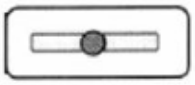
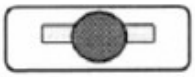
Abnormal uterine bleeding

1. How do we define abnormal uterine bleeding?

Menstrual: bleeding that does not fall within population-based 5th-95th percentile
- Frequency: normal is every 24-39 days
- Regularity: 2-20 days of variation over 12 months. Irregular if > 20 days.
- Duration: normal is 4.5-8 days long
- Volume: normal is 5-80 cc per menstrual cycle.

Feminine Pad	Type	Score	Tampon	Type	Score
	Day	1 mL		Light	0.25 mL
				Medium	0.5 mL
	Night	1 mL		Heavy	1.0 mL
				Super	1.0 mL
	Day	2 mL		Light	0.5 mL
				Medium	1.0 mL
	Night	3 mL		Heavy	1.5 mL
				Super	2.0 mL
	Day	3 mL		Light	1.0 mL
				Medium	1.5 mL
	Night	6 mL		Heavy	3.0 mL
				Super	4.0 mL
	Day	4 mL		Light	3.0 mL
				Medium	4.0 mL
	Night	10 mL		Heavy	8.0 mL
				Super	12.0 mL

Intermenstrual: bleeding between otherwise normal periods
Chronic if > 6 months; acute if < 6 months

Amenorrhea: no bleeding for 90 days.
- Primary: absent menarche by 15 years of age
- Secondary: amenorrhea for 6 months with previously normal cycles

Menopause: amenorrhea for 12 months without other apparent cause
Precocious menstruation: menarche before 9 years of age

2. What framework do you use to evaluate AUB?

<u>PALM (structural)</u>
Polyp – intermenstrual bleeding; some asymptomatic. 95% benign.
Adenomyosis – many asymptomatic. Or painful, heavy, prolonged menstrual bleeding. Dense, large uterus
Leiomyoma – 80% of all women. Asymptomatic vs heavy or prolonged menses (if larger). Pelvic pain or pressure. Irregular uterus
Malignancy – AUB most common symptom of endometrial cancer. Long-term

unopposed estrogen. Bleeding is highly variable.

<u>COEIN (nonstructural)</u>
Coagulopathy – 20% of AUB. Higher in adolescents. Von Willebrand disease, platelet dysfunction. Heavy menstrual bleeding, may be irregular.
Ovulatory dysfunction – Infrequent ovulation vs irregular, heavy, prolonged. Anovulation most common in adolescents and peri-menopause
Endometrial dysfunction – Typically in regular periods; may be due to vasoconstriction, inflammation, infection.
Iatrogenic – Hormonal contraception (breakthrough bleeding); tamoxifen, anticoagulant, dopamine antagonists (TCAs, antipsychotics)
Not otherwise classified

3. What more would you ask about in her history?

- Frequency, duration, regularity, volume.
- Clots? Changing pads hourly?
- Post-coital bleeding (cervicitis, ectropion, cervical cancer)
- Pelvic pain (infection, structural lesion, endometriosis)
- Disorder of hemostasis
  - Heavy menstrual bleeding since menarche
  - Two of more of these:
    - Bruising 1-2 times per month
    - Epistaxis 1-2 times per month
    - Frequent gum bleeding
    - Family history of bleeding symptoms
  - One of these:
    - Postpartum hemorrhage
    - Surgery-related bleeding
    - Bleeding associated with dental work
- Gynecologic and obstetric history
  - Menstrual history
  - Contraception use – current and historical
  - Cervical cancer screening
  - History of STIs
  - Pregnancies

- Risk factors for endometrial cancer
  - Long term use of unopposed estrogen
  - Hereditary cancers
  - Estrogen produce tumor
  - Obesity
  - Nulliparity, history of infertility
  - PCOS
  - Late menopause
  - Tamoxifen use
  - T2DM, HTN, gallbladder disease, thyroid disease

4. What would you do in terms of a physical exam, labs?

Physical
- Hemodynamic stability?
- Anemia signs?
- Bimanual, speculum exams

Laboratory testing:
1) CBC, blood type and cross match, pregnancy test
2) If worried about hemostasis disorder: PT, PTT, aPTT, fibrinogen
3) For von Willebrand disease testing: von Willebrand factor antigen, ristocetin cofactor assay, factor VIII
4) Consider TSH, serum iron, TIBC, ferritin, LFTs, chlamydia

5. When would you do an endometrial biopsy? How is this done?

All women > 45 years old with AUB.
If < 45 years old with history of unopposed estrogen (high BMI, PCOS) or failed medical management, persistent AUB

Procedure:
Can give ibuprofen 800 mg prior to procedure.
1. Bimanual exam with non sterile gloves: uterus ante or retroverted?
2. Insert speculum and visualize cervix. Can spray with topical anesthetic.
3. Stabilize with tenaculum on anterior lip
4. Straighten uterocervical angle. Sound to the fundus (generally 6-8 cm)
5. Consider dilation if needed (peri-menopausal or menopausal)
6. Biopsy catheter to the fundus. Withdraw the internal piston to create suction. Move in and out 4 times while maintaining in the uterus. 360 degrees.
7. Once catheter filled, withdraw and place sample in formalin container. Insert piston and remove catheter.

Results:
Normal: "proliferative" endometrium (pre-ovulatory, estrogen)
"secretory" endometrium (post-ovulatory, progesterone)
Cystic, simple hyperplasia: progresses to cancer in < 5%. If no atypia and just hyperplasia, can manage with Medroxyprogesterone 10 mg daily for up to 3 months. Repeat EMB in 3-12 months
Atypical complex hyperplasia: premalignant lesion, progresses to cancer in 30-45%. Most recommend a D&C to exclude presence of endometrial cancer. Consider hysterectomy if complex or high-grade hyperplasia

6. When would you do a transvaginal ultrasound?

> structural etiology suspected
> symptoms persist despite initial treatment

7. When would you be concerned enough for emergency interventions? What interventions do you know about?

Hemodynamic instability, hypovolemia
2 large bore IV, type and cross blood.
- Uterine tamponade using Foley catheter or gauze packing
- IV estrogen: 25 mg IV q4-6h x 24 hours
- Dilation and curettage
- Uterine artery embolization
- Hysterectomy

Hemodynamically stable, but severe bleeding
- Oral estrogen: conjugated equine estrogen 2.5 mg PO q6h x 21 days. Follow with a progestin to provoke withdrawal bleeding.
- Oral progestins: norethindrone 5 mg PO TID x 7 days (high dose)
- COCPs: 1 monophasic pill with 35 mcg ethinyl estradiol PO TID x 7 days.
- IV tranexamic acid: 10 mg/kg IV q8h or 20-25 mg/kg PO q8h

8. How would you treat heavy non-emergent uterine bleeding?

- Mirena levonorgestrel IUD is the most effective for decreasing heavy bleeding and is as effective as hysterectomy and endometrial ablation
- COCPs: used if ovulatory dysfunction, anovulatory cycles. 1 monophasic pill with 35 mcg ethinyl estradiol daily.
- Depot medroxyprogesterone 150 mg IM q 13 weeks.
  Unscheduled bleeding is a common initial effect, but 50% of patients have amenorrhea after 12 months.
- Oral progestins (87% reduction): norethindrone 2.5-5 mg PO daily.

To take only when the patient is bleeding:
- Oral tranexamic acid (Lysteda) – safe if trying to conceive: 1-1.5 g PO TID
- NSAIDs: naproxen 500 mg PO BID. Others also effective.