**Inclusion Criteria:** Menstruating females with concern for heavy bleeding

**Exclusion Criteria:**
- Previously identified bleeding disorder (Rheumatology, Cancer, Anti-Coagulation, Congenital Heart Disease)
- Patients with altered mental status, severe hypotension, requiring intubation, or who are otherwise clinically unstable

**Algorithm**

**Patient admitted with Heavy Menstrual Bleeding**
*If admitted from ED, continue current hormone therapy regimen*

- Ask and document screening questions if not completed in ED (Use smartphrase .hmb – refer to Box 1 on page 2)
- Order labs if not already obtained (See Box 2 on page 2)
- Obtain Ferritin & Iron panel
- Order Pelvic Ultrasound
- Consult Gynecology

**Oral hormone therapy (see Table 1)**

- Any ONE of the following present?
  - PO Intolerance
  - Soaking >6 ppd
  - Hypotensive
  - Hgb ≤ 5

- Yes → IV hormone Therapy (see Table 1)

- No → Continue hormone therapy

- If Hgb 6-8 and asymptomatic, consult Hematology for consideration of IV Iron infusion

**IV hormone Therapy (see Table 1)**

- Continue hormone therapy

- If Hgb 6-8 and asymptomatic, consult Hematology for consideration of IV Iron infusion

- Any ONE of the following present?
  - Symptomatic anemia
  - Hypotension
  - Hgb < 6

- Yes → Continue hormone therapy

- No → Consider 1-2u PRBCs

**Significant bleeding (>3 ppd) continued after 24 hours on hormone therapy?**

- Yes → Start Amicar or Tranexamic acid (See Table 1)

  - Continue oral hormone therapy. If currently on Premarin, switch to oral hormone therapy

- No → Consult Hematology

**Discharge for outpatient follow-up with TAPER hormone therapy (see Table 1)**

- Add ferrous sulfate for Hgb < 10

**Discharge criteria met?**

- Yes → Contact Hematology and Gynecology to discuss:
  - Hormone therapy decisions
  - Possible PRBC transfusion
  - Further work-up

- No → Continue to collaborate with Gynecology and Hematology regarding plan of care until discharge criteria is met.

**Definitions**
- **ppd** = pads per day

**Considerations**
- If known history of blood thinners, consult Hematology
- Start iron when patient tolerating PO
- If unstable/hypotension, consider PICU transfer

**General Care**
- Monitor vitals per routine
- Obtain orthostatic blood pressure and HR on admission and Qshift
- Start IV if indicated
- Case management consult for discharge medication needs

**1 Symptoms of Anemia**
- Tachycardia
- Orthostatic hypotension
- Headache/Dizziness
- Fatigue

**2 Bleeding Improved**
- < 3 ppd
- Orthostasis resolved
- Fatigue resolved
- No headache/dizziness

**3 Discharge Criteria**
- Tolerating PO
- In room air
- No longer bleeding or only spotting
- No longer orthostatic

**4 Discharge Instructions**
- Follow-up with Gynecologist at CHOA Pediatric Gynecology office (404.785.1491), or Hughes Spalding Adolescent Medicine Clinic (404.785.9850) in 2-4 weeks
- Follow-up with the Hematology Clinic (404.785.1319) in 4-8 weeks to complete bleeding disorder work-up
- Continue hormone taper until daily regimen achieved. If bleeding recurs, return to previous dose and call PCP. Do not take placebo pills until seen for follow-up (see Table 1).
- Physician should work with case manager when writing discharge hormone therapy orders to ensure access to the necessary quantity.
- Continue iron supplementation and encourage iron rich foods
- Keep menstrual calendar
- Provide teaching sheet: “When Your Child Has Iron-Deficiency Anemia”

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Heavy Menstrual Bleeding Clinical Practice Guideline
Inpatient Management

Box 1: Screening Questions (Adapted from Claire Philipp Screening tool; AMJOG 2011)
1. On average does your period last 7 or more days?
2. Do you experience “flooding” or overflow bleeding thru your tampon or pad?
3. Do you need to change your tampon or pad more than every 1-2 hours at times during your period?
4. Have you ever been treated (PO iron, IV iron, blood transfusion) for iron deficiency anemia in the past?
5. Do you have a family history of a bleeding disorder?
6. Have you had excessive bleeding with a dental extraction or dental surgery?
7. Have you had excessive bleeding with a miscarriage or following delivery of a child?

Considered to be positive if answered yes to any of the above questions

Box 2: Labs (if not already obtained)

Obtain: Ferritin & Iron panel. CBC Q12H while bleeding (can be more frequent if heavy bleeding), then QD | Urine Pregnancy and Type & Screen

- If Obesity (BMI ≥295), Acanthosis Nigrans, Hirsutism, or missed period for more than 3 months in a row:
  - Prior to starting hormone therapy, draw FSH, LH, Estradiol, Prolactin, Testosterone. Results not needed prior to starting therapy.
- If sexually active: Consider UC/Chlamydia, Serum RPR and HIV
- If strong personal history of bleeding or family history of bleeding disorder: Consider VWD profile, PT, PTT, and fibrinogen

Table 1: Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Indications</th>
<th>Dosage</th>
<th>Max Dose</th>
<th>Contraindications/Comments</th>
<th>Medication</th>
<th>Indications</th>
<th>Dosage</th>
<th>Max Dose</th>
<th>Contraindications/Comments</th>
<th>Prescription Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tranexamic acid</td>
<td>As needed: not associated with bleeding</td>
<td>1 tab PO Q8H until discharge</td>
<td>20 mg/dose</td>
<td>Contraindications: Previous intolerance</td>
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<tr>
<td></td>
<td>As needed: resistant to oral therapy</td>
<td>20 mg/dose</td>
<td></td>
<td>Not a preferred method of birth control</td>
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<tr>
<td>Aminocaproic acid (Amicar)</td>
<td>As needed: resistant to oral therapy</td>
<td>100 mg/m2 IV followed by 50 mg/m2 IV Q4H</td>
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<tr>
<td>Docusate (Colace)</td>
<td>N/A</td>
<td>50-100 mg QD</td>
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<td>Docusate (Colace)</td>
<td>N/A</td>
<td>100 mg/dose</td>
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<tr>
<td>Docusate (Colace)</td>
<td>N/A</td>
<td>0.15 mg/kg PO or IV Q8H as needed</td>
<td>0.15 mg/kg</td>
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<tr>
<td>Famotidine (Pepcid)</td>
<td>N/A</td>
<td>8 mg/dose</td>
<td>20 mg/dose</td>
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<td>As needed: resistant to oral therapy</td>
<td>100 mg/m2 IV followed by 50 mg/m2 IV Q4H</td>
<td></td>
<td>Contraindications: Hypercoagulability, migraine with aura, SBP &gt;160 or DBP &gt;100, &lt;6 weeks post-partum, congenital heart disease, active cancer, renal failure, or uncontrolled coagulopathy</td>
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<td>As needed: resistant to oral therapy</td>
<td>10 mg/kg IV Q8H</td>
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</tbody>
</table>

Other Inpatient Medications

<table>
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<th>Max Dose</th>
<th>Contraindications/Comments</th>
<th>Prescription Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrum Sulfureum (Iron)</td>
<td>Recommended for all admitted patients</td>
<td>65 mg (15 mg elemental iron) PO BID</td>
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<tr>
<td>Ondansetron (Zofran)</td>
<td>For side effects related to hormone therapy</td>
<td>8 mg/dose</td>
<td>8 mg/dose</td>
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<tr>
<td>Ferrous Sulfate (Iron)</td>
<td>For side effects related to hormone therapy</td>
<td>20 mg PO or IV BID</td>
<td>20 mg/dose</td>
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<td></td>
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<tr>
<td>Tranexamic acid</td>
<td>For side effects related to hormone therapy</td>
<td>10 mg/kg IV followed by 5 mg/kg IV Q4H</td>
<td>5 mg/kg</td>
<td>Contraindications: Hematuria</td>
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</tr>
<tr>
<td>Aminocaproic acid (Amicar)</td>
<td>As needed: resistant to oral therapy</td>
<td>100 mg/m2 IV followed by 50 mg/m2 IV Q4H</td>
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<td>100 mg/dose</td>
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</tr>
</tbody>
</table>

*Refer to CDC Summary of Medical Eligibility Criteria for Contraceptive Use, for complete list of contraindications for estrogens
**Please review previous dose and call PCP. Skip placebo pills unless set for follow-up.

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