Abnormal Uterine Bleeding (AUB)

Emergency Department

Center for Clinical Excellence

Inclusion Criteria

Any patient who presents with concerns for abnormal uterine bleeding

Exclusion Criteria

- Pregnancy
- Isolated post-coital bleeding
- Trauma

[Definition & Diagnosis]

[Differential Diagnosis]

[Concern for Bleeding Disorder]

[Medications]

Concern for heavy menstrual bleeding

Pregnancy test positive?

- Yes → **Off Pathway** Facilitate transfer to adult facility

No

Signs of shock?

- Yes →
  - IV access
  - IVF bolus
  - Labs:
    - CBC
    - Type & Screen
    - PT/PTT
    - Fibrinogen
  - IV conjugated estrogen
  - Consider PRBC infusion

  → Severe Bleeding Admission Plan

No

Initial labs:

- CBC with differential
- STI testing (GC/Chlamydia/Trich) if sexually active

Assess bleeding severity

Mild
- Slightly prolonged menses
- Slightly more frequent cycle
- Increased flow
- Hgb normal

→ Mild Bleeding Discharge

Moderate
Menses lasting >7days
or
cycle frequency < 3weeks
AND
Hgb 10-11 g/dL

→ Moderate Bleeding Discharge

Severe
Menstrual cycles with heavy bleeding that disrupt activities of daily living
AND
Hgb <10g/dL

→ Hgb ≤ 7 g/dL and/or symptomatic anemia?

- No → Severe Bleeding Discharge
- Yes → Severe Bleeding Admit

Definition & Diagnosis

In clinical practice, the diagnosis, evaluation and treatment of heavy bleeding are based upon “patient experience”, the female’s personal assessment of blood loss and its impact on her life.

Matteson et al. Non-surgical management of heavy menstrual bleeding: a systematic review and practice guidelines. Obstet Gynecol 2013;121:632-643

General Guidelines for Consideration

Normal menstrual bleeding:

- Cycle length 21-45 days
- Flow length < 7 days
- Product (pad or tampon) use ≤ 6 products in 24 hours

Heavy Menstrual bleeding:

Excessive menstrual loss that interferes with the patient’s physical, emotional, social and material quality of life and can occur alone or in combination with other symptoms

F. Haamid et al. Heavy Menstrual Bleeding in Adolescents. NASPAG Committee Opinion. J Pediatr Adolsc Gynecol. 2017;30:335-340

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Focused History for Evaluation of Heavy Menstrual Bleeding

- **Bleeding pattern**
  - Frequency of changing pads or tampons
  - Presence of clots > size of quarter
  - Effect on quality of life
- **Symptoms of anemia**
  - Shortness of breath
  - Acute increase in exercise intolerance
  - Lightheadedness
  - Syncope
- **Sexual and reproductive history**
  - Menstrual history
  - Possibility of current pregnancy
  - Contraceptives use
  - Sexually transmitted infections
- **Associated symptoms**
  - Fever
  - Chills
  - Pelvic pressure or pain
  - Bowel or bladder dysfunction
  - Vaginal discharge or odor
- **Symptoms associated with systemic cause**
  - Obesity
  - PCOS
  - Hypothyroidism
  - Hyperprolactinemia,
  - Hypothalamic or adrenal disorder
- **Chronic medical illness**
  - Inherited bleeding disorders (coagulopathy, blood dyscrasias, platelet function disorders)
  - Systemic lupus erythematosus or other connective tissue diseases
  - Liver disease, renal disease, cardiovascular disease
- **Medications**
  - Hormonal contraceptives
  - Anticoagulants
- **Family history**
  - Coagulation or thromboembolic disorders
  - Hormone-sensitive cancers

Estrogen contraindications

- **Relative contraindication:**
  - First degree relative with history of PE or DVT
- **Absolute contraindications:**
  - Current or past blood clot
  - Current or past migraine + aura
  - Hypertension (Systolic > 140, diastolic > 90)
  - Systemic lupus erythematosus with + lupus anticoagulant
  - Thrombotic mutations: prothrombin mutation, factor V Leiden
  - Protein C, Protein S and antithrombin deficiencies
  - Estrogen-dependent tumors
  - Hepatic dysfunction or disease

Adapted from:

F. Haamid et al. Heavy Menstrual Bleeding in Adolescents. NASPAG Committee Opinion. J Pediatr Adolsc Gynecol. 2017;30:335-340

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Differential Diagnoses

- **Endocrine**
  - Anovulatory bleeding
  - Polycystic ovarian syndrome
  - Thyroid disease
- **Bleeding disorders**
  - Von Willebrand disease
  - Platelet dysfunction
  - Thrombocytopenia
  - Clotting factor deficiency
- **Pregnancy**
  - Abortion
  - Ectopic pregnancy
  - Gestational trophoblastic disease
- **Infection**
  - Sexually transmitted diseases – Gonorrhea/Chlamydia/Trichomonas
  - Adenomyosis
- **Uterine**
  - Myoma
  - Intrauterine device
  - Polyp
  - Cancer
- **Medication**
  - Depot medroxyprogesterone
  - Anticoagulants
- **Other**
  - Trauma
  - Foreign body
  - Hemorrhagic ovarian cysts

F. Haamid et al. Heavy Menstrual Bleeding in Adolescents. NASPAG Committee Opinion. J Pediatr Adolsc Gynecol. 2017;30:335-340

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Concern for Bleeding Disorder

Laboratory evaluation for a bleeding disorder occurs during follow-up with Adolescent Medicine

Among adolescents with heavy menstrual bleeding, up to 20% are reported to have an underlying bleeding disorder with the following suggested frequencies:

- Von Willebrand disease 5-36%
- Platelet function defects 2-44%
- Thrombocytopenia 13-20%
- Clotting factor deficiencies 8-9%

Possible bleeding disorder if any of the following:

- Saturating a product faster than every 2 hours
- Clots bigger than a quarter
- Needing 2 products at once
- Frequent “accidents” or leaking through protection
- “Flooding” sensation
- Previous or current diagnosis of anemia
- Excessive bleeding with tooth extraction, surgery
- Family history of diagnosed bleeding disorder

F. Haamid et al. Heavy Menstrual Bleeding in Adolescents. NASPAG Committee Opinion. J Pediatr Adolsc Gynecol. 2017;30:335-340

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Symptomatic Anemia with AUB

Symptoms of symptomatic anemia with AUB include:

- Shortness of breath
- Sustained tachycardia
- Difficulty with activities of daily living
- Orthostatic hypotension *(fall of systolic BP over 20 mm Hg or fall in diastolic BP over 10 mm Hg within 3 minutes of standing)*

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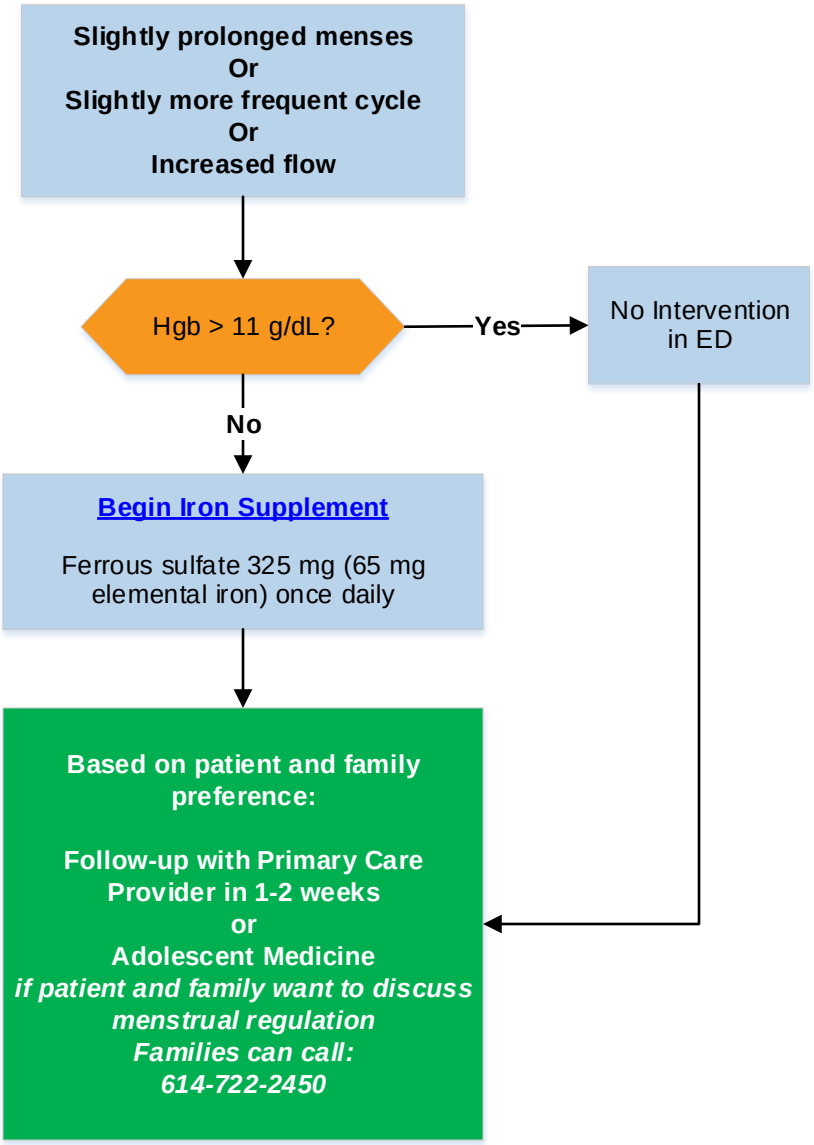
Mild Bleeding Discharge Plan



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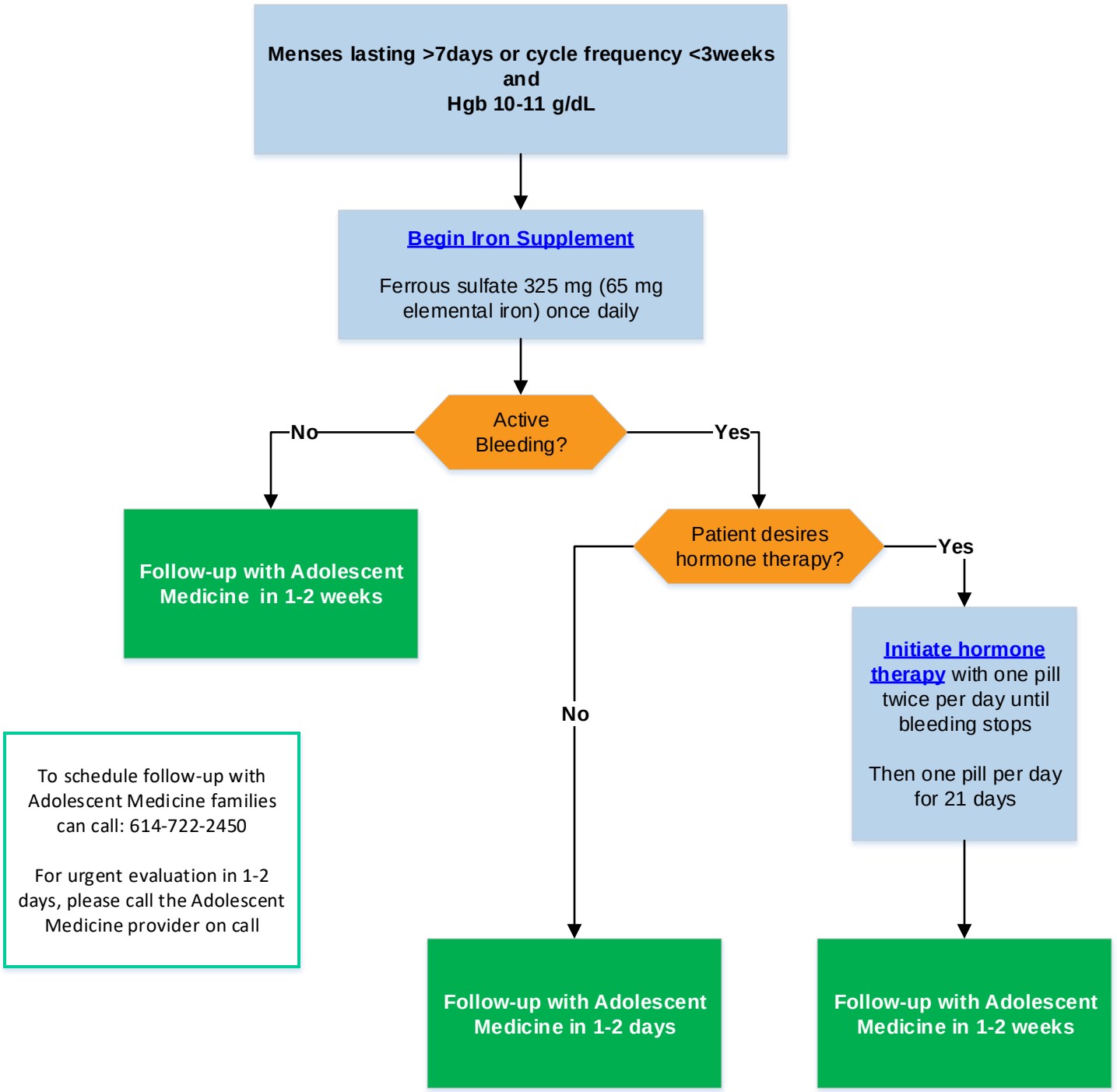
Moderate Bleeding Discharge Plan



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Severe Bleeding Discharge Plan

Severe bleeding and moderate anemia (Hgb 7.1-10 g/dL)

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Begin iron supplement

Ferrous sulfate 325 mg (65 mg elemental iron) once daily

↓

Initiate hormone therapy:

- One hormone pill four times per day until bleeding stops
- THEN one hormone pill three times per day for 3 days
- THEN one hormone pill twice a day for at least 2 weeks

- Odansetron 8 mg PO Q 8 hours as needed while receiving hormone therapy

↓

Follow-up with Adolescent Medicine in 48-72 hours

To schedule follow-up with Adolescent Medicine families can call: 614-722-2450

If urgent evaluation in 1-2 days is indicated, please call the Adolescent Medicine provider on call

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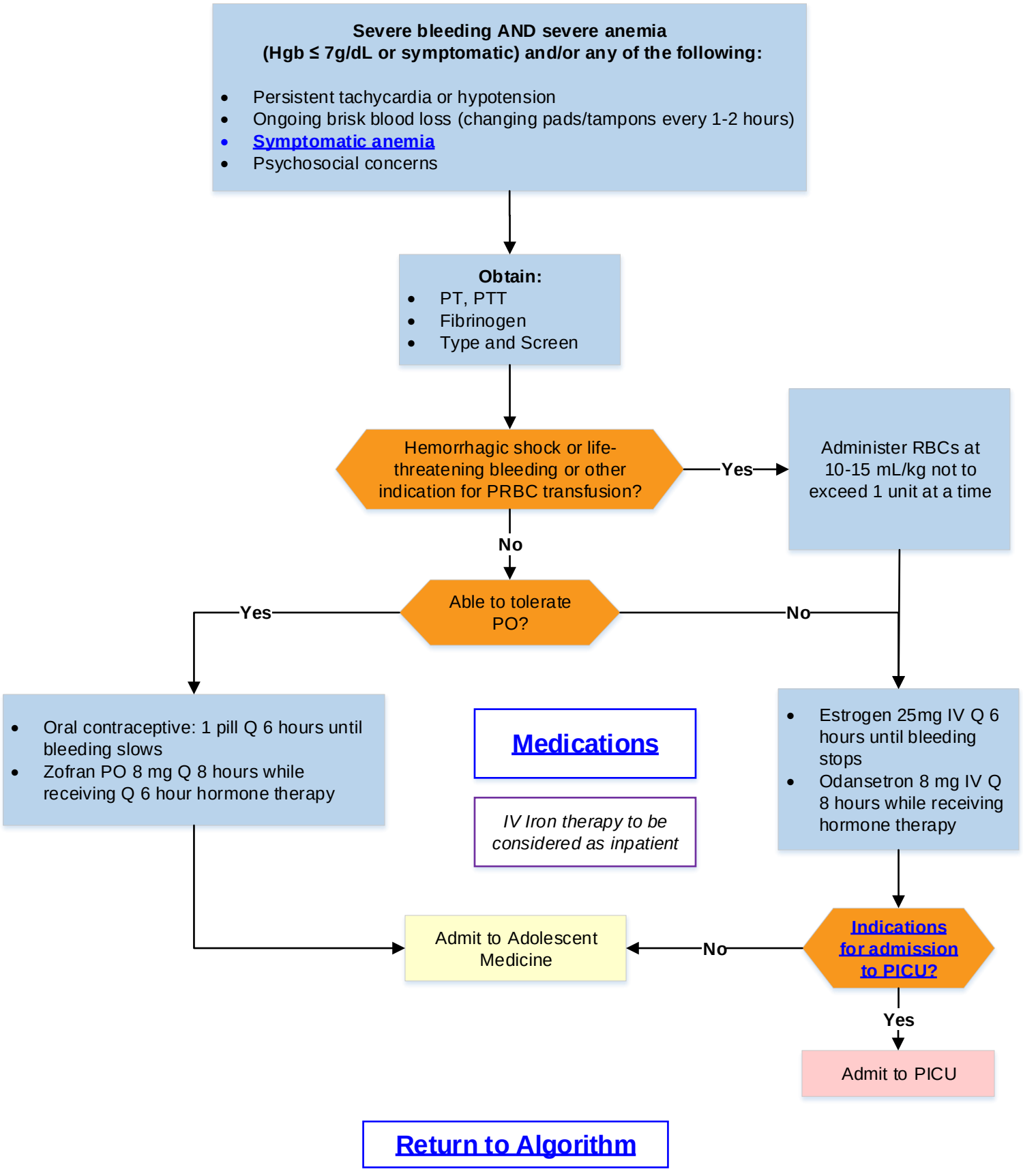
Severe Bleeding Admission Plan



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Indications for Admission to Pediatric Intensive Care

- Hemodynamically unstable patients should be admitted to the Pediatric Intensive Care Unit with Hematology consult
- Otherwise, call the Adolescent Medicine Fellow on call to discuss appropriateness of admission to Adolescent service

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Medications

Monophasic oral contraceptive pill (OCP) containing 30-50 mcg of estrogen:

- Norgestimate 0.25 mg/ethinyl estradiol 35 mcg (Sprintec, Mononessa, Ortho Cyclen)
- Norgestrel 0.3 mg/ethinyl estradiol 30mcg (Lo/Ovral*, Low-Ogestrel, Cryselle)
- Levonorgestrel 0.15 mg/ethinyl estradiol 30mcg (Nordette, Levlen, Levora, Portia)

All are equally efficacious and well tolerated
**Used most often*

Estrogen contraindications

- **Relative contraindication (okay to use initially to control bleeding):**
  - First degree relative with history of PE or DVT
- **Absolute contraindications:**
  - Current or past blood clot
  - Current or past migraine + aura
  - Hypertension (Systolic > 140, diastolic > 90)
  - Systemic lupus erythematosus with + lupus anticoagulant
  - Thrombotic mutations: prothrombin mutation, factor V Leiden
  - Protein C, Protein S and antithrombin deficiencies
  - Estrogen-dependent tumors
  - Hepatic dysfunction or disease

Progestin-only alternatives:

- Norethindrone acetate (Aygestin) 5 mg
- Medroxyprogesterone acetate (Provera) 10 mg

Counsel patient that these are not birth control pills and not FDA approved for contraception

Estrogen-containing medications and Progestin-only alternatives can be tapered the same way:

- **Moderate bleeding**
  - Initiate hormone therapy with one pill twice per day until bleeding stops
  - Then one pill per day for 21 days
- **Severe bleeding:**
  - One hormone pill four times per day for 2-4 days (duration to be determined at follow-up)
  - THEN one hormone pill three times per day for 3 days
  - THEN one hormone pill twice a day for at least 2 weeks

Estrogen IV:

Conjugated estrogen 25 mg Q6

Slow push over 5 minutes. If flushing occurs, decrease rate by 50%. (Lexicomp®)

Oral Iron Supplementation:

Ferrous sulfate 325 mg (65 mg elemental iron) once daily for patients who are ≥ 35 kg
(Otherwise 3-6 mg/kg of elemental iron once daily with a max of 100 mg elemental iron daily if < 35 kg)

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Metrics

Pathway Goal
To provide a standardized approach to evaluation and treatment of abnormal uterine bleeding in non-pregnant patients.

Quality Measures

Outcome Metrics

- Iron supplementation provided for patients with abnormal uterine bleeding and hemoglobin < 11 g/dL

Process Metrics

- Pathway Utilization
- Pathway visualization

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References

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Clinical Pathway Development

This clinical pathway was developed using the process described in the NCH Clinical Pathway Development Manual Version 6, 2022. Clinical Pathways at Nationwide Children's Hospital (NCH) are standards which provide general guidance to clinicians. Patient choice, clinician judgment, and other relevant factors in diagnosing and treating patients remain central to the selection of diagnostic tests and therapy. The ordering provider assumes all risks associates with care decisions. NCH assumes no responsibility for any adverse consequences, errors, or omissions that may arise from the use or reliance on these guidelines. NCH's clinical pathways are reviewed periodically for consistency with new evidence; however, new developments may not be represented, and NCH makes no guarantees, representations, or warranties with respect to the information provided in this clinical pathway.

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