, and spotting with intercourse
- She finds the ongoing spotting bothersome and would like to know what else she can do to stop the spotting

MANAGEMENT OF BREAKTHROUGH (IATROGENIC) BLEEDING

- Unscheduled bleeding can decrease with continued use; trial of 3–6 months before initiating medical management
- Can initiate sooner if unacceptable[1]

Method	Strategies
Estrogen-containing OCPs	• Counsel that BTB decreases with each successive cycle of therapy • With shared decision making, can consider cyclic cycles for 3–6 months, then transition to extended cycles • Hormone-free interval for 3–4 consecutive days • Supplementation with intermittent estrogen
Oral progestins	• Counsel patient to take POPs at the exact same time each day • Tapers: 0.7 mg daily for 7 days followed by a return to traditional dosing† • Increase norethindrone dose if needed for persistent breakthrough bleeding
Depot medroxyprogesterone acetate	• NSAIDs (5–7 days of treatment) • Hormonal treatment (if medically eligible) wctith combined OCPs or estrogen (10–20 days of treatment) • Administration at more frequent intervals may increase rates of amenorrhea
Implant	• NSAIDs (5–7 days of treatment) • Hormonal treatment (if medically eligible) with combined OCPs or estrogen (10–20 days of treatment); consider POPs for those with contraindications to estrogen)
Progestin-containing intrauterine device	• Those individuals using a lower-dose IUD experience more bleeding or spotting days on average than those using levonorgestrel-releasing 52-mg IUD with higher doses of levonorgestrel • Expert opinion supports a trial of NSAIDs, doxycycline, POPs, or continuous OCP use • Counsel patient on alternative methods

1. American College of Obstetricians and Gynecologists' Committee on Clinical Consensus–Gynecology. General Approaches to Medical Management of Menstrual Suppression: ACOG Clinical Consensus No. 3. Obstet Gynecol. 2022 Sep 1;140(3):528-541. doi: 10.1097/AOG.0000000000004899. PMID: 36356248.

CASE 2: SOFIA

- She would prefer a non-hormonal additional agent and would like more predictable bleeding

NON- HORMONAL

- Naproxen 500 mg BID, administer only when bleeding[1]
  - Less effective than TXA, though also helps with pain [2]
  - CI: renal disease, PUD
- PO TXA 1000 mg – 1500mg TID [1,2] , administer only when bleeding
  - Reduced bleeding by 35-50%[2], safe when trying to conceive[1]
  - CI: acquired color vision impairment, active VTE. Caution: increased risk of thrombosis, OCPs

1. Wouk N, Helton M. Abnormal Uterine Bleeding in Premenopausal Women. Am Fam Physician. 2019 Apr 1;99(7):435-443. PMID: 30932448.
2. ACOG committee opinion no. 557: Management of acute abnormal uterine bleeding in nonpregnant reproductive-aged women. Obstet Gynecol. 2013 Apr;121(4):891-896. doi: 10.1097/01.AOG.0000428646.67925.9a. PMID: 23635706.

CASE 2: SOFIA

- Sofia returns in 3 months. She reports she found the TXA to be helpful and now her bleeding has decreased to light spotting during her menses. She is happy with both her Mirena and the TXA.

PERIMENOPAUSE

Image source: UMMS Health

CASE 3: LEAH

- 48 yo female, PMHx depression stable on sertraline x years; BMI 26
- Irregular menstrual bleeding x 4 months
- Previously periods were regular, every 29-31 days, light to medium flow
- Not on hormonal contraception; single male partner is s/p vasectomy
- +mild night sweats, mood fluctuations, sleep disruption, undesired weight gain

Zuber TJ. Endometrial biopsy. Am Fam Physician. 2001 Mar 15;63(6):1131-5, 1137-41. PMID: 11277550.
Image source: iStock

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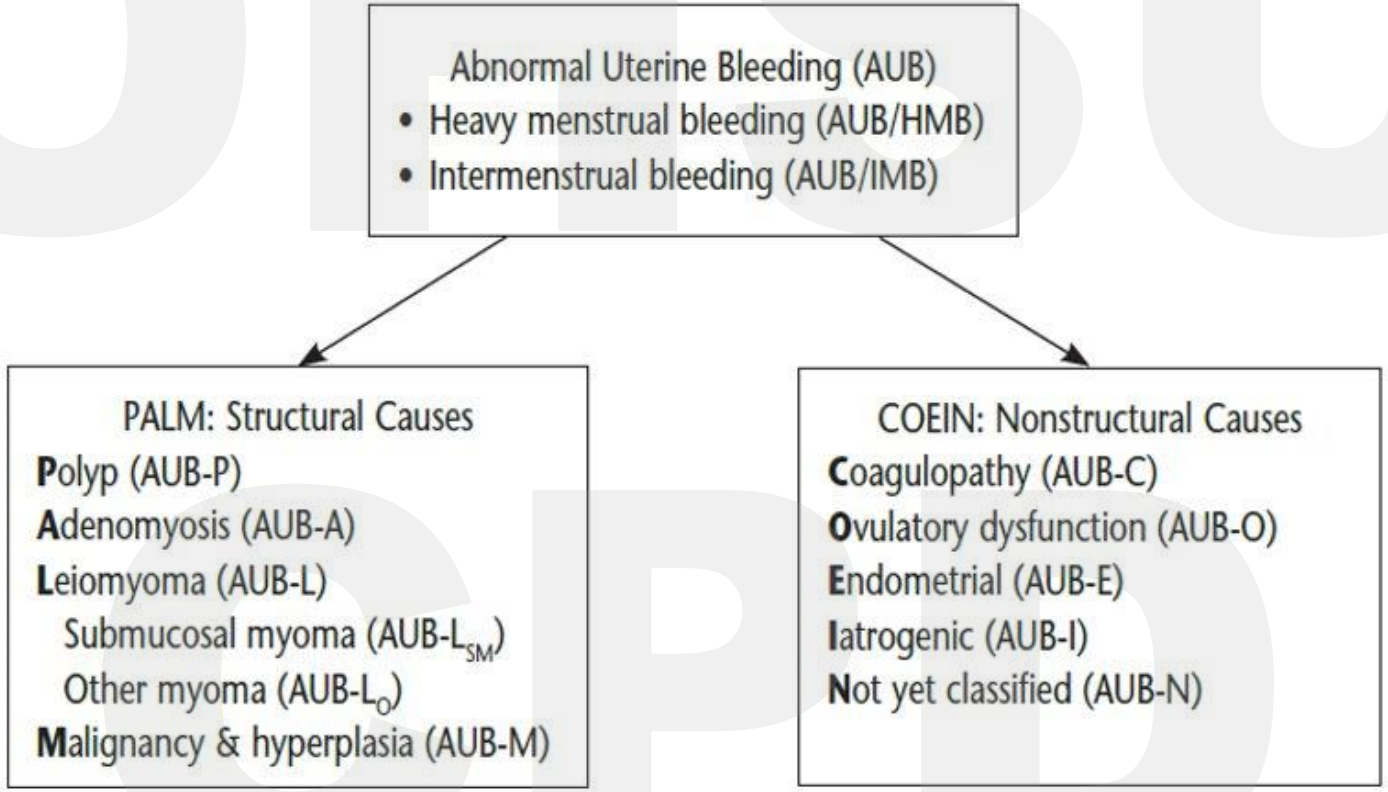
	Oct	Nov	Dec	Jan	Feb
LMP:	5th-10th	None	3rd-17th	1st-6th	
				20-24th	

Zuber TJ. Endometrial biopsy. Am Fam Physician. 2001 Mar 15;63(6):1131-5, 1137-41. PMID: 11277550.
Image source: iStock

CASE 3: DDX



1. Practice Bulletin No. 128: Diagnosis of Abnormal Uterine Bleeding in Reproductive-Aged Women. Obstetrics & Gynecology 120(1):p 197-206, July 2012.

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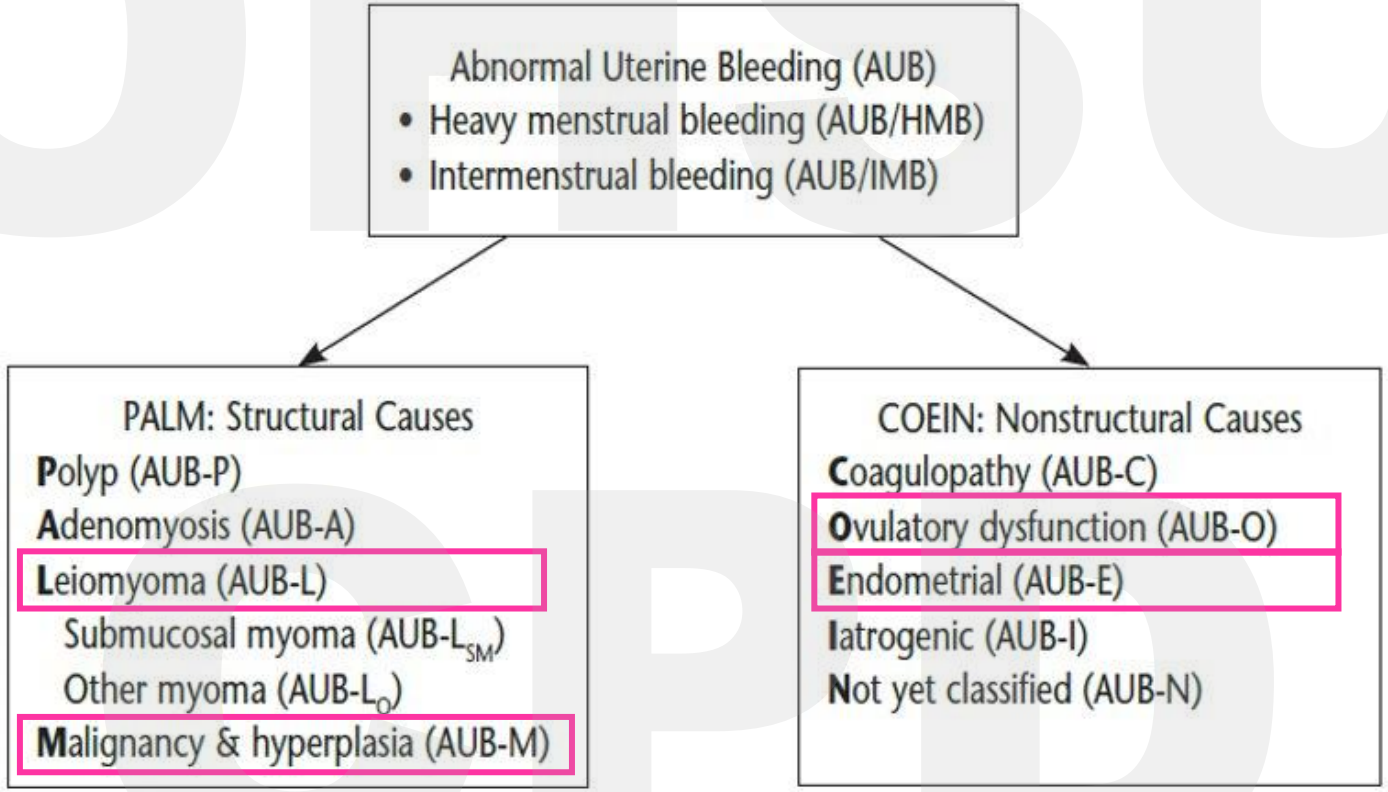

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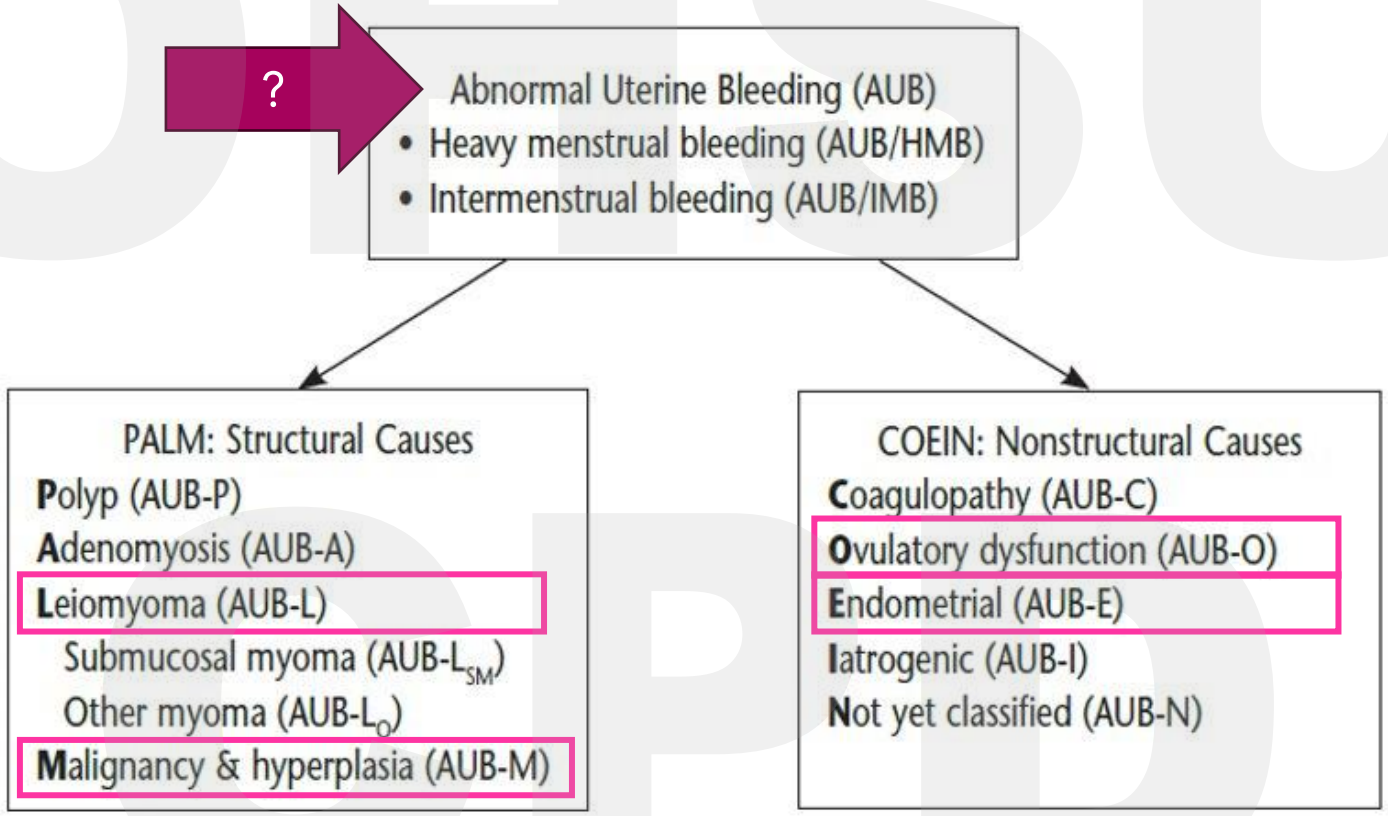

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PERIMENOPAUSAL "AUB"?

- Does Leah have abnormal uterine bleeding? (Y/N/I'm not sure vote***)

Abnormal Uterine Bleeding =
"Menstrual flow outside of normal volume, duration, regularity, or frequency"[1]

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ACOG: "In women aged 40 years to menopause, abnormal uterine bleeding may be due to anovulatory bleeding, which represents normal physiology in response to declining ovarian function. It also may be due to endometrial hyperplasia or carcinoma, endometrial atrophy, and leiomyomas."[1]

1. Practice Bulletin No. 128: Diagnosis of Abnormal Uterine Bleeding in Reproductive-Aged Women. Obstetrics & Gynecology 120(1):p 197-206, July 2012
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PERIMENOPAUSAL "AUB" AND ENDOMETRIAL CANCER

In U.S.:
Mean age of menopause: 51.4 years
Mean duration perimenopause: 4 years[1]

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2. Pellerin GP, Finan MA. Endometrial cancer in women 45 years of age or younger: a clinicopathological analysis. Am J Obstet Gynecol. 2005 Nov;193(5):1640-4.
3. Yi H, Zhang N, Huang J, Zheng Y, Hong QH, Sundquist J, Sundquist K, Zheng X, Ji J. Association of levonorgestrel-releasing intrauterine device with gynecologic and breast cancers: a national cohort study in Sweden. Am J Obstet Gynecol. 2024 Oct;231(4):450.e1-450.e12.

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Risk factors:
- Obesity
- Nulliparity
- Unopposed estrogen
- Late menopause

Protective factors:
- CHC use[2]
- LNG IUD use[3]

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Age < 45 yo = lower rate of advanced-stage disease, higher degree of tumor differentiation, better prognosis (82% vs 70% 5=year survival)[2]

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	ACOG	Us?
Urine HCG	✓	
Pelvic exam	✓	
CBC		
TSH		
Endometrial biopsy	✓	
Pelvic ultrasound		

1. Practice Bulletin No. 136: Management of Abnormal Uterine Bleeding Associated With Ovulatory Dysfunction. Obstetrics & Gynecology 122(1):p 176-185, July 2013.

CASE 3: MANAGEMENT OF PERIMENOPAUSAL AUB-O

Goals of management:	Contraception	Endometrial protection	Menstrual regulation / bleeding	Vasomotor symptoms
L-52 IUD	✓	✓	✓	
Low-dose CHC or POP	✓	✓	✓	✓
Cyclic progesterone		✓	✓	✓
Cyclic HRT		✓	✓	✓

Practice Bulletin No. 136: Management of Abnormal Uterine Bleeding Associated With Ovulatory Dysfunction. Obstetrics & Gynecology 122(1):p 176-185, July 2013.

SURGICAL TREATMENT OF AUB

- Not first line for AUB-O
- Ablation:
  - Need to have completed reproduction
  - Unable to assess uterus for hyperplasia after ablation
  - Possible surgical complications
  - Possible increased cancer risk – does not address anovulation
- Hysterectomy - consider if:
  - Completed childbearing
  - Bleeding not managed with, or contraindication to, medical treatment
  - Structural cause of bleeding

Practice Bulletin No. 136: Management of Abnormal Uterine Bleeding Associated With Ovulatory Dysfunction. Obstetrics & Gynecology 122(1):p 176-185, July 2013.

POST-MENOPAUSAL

Image source: Shutterstock

CASE 4: JUNE

- 72 yo healthy woman with recent episode of 2 days of vaginal bleeding, now resolved
- S/p menopause age 53, no bleeding since
- Thinks might have been due to vigorous jumping during Zumba class
- No f/c/n/v/dysuria/diarrhea/firm stools/pelvic pain/weight changes
- No recent med changes

Image source: https://www.silversneakers.com/blog/benefits-zumba-older-adults/

CASE 4: WHAT IS YOUR DDX?

ACOG Committee Opinion No. 734: The Role of Transvaginal Ultrasonography in Evaluating the Endometrium of Women With Postmenopausal Bleeding. Obstet Gynecol. 2018 May;131(5):e124-e129.

CASE 4: WHAT IS YOUR DDX?

- PALM-COEIN: is for classification of AUB for *reproductive-aged* persons

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    - Malignancy
    - Malignancy
    - Malignancy

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- PALM-COEIN: is for classification of AUB for *reproductive-aged* persons
- Post-menopausal:
    - Malignancy
    - Malignancy
    - Malignancy
    - Non-uterine: UTI, rectal bleeding

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CASE 4: WHAT IS YOUR DDX?

- PALM-COEIN: is for classification of AUB for *reproductive-aged* persons
- Post-menopausal:
  - Atrophic changes of the vagina or endometrium
  - Malignancy
  - Malignancy
  - Malignancy
  - Non-uterine: UTI, rectal bleeding

ACOG Committee Opinion No. 734: The Role of Transvaginal Ultrasonography in Evaluating the Endometrium of Women With Postmenopausal Bleeding. Obstet Gynecol. 2018 May;131(5):e124-e129.

TRANSVAGINAL ULTRASOUND

ACOG Committee Opinion (2018)

- TVUS appropriate for initial evaluation of first episode of post-menopausal bleeding
- Endometrial thickness of **≤4 mm** has 99% NPV for endometrial cancer
  - If >4 mm thickness, endometrial biopsy is indicated
  - If EMB is negative but bleeding persists, refer for hysteroscopy
- Not recommended as a screening tool for post-menopausal people without bleeding

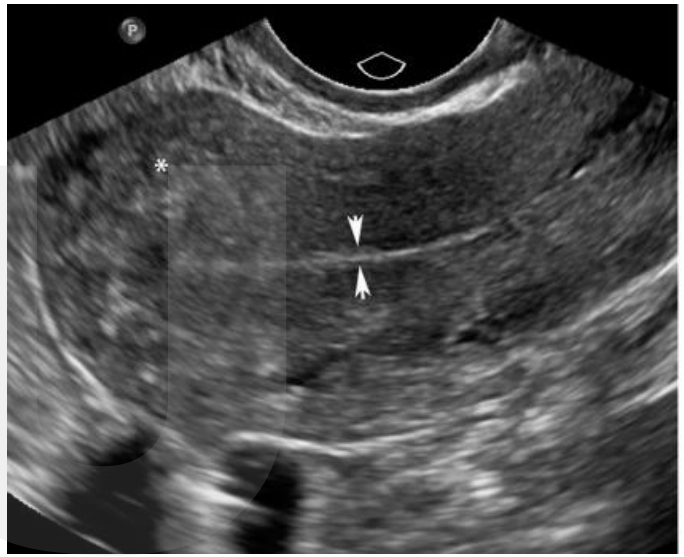

Image source: Sadro CT. Imaging the Endometrium: A Pictorial Essay. Canadian Association of Radiologists Journal. 2016;67(3):254-262. doi:10.1016/j.carj.2015.09.012

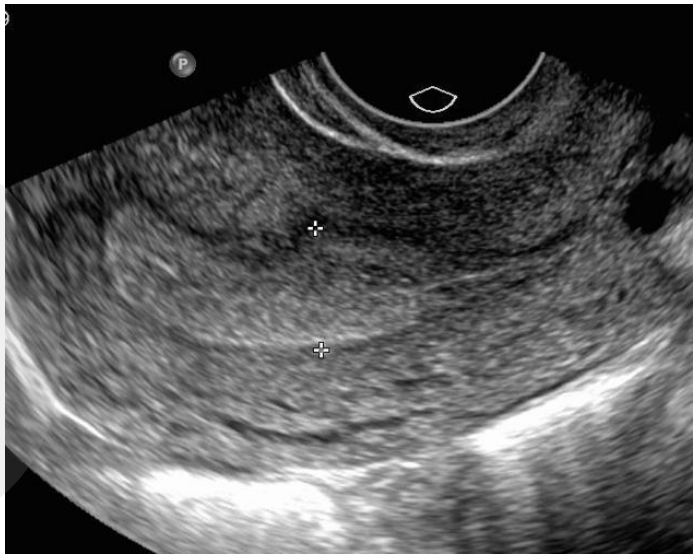

Image source: https://radiopaedia.org/articles/endometrial-thickness?lang=us

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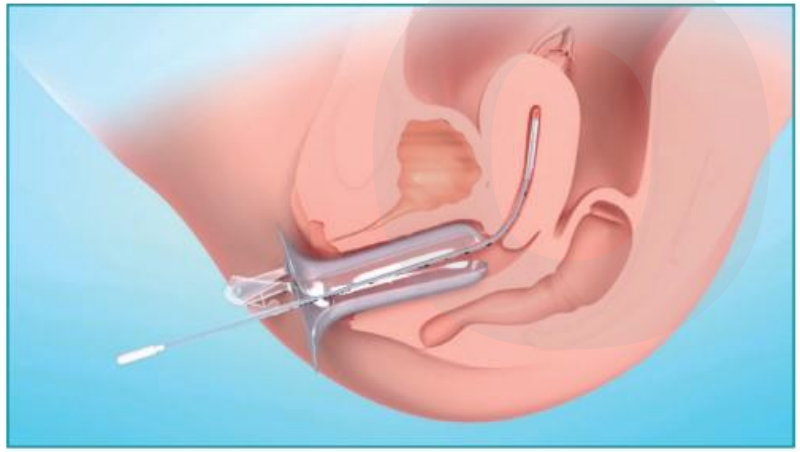
ENDOMETRIAL BIOPSY

- Comparable to D&C (prior standard)[1]: Sensitivity 75-83% for malignancy[1,2], 67% for hyperplasia[1]
- Negative predictive value for malignancy ~99%[1]
- Can be done in outpatient PCP office; fast, safe, generally straightforward
- Limitations:
  - Unable to visualize intrauterine lesions (focal lesions – polyp, fibroid or specific area of abnormality - SIS or diagnostic hysteroscopy with focal biopsy are superior[3]
  - Samples ~4% of the endometrium[4]
  - Insufficient sample does not r/o malignancy (need further eval)[5]
  - Stenosis, uterine distortions will limit ability to perform[6]

1. Demirkiran F, Yavuz E, Erenel H, Bese T, Arvas M, Sanioglu C. Which is the best technique for endometrial sampling? Aspiration (pipelle) versus dilatation and curettage (D&C). Arch Gynecol Obstet. 2012 Nov;286(5):1277-82.
2. Guido RS, Kanbour-Shakir A, Rulin MC, Christopherson WA. Pipelle endometrial sampling. Sensitivity in the detection of endometrial cancer. J Reprod Med. 1995 Aug;40(8):553-5.
3. Practice Bulletin No. 136: Management of Abnormal Uterine Bleeding Associated With Ovulatory Dysfunction. Obstetrics & Gynecology 122(1):p 176-185, July 2013.
4. Rodriguez GC, Yaqub N, King ME. A comparison of the Pipelle device and the Vabra aspirator as measured by endometrial denudation in hysterectomy specimens: the Pipelle device samples significantly less of the endometrial surface than the Vabra aspirator. Am J Obstet Gynecol. 1993 Jan;168(1 Pt 1):55-9.
5. Pasqualotto EB, Margossian H, Price LL, Bradley LD. Accuracy of preoperative diagnostic tools and outcome of hysteroscopic management of menstrual dysfunction. J Am Assoc Gynecol Laparosc. 2000 May;7(2):201-9. Farrell T, Jones N, Owen P, Baird A. The significance of an 'insufficient' Pipelle sample in the investigation of post-menopausal bleeding. Acta Obstet Gynecol Scand. 1999 Oct;78(9):810-2.

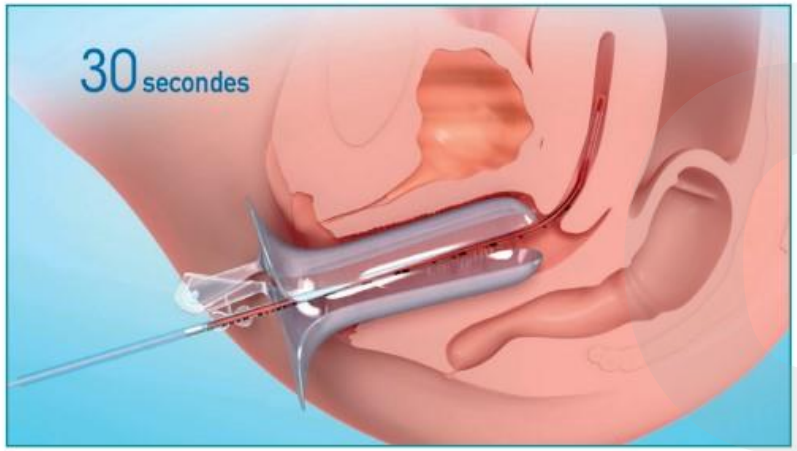
EMB TECHNIQUE

Easy to use



1- Insert the Pipelle until reaching the uterine fundus

2- In one movement, pull on the plunger to bring it as far as it will go



3- Sweep the uterus for 30 seconds, in back-and-forth movements and rotations

4- Cut the tip of the Pipelle

5- Push the plunger back in again to empty the content

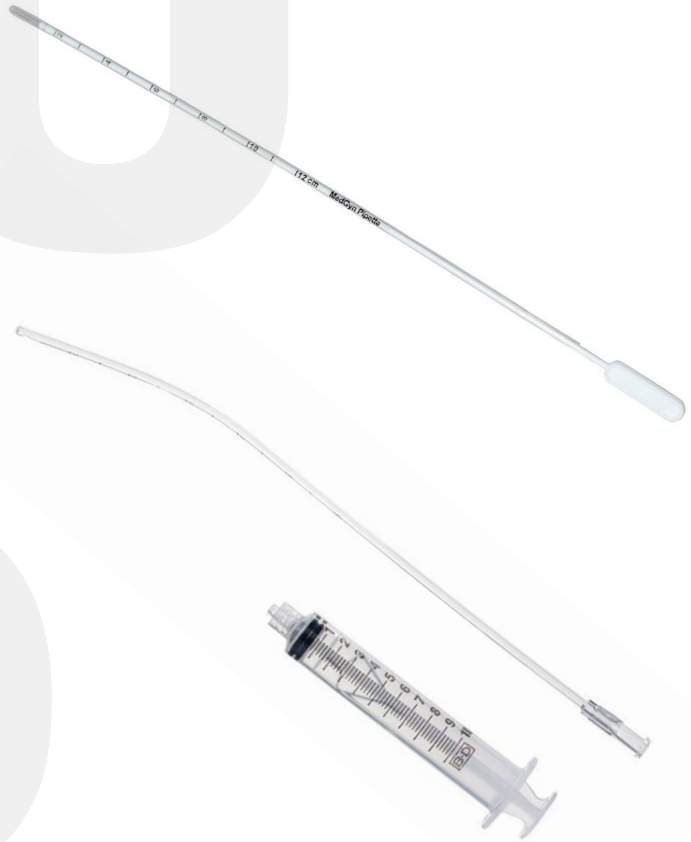


Image sources: https://www.eurosurgical.co.uk/gynaecology/1997-2/, https://www.medgyn.com/product/medgyn-pipette-2/, https://www.medgyn.com/product/medgyn-endosampler-2/

SUMMARY

- Use **PALM-COEIN** framework for differential diagnosis of abnormal uterine bleeding (AUB) in **non-pregnant reproductive-age** patients

	Adolescents	Repro-age	Perimenopausal	Workup (besides HCG!)
Polyps		X	X	Pelvic exam TVUS
Adenomyosis		X	X	
Leiomyoma		X	X	
Malignancy/ hyperplasia		(X)	X	EMB TVUS
Coagulopathy	X	(X)		VIII, VWF, CBC, iron, INR, fibrinogen
Ovulatory	X	X	X	TSH; PCOS w/u
Endometrial	X	X	X	Pelvic exam; GC/CT; (EMB)
Iatrogenic	X	X	X	Med review
NOS	X	X	X	Pelvic exam; GC/CT…

- **Postmenopausal**: atrophic changes, malignancy → **TVUS** can be first step; **EMB >4mm**
- Treatment strategies: hormonal (progesterone) and non-hormonal; surgical rare

THANK YOU!

- Katie Putnam bergerk@ohsu.edu
- Emily Waterman watermae@ohsu.edu
- Ally Adams adamally@ohsu.edu