

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.

**Stable patient presents with anemia and reports current or historical heavy menstrual bleeding (7-2-1 definition and differential in Note 1)**

*Patient does not need to be currently menstruating to use this guideline.*

**Nursing:** If bleeding, give patient new pad/tampon/chux to start quantification of bleeding  
**Provider:** Complete H&P (see Note 2)  
**Is the patient actively bleeding?**

No

Yes

- Give fluid bolus and obtain labs
- **Promptly** start oral birth control - standard dose combination pill (30 – 35 mcg ethinyl estradiol) such as Sprintec 1 pill PO BID; consider prn Ondansetron
- **Promptly** start IV Tranexamic acid (10 mg/kg IV Q8H, max 1g/dose)  
*(see Notes 3 and 4 for contraindications to Tranexamic acid and estrogen)*

**Laboratory work-up:**

- Pregnancy test
- CBC with Diff, Type and Screen, Iron Profile and Ferritin
- PT, PTT, Fibrinogen, von Willebrand screen, platelet function analysis, Factor IX assay
- Other labs to consider: CMP, TSH with FT4 reflex, STI screening (Trich, GC/chlamydia)
- If history suggests PCOS (See Note 5), also obtain: Total and free testosterone

**Meets admission criteria?**

- Patient requires specialty consultation to address underlying cause of bleeding
- Needing pRBC transfusion, i.e. if Hgb <7 and asymptomatic or Hgb <8 with symptoms of anemia (see Note 6) --> **expedite admission**
- **Hgb < 8**, i.e. requiring IV iron
- **Hgb 8–10** with ongoing bleeding, unstable VS, persistently symptomatic, concerns about adherence to therapy, or need for prompt IV iron (e.g. already failed outpatient oral iron)
- Barrier to outpatient management or ED preference

Yes

No

Admit to hospitalist service (hospitalists will consult Gynecology)  
OR  
If unstable VS: admit to PICU  
  
See inpatient pathways on page 2-3 for post-admission management.

**ED DISCHARGE CONSIDERATIONS:**

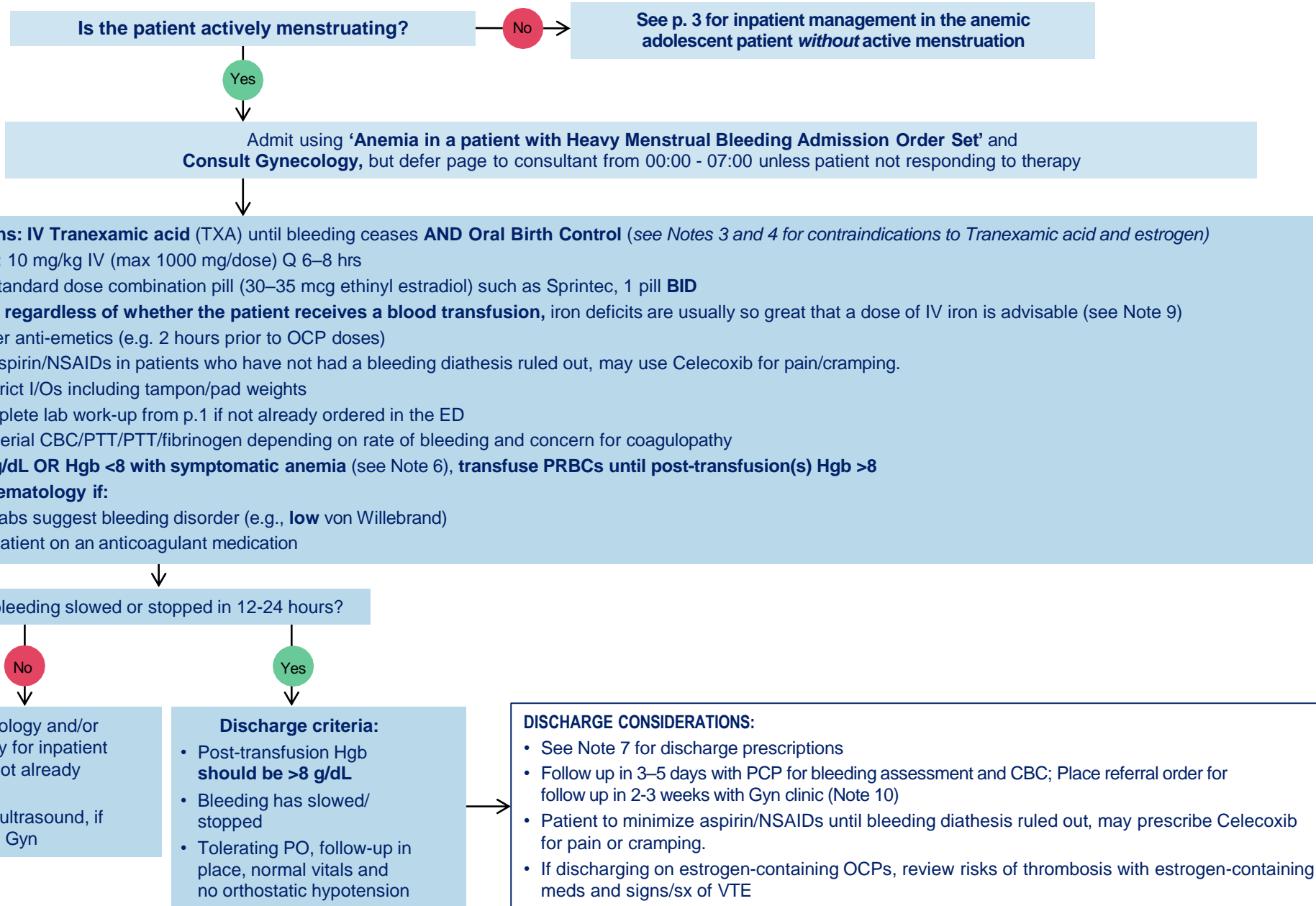
- See **Note 7** for prescription recommendations for OCP, TXA, and iron at discharge; prescribe PRN **ondansetron**
- Place referral order for follow up in 2-3 weeks with Gyn clinic (Note 10). If actively bleeding, patient should also follow up in 3-5 days with PCP for bleeding assessment and CBC
- Patient to minimize aspirin/NSAIDs until bleeding diathesis ruled out; may prescribe celecoxib for pain or cramping
- Review risks of thrombosis with meds and signs/sx of VTE

**EXCLUSION GUIDELINES**

Patients **excluded** from this guideline:

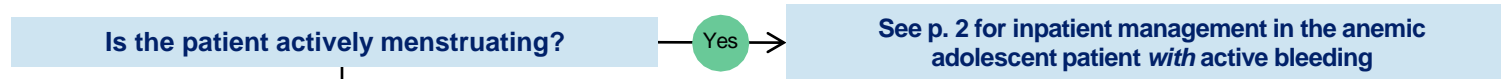
- Critically ill
- Have a known bleeding diathesis. In this case, consult hematology and refer to patient's chart for their individualized treatment plan.
- Anemia is due to a pathology other than abnormal uterine bleeding (e.g. due to abortion, trauma, foreign body)

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.



Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.  
©2026 Children's Minnesota

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.



No ↓

**• Medications:**

- Consider starting **OCP if Hgb <10**: standard dose combination pill (30–35 mcg ethinyl estradiol) such as Sprintec, 1 pill qday (see Note 3 for contraindications to estrogen)
- Consider anti-emetics (e.g., 2 hours prior to OCP doses)
- **IV Iron**: regardless of whether the patient receives a blood transfusion or has active bleeding, iron deficits are usually so great in these patients that a dose of IV iron is advisable (see Note 9)

• **If Hgb <7 g/dL OR Hgb <8 with symptomatic anemia** (see Note 6), **transfuse PRBCs until post-transfusion(s) Hgb >8**

• Labs: Complete lab work-up from p.1 if not ordered by the ED

• **No need to consult Gynecology inpatient unless specific questions/concerns not addressed on guideline or OCP contraindication** (see Note 3)

**• Consult hematology if:**

- Labs suggest bleeding disorder (e.g., **low** von Willebrand)
- Patient on an anticoagulant medication

**DISCHARGE CONSIDERATIONS:**

- See Note 7 for discharge prescriptions
- Place referral order for follow up in 2-3 weeks with Gyn clinic (Note 10)
- If prescribing estrogen-containing OCPs, review risks of thrombosis with estrogen-containing meds and signs/sx of VTE

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.

**Note 1:**

**Definition of heavy menstruation (7-2-1 rule):** cycles lasting longer than 7 days, changing a pad/tampon  $\leq$  2 hours, or passing blood clots  $>$  1 inch (i.e. size of a quarter)

**Differential for heavy vaginal bleeding in an adolescent**

- **Endocrine:** anovulatory bleeding, PCOS, thyroid disease, other
- **Infection:** cervicitis, PID
- **Bleeding Disorders:** von Willebrand disease, platelet dysfunction, thrombocytopenia, factor deficiency
- **Pregnancy:** abortion, ectopic, gestational trophoblastic dz
- **Uterine:** IUD, myoma, polyp, cancer
- **Medication:** anticoagulants, depot medroxyprogesterone
- **Other:** trauma/assault, foreign body

**Note 2:**

- **History should include:** age of menarche, menstrual regularity and duration, last menstrual period, presence of heavy menstrual bleeding (see Note 1), other sites of spontaneous bleeding and ecchymoses, growth and development history, sexual history, and family history of a bleeding disorder.
- **Physical Exam:** Always perform external GU exam. Consider pelvic exam (e.g. if sexually active),
- Pelvic ultrasound should NOT be ordered unless advised by Gynecology

**Note 3: Contraindications to estrogen therapy:**

- History of migraine with aura
- Personal history of VTE/CVA or known clotting disorder
- Malignant hypertension (SBP  $>$ 160 mm Hg, DBP  $>$ 100 mm Hg)
- Lupus with positive or unknown anti-phospholipid antibodies
- Current or history of certain heart conditions and certain liver diseases (refer to CDC's US Medical Eligibility Criteria for Contraceptive Use)
- Post-partum ( $<$ 21 days)

**If estrogen contraindicated, start Medroxyprogesterone:**

- If actively bleeding: start 20 mg Q8H, then consult Gynecology (after 7AM, unless patient not responding to therapy)
- If not actively bleeding: consult Gynecology about dosing (after 7AM)

**Note 4: Contraindications to tranexamic acid**

- Thrombotic/thromboembolic disease (discuss with Hematology)
- Hematuria

**Note 5: Features that suggest PCOS**

Hirsutism, acne, obesity, acanthosis nigricans, oligo/amenorrhea  $>$ 2 years after menarche

**Note 6: Symptoms/signs of anemia may include:**

Headache, fatigue, dyspnea, dizziness, chest pain, tachycardia

**Note 7: Discharge medication dosing for anemic patients with heavy menstruation**

	<b>OCP:</b> Use standard dose combination pill (30 – 35 mcg ethinyl estradiol) such as Sprintec, #84 pills, 1 refill (See Note 3 for contraindications)	<b>Oral Tranexamic Acid (TXA), #30 pills, 1 refill</b> (See Note 4 for contraindications)	<b>Oral Iron, 3 refills;</b> <i>If not tolerated, see Note 8 for oral iron alternatives, may add prn ondansetron</i>
<b>Patient actively menstruating</b>	If dosing with TXA ( <i>preferred</i> ): OCP 1 pill PO BID x 14 days, then 1 pill PO qday <b>OR</b> Monotherapy (e.g. TXA <i>unavailable or contraindicated</i> ): OCP 1 pill TID until bleeding stops, then 1 pill BID x 14 days, then taper to 1 pill PO qday	1300 mg PO TID x 5 days if $>$ 40 kg or 650 mg PO TID x 5 days if $<$ 40 kg	Ferrous sulfate 325 mg daily (i.e. 65 mg of elemental iron)
<b>Patient not currently menstruating</b>	Prescribe OCP if Hgb $<$ 10  Recommend close PCP follow up for menstrual management.	Not indicated	Ferrous sulfate 325 mg daily (i.e. 65 mg of elemental iron)

Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.

**Note 8: Oral Iron Alternatives**

If ferrous sulfate is not tolerated, consider switching to another form of iron to improve compliance. However, most insurances will not cover these iron alternatives and some pharmacies do not carry all of them. Dosing of Celebrate tabs and NovaFerrum are based on elemental iron (goal: ~65 mg of elemental iron per day). Alternative iron formulations may cause less GI upset compared with traditional iron salts (ferrous sulfate).

- Celebrate tabs are flavorful iron tablets that can be purchased over the counter or online (e.g. Amazon). It contains ferrous fumarate and Vitamin C to enhance absorption.
- NovaFerrum is a better tasting liquid. It contains polysaccharide-iron complex that can be gentler on the stomach.
- Though gummy iron supplements are palatable, the iron content may be quite low, so be sure dosing is adequate (i.e. may require multiple gummies/day)
- Heme-iron formulations, such as Proferrin, may cause less GI upset and provide more significant correction of iron deficiency than iron salts.
  - Dosing: Proferrin ES (10.5 mg 1-2x/day), Proferrin Forte (12 mg 1-2x/day) or Proferrin Clear (10.5 mg 1-2x/day, free of dyes).
- Tasteless Iron (you and yours brand) powder: 1 scoop = 15mg of elemental iron. Generally dosed at 4 scoops Qday

**Note 9: Guidance on IV Iron**

For patients on this guideline, IV Iron Dextran is preferred over IV Iron Sucrose (Venofer) due to its higher iron content. While it takes one dose of IV Iron Dextran to replete a patient's iron deficit, it can take 5 or more IV Iron Sucrose (Venofer) doses.

The two formulary intravenous agents at Children's are: IV iron sucrose and IV iron dextran (for children >2 years old). The sensation of warmth and flushing with IV iron is NOT an allergic reaction (see [IV Iron Reaction Clinical Guideline](#) for more information).

- IV iron dextran (InFed®): Total time of administration is typically ~4-6 hours, due to the infusion of both the test dose (15 min) and full dose (2 hours), coupled with the additional monitoring requirements associated with iron dextran.
  - Order IV Iron Dextran using Children's "Iron Dextran (Infed)" order panel which has a calculator built in for dosing based on Hg (if transfused, use post-transfusion Hg), no max dose
  - Iron dextran can be administered any time but is preferably delivered during the daytime (due to nursing requirements while monitoring for a reaction).
- IV iron sucrose (Venofer®): May be favored if discharge is imminent, as it only takes 90 minutes for the full administration process with IV iron sucrose.
  - Dosing: 5 mg/kg (max 300 mg/dose), infuse over 90 minutes. May consider premedication with ondansetron if patient is nauseous prior to infusion.

**Note 10: Gynecology Clinic Follow-up**

- Order "Children's Gynecology Clinic Referral" and write into referral comments that f/u can be at Heme/Gyn or Gyn clinic AND
- Send a Cerner Message to the "Gynecology Scheduling Pool" to expedite follow-up

**Aim:** To standardize the evaluation and management of patients with anemia and menstruation.

**WORKGROUP:** Nadia Maccabee-Ryaboy MD (Hospitalist), Kate Garland MD (Heme), Rachel Miller MD (Gyn), Jennifer Lissick PharmD (Pharmacy), Susan Kuldaneck MD (Hematology), and Kylie Fowler MD (Gynecology) and Betty Wu (ED)

## REFERENCES

1. Haamid, Fareeda et al. "Heavy Menstrual Bleeding in Adolescents: NSASPAG Committee Opinion." *J Pediatr Adolesc Gynecol.* 30 (2017): 335-340
2. ACOG committee opinion no. 557. "Management of Acute Abnormal Uterine Bleeding in Nonpregnant Reproductive-Aged Women: Committee Opinion" *Obstet Gynecol.* 2013; 121(4):891-896
3. Children's Hospital of Philadelphia. "Acute Abnormal Uterine Bleeding Clinical Pathway- Emergency and Inpatient." July 2017. <https://www.chop.edu/clinical-pathway/uterine-bleeding-acute-abnormal-clinical-pathway>. Accessed September 18, 2019
4. Gray SH, Emans SJ. "Abnormal vaginal bleeding in adolescents." *Pediatr Rev.* 2007; 28(5):175-182.
5. Munro MG et al. Oral MPA and COCs for acute uterine bleeding: a randomized controlled trial, *Obstet Gynecol* 2006; 108:924-9
6. Rosen, Monica et. al "The Utility of Pelvic Ultrasounds in Adolescents Presenting to the Emergency Department with Abnormal Uterine Bleeding," *Journal of Pediatric and Adolescent Gynecology*, 2023; 36: 5, Pages 455-458