Practice Guidelines

Heavy Menstrual Bleeding in Adolescents: ACOG Management Recommendations

Key Points for Practice

- One in five adolescents with heavy menstrual bleeding has an underlying bleeding disorder.
- In hemodynamically stable adolescents with heavy menstrual bleeding, most bleeding can be stopped with high-dose estrogen oral contraceptives taken every six to eight hours, tranexamic acid, or high-dose progesterone.
- Bleeding that is unresponsive to initial therapy may signal a retained clot, which can be identified by ultrasonography; an intrauterine Foley catheter can provide tamponade with hormonal or antifibrinolytic therapies.
- Long-term management of heavy menstrual bleeding is best achieved with continuous hormonal contraceptive therapies.

From the *AFP* Editors

The American College of Obstetricians and Gynecologists (ACOG) has new recommendations and conclusions about menstrual bleeding disorders in adolescents.

A typical menstrual cycle occurs every 21 to 45 days and lasts no more than seven days; however, cycles in adolescents are often irregular because immaturity of the hypothalamic-pituitary-ovary axis leads to anovulation. Excessive menstrual blood loss that interferes with a woman's physical, social, emotional, or material quality of life is considered heavy menstrual bleeding. Common causes of heavy menstrual bleeding should be classified by the PALM-COEIN (polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not otherwise classified) system.

Coverage of guidelines from other organizations does not imply endorsement by *AFP* or the AAFP.

This series is coordinated by Sumi Sexton, MD, editor-in-chief.

A collection of Practice Guidelines published in *AFP* is available at https://www.aafp.org/afp/practguide.

CME **This clinical content** conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 587.

Author disclosure: No relevant financial affiliations.

Bleeding Disorders in Heavy Menstrual Bleeding

Anovulation is the most common cause of heavy menstrual bleeding in adolescents; an underlying bleeding disorder is the second most common cause. Approximately 20% of all adolescent girls with heavy menstrual bleeding and 33% of adolescent girls hospitalized for heavy menstrual bleeding have an underlying bleeding disorder. The most common bleeding disorders are von Willebrand disease, platelet function defects, thrombocytopenia, and clotting factor deficiencies.

Symptoms and Signs

Although many adolescent girls experience heavy menstrual bleeding only when their cycles become ovulatory, approximately one-half of adolescent girls who have bleeding disorders present with heavy menstrual bleeding at menarche. When adolescents with a bleeding disorder also experience anovulation, prolonged and irregular menses are common. Passing of clots and bleeding through clothing and sheets are reported by 70% of adolescents with a bleeding disorder.

Headaches and fatigue are common when heavy menstrual bleeding leads to iron deficiency anemia. Even in the absence of anemia, iron depletion from heavy menstrual bleeding can cause fatigue and decreased cognition, especially in verbal learning and memory.

Evaluation and Diagnosis

The most important elements of the patient history are quantifying bleeding and recognizing signs of bleeding disorders. *Table 1* is a screening tool with a sensitivity of 89% for identifying a bleeding disorder. When asking adolescents about menstrual bleeding, it is important to quantify the frequency of pad or tampon use and whether bleeding through products onto clothing

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.*

and sheets occurs. Discussion with a parent may be necessary because adolescents are not always able to describe their bleeding accurately.

Evaluation of hemodynamic stability should include orthostatic blood pressure and pulse measurements. Conjunctival or sublingual pallor suggests anemia, whereas bruises or petechiae suggest a bleeding diathesis. An abdominal examination can be helpful, but a speculum examination is unlikely to be useful in the absence of concern for sexual trauma.

Laboratory evaluation should assess for anemia, including serum ferritin level, the presence of an endocrine disorder, and the presence of a bleeding disorder. Note that the ferritin level may be elevated in inflammatory states, so normal or high levels do not exclude iron deficiency anemia. Because structural causes in adolescents are rare, imaging in adolescents with heavy menstrual bleeding is rarely useful.

Acute Management

Hormonal therapy with intravenous conjugated equine estrogen (Premarin), 25 mg every four to six hours, or monophasic combined oral contraceptives, 30 to 50 mcg of an ethinyl estradiol formulation every six to eight hours, may be used until bleeding has stopped. A combined oral contraceptive tapering regimen should begin after bleeding has stopped, usually within 24 to 48 hours. Nausea and vomiting are common with high-dose estrogen therapy and can be exacerbated by oral iron therapy. Adolescents who do not tolerate estrogens can be treated with progesterone-only therapy of oral medroxyprogesterone (Provera), 10 to 20 mg every six to 12 hours, or norethindrone, 5 to 10 mg every six hours. Depot medroxyprogesterone is not a first-line therapy because of difficulties with titration and discontinuation.

Antifibrinolytics such as oral and intravenous forms of tranexamic acid (Cyklokapron) or aminocaproic acid should be reserved for patients who do not respond to hormonal treatment. Despite package warnings about concurrent use of tranexamic acid and oral contraceptives, combined use has been shown to be successful without an increased risk of thrombosis.

Blood transfusion can often be avoided because adolescents generally tolerate hemoglobin levels of less than 7 g per dL (70 g per L) and quickly respond to hormonal management and iron therapy. Transfusion should be considered based on hemodynamic status and continued active bleeding.

In adolescents who do not respond to medical therapy, ultrasonography can guide procedural management. Suction curettage is considered when a thickened endometrium suggests a clot or decidual cast. Intrauterine balloon tamponade and suction evacuation or suction curettage (machine or manual) are often effective and do not put fertility at risk. Endometrial ablation, uterine artery embolization, and hysterectomy should be considered only in life-threatening situations.

As in postpartum hemorrhage, intrauterine balloon tamponade may be effective, though it has not been systematically studied. In a nongravid adolescent, a Foley catheter may be inserted through the cervix and inflated until myometrial resistance is felt or inflated up to 30 mL. It is usually not necessary to dilate the cervix before insertion. Ultrasonography can be used to confirm placement. The balloon can be kept in place for up to 24 hours. Continued bleeding will drain through the catheter, so the balloon can be gradually deflated after drainage stops.

Long-Term Management

A combination of hormonal and nonhormonal therapies may be necessary to control heavy menstrual bleeding in adolescent girls with bleeding disorders. Effective options include combined oral contraceptives with higher estrogen levels, the transdermal contraceptive patch, the vaginal contraceptive ring, and the levonorgestrel-releasing intrauterine device (Mirena), all of which can be used continuously with minimal or no withdrawal periods. Breakthrough bleeding is best treated by doubling the dosage of the combined oral contraceptive.

For adolescents unable to tolerate estrogen-containing therapy, progestin therapy such as norethindrone, 5 to 15 mg per day, can be used for menstrual suppression. Long-acting reversible contraceptive methods, such as the levonorgestrel-releasing intrauterine device, are another choice for adolescents. Only the 52-mg levonorgestrel-releasing intrauterine device has been studied in women with bleeding disorders, with limited data in adolescents.

Oral iron supplementation (60 to 120 mg per day) and dietary counseling are first-line therapies for treating iron deficiency anemia. Limited research supports higher effectiveness with dosing every other day due to improved absorption.

Other Gynecologic Considerations

Ovarian cysts are common in bleeding disorders. In one study, 52% of women with von Willebrand disease reported symptomatic ovarian cysts vs. 22% of unaffected women. For adolescents who have recurrent hemorrhagic cysts, systemic hormones can suppress ovulation and cyst formation. Hormonal contraceptives can be combined with a levonorgestrel-releasing intrauterine device.

An adolescent with a known bleeding disorder should be counseled before menarche and should have a plan in place for managing heavy menstrual bleeding.

Guideline source: American College of Obstetricians and Gynecologists

Evidence rating system used? Yes

Systematic literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? Not reported

Recommendations based on patient-oriented outcomes? Yes

Published source: *Obstetrics & Gynecology.* September 2019; 134(3):e71-e83

Available at: https://journals.lww.com/greenjournal/fulltext/2019/09000/Screening_and_Management_of_Bleeding_Disorders_in.47.aspx

Laurie Costlow
AFP Associate Editor and Online Coordinator ■