Abnormal Uterine Bleeding

In adolescents

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Advisory Boards:

National Bleeding Disorders Foundation

Foundation for Women & Girls+ with Blood Disorders

Objectives

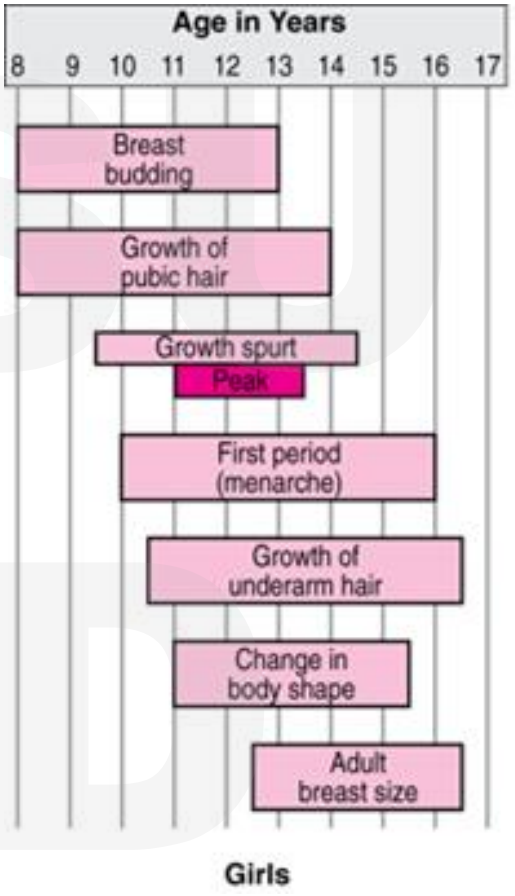
1. To review normal and abnormal uterine bleeding
2. To review history and initial workup
3. To define menstrual management, menstrual suppression, and ovarian suppression
4. To discuss FDA-approved and evidence-based regimens for menstrual management
5. To summarize who should be referred and when

Conclusions

1. Separate workup and management for ovulatory versus anovulatory bleeding
2. Abnormal bleeding is a SYMPTOM that needs a workup
3. Young people prefer predictable bleeding (or none)
4. Teens with AUB will usually fail continuous dosing
5. Menstrual management ≠ contraception
6. Consider e-consult through EpicCare Link for advice

Puberty timing

1. Thelarche
2. Growth spurt + pubarche
3. Menarche
4. Reach adult height, adult hair, adult breasts, ovulation



Normal menses in adolescents

- Lasting <7 days
- Manageable flow, changing pads >2 hours
- Not interfering with school or activities
- Irregular/infrequent for up to a few years
- Irregular cycle length, 21-45 days

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Abnormal uterine bleeding

- Episodes longer than 7 days
- Very erratic- irregular/frequent or prolonged
- Heavy flow changing pads >2 hours
- Passing clots >1 inch
- Overflow at night
- Painful interfering with school or activities

AUB categories

- P – Polyp
- A – Adenomyosis
- L – Leiomyoma
- M – Malignancy

- **C – Coagulopathy**
- **O – Ovulatory dysfunction**
- E – Endometrial disorders
- **I – Iatrogenic (includes gonadal hormone-related)**
- N – Not otherwise classified

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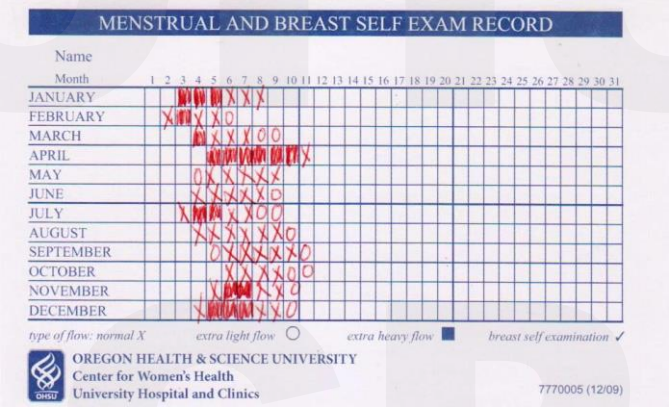
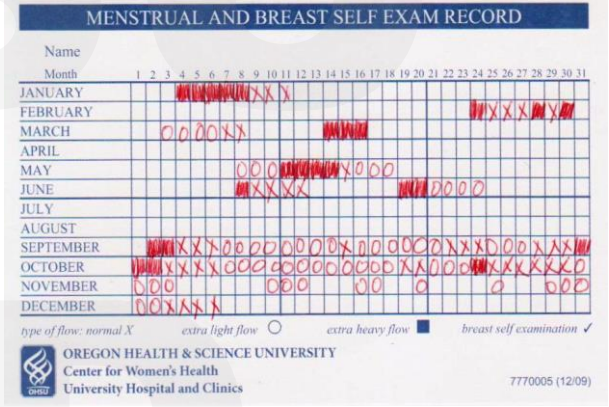
Ovulatory or anovulatory?





PCOS diagnosis in adolescents

Evidence of androgen excess

Anovulation

Exclusion of other disorders (CAH, thyroid)

No ultrasound needed

Baseline history

Medical history

Targeted risk assessment

Medications/allergies

Menstrual history

Symptom history

Bleeding history

Family history

Medical history

Vital signs: resting pulse, weight, height

Developmental history, growth chart

Medical conditions: Seizure disorder, GI disorders

Surgeries: ENT, abdominal

Medications: SSRIs, AEDs

Risk assessment: headaches, VTE, cardiac

Menstrual history

- Age of menarche
- Cycle regularity
- Episode duration (range)
- Number of heavy days
- Nighttime needs
- Frequency to change menstrual supplies
- Missing activities/school
- Access to bathroom/supplies

Symptom history

Cramping – how managed, severity, description

Moliminal symptoms – breakouts, mood changes

Exercise – intolerance, frequency, type

Androgen symptoms – beard distribution terminal hair, acne

CNS symptoms – headache, visual field deficits

Metabolic symptoms – rapid weight change, exercise tolerance

Bleeding history

Any epistaxis? More than 10 minutes?

Any ENT procedures – tooth extraction, tonsillectomy?

Extra bruising?

Problems with cuts healing?

Family history? Of unexplained PPH, HMB, any of the above?

Connective tissue disorders? Beighton score

Indications for management

- Menstrual volume reduction
- Menstrual regularity
- Menstrual symptom management
- Cycle symptom management
- Ovulation suppression
- Preference

Workup prior to treatment or referral

Normal periods	Screening for iron deficiency and anemia*
Ovulatory heavy bleeding	Basic bleeding disorder workup
Anovulatory excessive bleeding	TSH, PRL, growth chart, screening for hyperandrogenemia, basic BD workup
Anovulatory infrequent periods	TSH, PRL, growth chart, screening for hyperandrogenemia
Dysmenorrhea	Ultrasound if unilateral focal pain or concern for outlet obstruction

Screening for ID/A

Ferritin (goal >30-50), CBC

Fatigue

Chest pain, shortness of breath

Exercise intolerance

Cardiac flow murmur

Pallor

Leg pain

Basic bleeding disorder workup

Von Willebrand Panel: activity, antigen and FVIII activity

Coags: PT/PTT, fibrinogen

- Preferably draw at a hospital lab
- VWD activity and antigen should be similar
- Acute phase reactants >100 is reassuring
- Refer for <60% with bleeding symptoms
- Diagnosis (<40%) requires 2-3 rechecks

Hyperandrogenemia evaluation

Hirsutism: Ferriman-Galloway score, treatments

Cystic acne: treatments

Free and total testosterone (women/children)

DHEA-sulfate

17-OHP @ 8 am

Metabolic testing: lipids, 2 hr OGTT and/or HbA1c

*Serum testing not recommended in most adolescents

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Referral example:
12 yo with menarche in April 2025. PMH includes chronic constipation and anxiety. First 2 periods normal lasting 5-6 days at 1 month interval. Then had no bleeding for 2 months, then had prolonged moderately heavy episode lasting 26 days, ending 1 week ago. Feeling anxious and tired. No management (declines).

BMI 70th%ile stable on growth curve, HR 60s
Initial labs:
Ferritin 6, Hgb 10, coags NL, TSH NL
VWD panel all ~80%

Menstrual Management	Improving predictability, regularity, decreasing amount and/or duration, and improving menstrual-associated symptoms.
	Cyclic or extended combined Cyclic progestogens
Menstrual Suppression	Completely suppressing menstrual flow – goal is amenorrhea Downside is breakthrough bleeding, ovulation
	Continuous progestogens Continuous combined
Cycle suppression	Suppressing ovarian cycle – goal is anovulation Downside is breakthrough bleeding
	Continuous progestogens Continuous combined

Tranexamic acid (TXA) - Lysteda®

- 1300 mg TID for 5 days for heavy regular menstrual bleeding

Norethindrone acetate (NETA) - Aygestin®

- 2.5-10 mg for 10 days per month for abnormal uterine bleeding

Estradiol valerate / Dienogest - Natazia®

- 5 phases including 2 days inert for heavy menstrual bleeding

Medroxyprogesterone acetate (MPA) - Provera®

- 5-10 mg for 5-10 days per cycle for abnormal uterine bleeding

Levonorgestrel IUD (LNG-IUD) - Mirena® and Liletta®

- 52 mg IUD for 5 years for heavy menstrual bleeding

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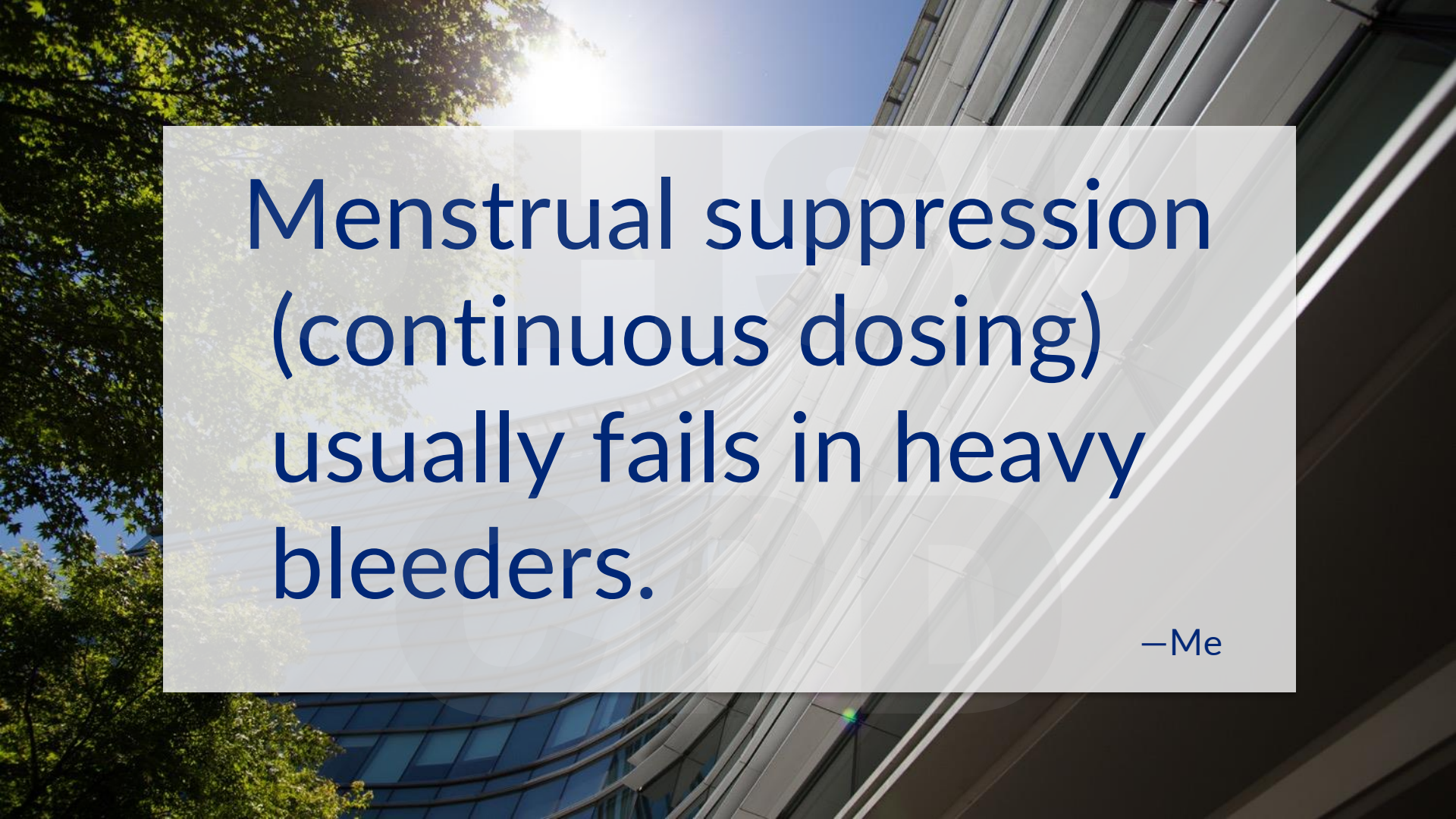

Menstrual suppression (continuous dosing) usually fails in heavy bleeders.
—Me

Combined

- Ethinyl estradiol + progestin (EE/P)
- Estradiol valerate + dienogest (E2V/DNG)

Lower dose progestins

- Levonorgestrel intrauterine device (LNG-IUD) – 13.5, 19.5, 52 mg
- Norethindrone (NET) 0.35 mg
- Norgestrel (NOG) 0.075 mg
- Etonogestrel implant (ENG)

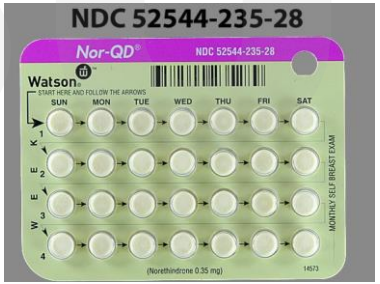
Ovulation inhibition dose progestins

- Depot medroxyprogesterone acetate (DMPA)
- Medroxyprogesterone acetate (MPA) 5 mg
- Norethindrone acetate (NETA) 2.5 mg
- Drospirenone (DRSP) 4 mg

NET versus NETA

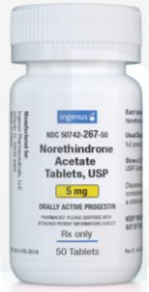
NET 0.35 mg

- “mini-pill”
- postpartum contraception



NETA 5 mg

- period delay
- ovulation suppression



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OUTCOME	YES	MAYBE	NO
Cycle regulation	Cyclic DRSP, NETA, MPA, EE/P		Any continuous dosing including LNG-IUD
Menstrual suppression	Continous NETA 2.5 mg, DRSP 4 mg 52 mg LNG-IUD	Continuous EE/P, 19.5 mg LNG-IUD, ENG implant, DMPA, NOG	13.5 mg LNG-IUD, NET 0.35 mg
Ovulation suppression	Cyclic or continuous DRSP, NETA, EE/P DMPA	Cyclic MPA and NETA (unless 21/7)	ENG implant Any LNG-IUD NET 0.35 mg, NOG 0.075 mg
Cycle suppression	Continuous NETA 2.5 mg, DRSP 4 mg, EE/P, MPA, DMPA		Everything else

Dosing regimens

CYCLIC

21/7

24/4

10/20

EXTENDED

84/4

Timed

CONTINUOUS

daily

Case 1: menstrual regulation

S: 19 yo with menarche age 10. History of erratic and prolonged bleeding episodes, not that heavy, lasting 4-14 days. No significant cycle symptoms. No clinical hyperandrogenism.

O: High BMI, ferritin 8, Hgb 11.5, TSH and PRL NL, FSH NL
High TG, HgbA1c pre-diabetic

Case 1: menstrual regulation

A: AUB-O with iron deficiency and anemia. Metabolic syndrome.

P: Treat iron deficiency, follow-up

Nutrition and weight management with PCP

Shared decision-making for menstrual management

- prefers predictable, regular pattern of bleeding
- offered: cyclic P (consider whether to avoid EE)
- chosen: cyclic DRSP and metformin

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Case 1: menstrual regulation

Follow-up: cyclic DRSP and metformin

Reports cyclic predictable bleeding lasting 5 days, changing pads every 3-4 hours

Case 2: ovulation suppression

S: 19 yo with migraine with aura has long history of worsening painful periods since menarche age 14. Nothing works. Periods are regular, q28d lasting 4-5 days. Worse on CD 1-2. Doesn't like to take medications.

O: Ferritin 18, Hgb 13.5.

Case 2: ovulation suppression

A: Secondary dysmenorrhea

P: Treat iron deficiency, follow-up

NSAIDs: naproxen 500 mg BID or celecoxib 100 mg BID

Shared decision-making for menstrual management

- goal is ovulation suppression, okay with BTB
- offered: continuous NETA, LNG-IUD
- chosen: NETA 5 mg daily

Case 2: ovulation suppression

Follow-up: continuous NETA 5 mg daily

Pain improved, no bleeding after initial transition.

Requests LNG-IUD. Continue NETA and increase to BID.

Case 3: breakthrough bleeding

S: 15 yo with no sig PMH. Menarche age 10, initially NL.

Periods lasting 8-10 days, heavy, regular, changing pads every 2 hours, doubles up overnight, overflow, missing school.

No other bleeding history.

O: NL growth, ferritin 8, Hgb 11.5, VWD panel: all ~80%

Coags NL

Case 3: breakthrough bleeding

A: AUB-C with iron deficiency and anemia.

Basic workup for BD negative, bleeding score low

P: Treat iron deficiency, follow-up

Shared decision-making for menstrual management

- prefers predictable, less bleeding
- offered: cyclic EE/P or P vs TXA
- chosen: cyclic EE/P

Case 3: breakthrough bleeding

Follow-up: cyclic EE/P (transdermal)

Reports cyclic expected bleeding lasting 7 days, more tolerable. Changing pads every 3-4 hours.

Ferritin improves to 15 with oral iron.

Questions options for full suppression.

Transition to oral EE/P, continuous.

Experiences occasional breakthrough bleeding.

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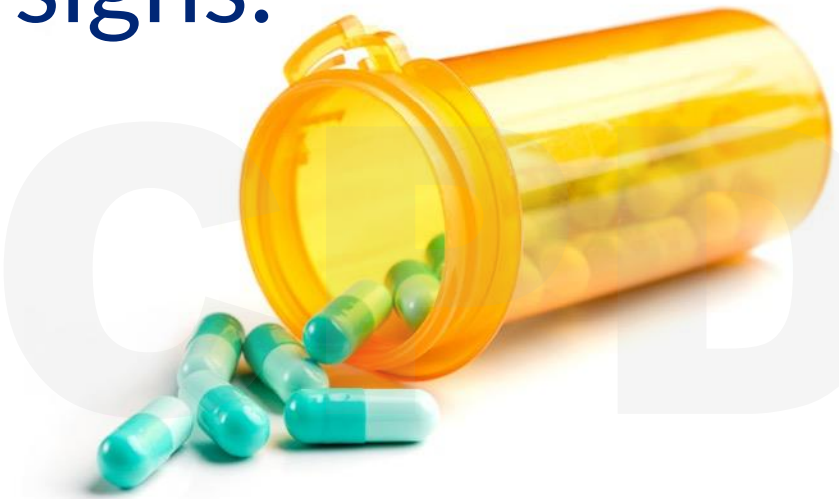
I discussed the risks, benefits, alternatives, potential side effects, usage instructions, and warning signs.



Consult to CWH

- PCP referral is required after initial evaluation and management
- Referrals in acute cases are reviewed quickly – consider external eConsult (EpicCare Link Portal)
- Referrals that have not had workup and evaluation (initial management) may be asked to be reviewed with a Pediatrician within their own health system
- Referrals are reviewed centrally and will be sent to the soonest appointment for the specific problem
- May be re-routed to adolescent medicine, peds endo

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Referral indications

- Heavy menstrual bleeding AND
  - Refractory initial management OR
  - Bleeding history OR
  - Abnormal bleeding labs
- Persistent anovulation
- Dysmenorrhea and/or pelvic pain

Thank You