# Abnormal Uterine Bleeding (AUB)





**Note:** Cancer patients have an increased risk of VTE. Hormonal medications and tranexamic acid can increase risk of VTE. The benefits of OCP use for AUB and prevention of pregnancy often outweigh the risks. The team should have shared decision making.

## PRESENTATION

## TREATMENT

Premenopausal females undergoing intensive treatment[1] (*i.e.*, chemotherapy or stem cell transplant)

**Note:** Consult General Gynecology for post-menopausal women and pre-menopausal women with difficult bleeding situations

### Prevention of uterine bleeding

Patient on OCP?

- **Yes** →
  - On admission, give leuprolide 11.25 mg IM[2] and continue patient on monophasic continuous OCP (skip placebo pills)
  - Consider OCP taper[3] if bleeding occurs
- **No** → Contraindication[4] to OCP?
  - **Yes** → See Page 2 for alternative to OCP
  - **No** →
    - On admission, give leuprolide 11.25 mg IM[2], check baseline LFTs, and start patient on monophasic continuous OCP (skip placebo pills) or progestin daily (MPA or NETA), see Appendix A
    - Consider OCP taper[3] or progestin taper[5] if bleeding occurs

→ Primary team to manage cancer and monitor for bleeding

### Management of uterine bleeding

Patient on OCP?

- **Yes** →
  - Immediately when bleeding occurs, perform all of the following:
    - Start OCP taper[3] or progestin taper[5] **and**
    - Give leuprolide 11.25 mg IM[2] **and**
    - Platelet transfusion if platelet level is < 20-30 K/microliter **and**
    - Reassess patient for bleeding after 24-48 hours
  - → Bleeding persists?
    - **Yes** →
      - Consult General Gynecology (see Appendix B)
      - Platelet transfusion if platelet level is < 20-30 K/microliter
    - **No, has improved** →
      - Continue OCP taper[3] or progestin taper[5]
      - Primary team to manage cancer and monitor for bleeding
- **No** → Contraindication[4] to OCP?
  - **No** → (to Immediately when bleeding occurs…)
  - **Yes** → See Page 2 for treatment based on contraindication

DVT = deep vein thrombosis
OCP = oral contraceptive pill
LFT = liver function test
MPA = medroxyprogesterone acetate
NETA = norethindrone acetate
PE = pulmonary embolism
VTE = venous thromboembolism

[1] Consider Fertility Specialist consult if patient desires fertility

[2] Leuprolide IM administration:
- For IM administration, platelets must be ≥ to 50 K/microliter. Transfuse if platelet level is < 50 K/microliter.
- May take two weeks for optimal effect
- A two-week post-leuprolide withdrawal bleed may occur
- Repeat leuprolide injection in 3 months
- Patients planned for stem cell transplant should receive injection 1 month prior to procedure
- Contraception should be recommended in women of childbearing potential as it is not ensured with leuprolide
- Contraindicated in women who are pregnant or breastfeeding

[3] OCP taper [use any monophasic OCP (see Appendix A):
- PO three times daily for 3 days, then
- PO twice daily for 3 days, then
- PO once daily continuous (skip placebo pills)

[4] Contraindications to OCP:
- Personal history of breast cancer
- High risk of arterial or venous thrombosis (*e.g.*, active or history of DVT/PE, severe or uncontrolled hypertension, active tobacco use in females greater than 35 years of age, known vascular disease, migraine with aura)
- No oral intake

[5] Progestin taper (MPA or NETA):
- MPA: 20-40 mg PO three times daily until bleeding slows or stops, then taper to 10-20 mg daily continuous
- NETA: 10-20 mg PO three times daily until bleeding slows or stops, then taper to 5-15 mg daily continuous



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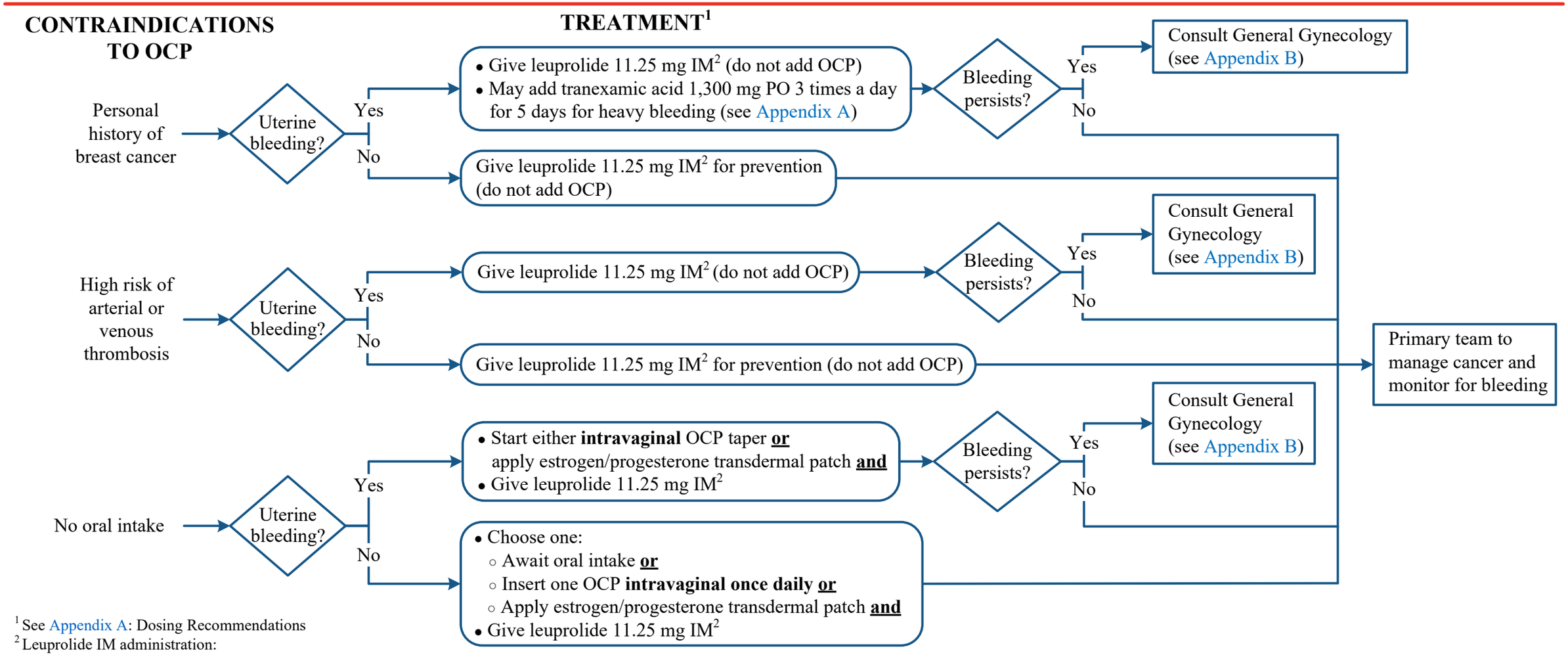


[1] See Appendix A: Dosing Recommendations

[2] Leuprolide IM administration:

- For IM administration, platelets must be ≥ 50 K/microliter. Transfuse if platelets < 50 K/microliter.
- A two-week post-leuprolide withdrawal bleed may occur
- Repeat leuprolide injection in 3 months
- May take two weeks for optimal effect
- Patients planned for stem cell transplant should receive injection 1 month prior to procedure
- Contraception should be recommended in women of childbearing potential as it is not ensured with leuprolide
- Contraindicated in women who are pregnant or breastfeeding



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# Abnormal Uterine Bleeding (AUB)





## APPENDIX A: Dosing Recommendations

| | Product | Dosage Form | Strength | Comments |
|---|---|---|---|---|
| **Contraceptives** | **Ethinyl (EE) estradiol/norgestrel** (Lo/Ovral®, Cryselle® 28) | Tablet | 0.03 mg/0.3 mg | • **Monophasic OCP** • PO or intravaginal (skip placebo pills) |
| | **Ethinyl estradiol/desogestrel** (Desogen®, Ortho-Cept®) | Tablet | 0.03 mg/0.15 mg | • **Monophasic OCP** • PO or intravaginal (skip placebo pills) |
| | **Ethinyl estradiol/norethindrone** (Ortho-Novum® 1/35) | Tablet | 0.035 mg/1 mg | • **Monophasic OCP** • PO or intravaginal (skip placebo pills) |
| | **Ethinyl estradiol/levonorgestrel**[1] (Seasonique®) 91-day pack | Tablet | 0.03 mg/0.15 mg 0.01 mg EE | • **Monophasic OCP** • Consider prescribing at discharge for continuous OCP<br>• Seasonique® pack contains 7 days of low dose EE instead of placebo at the end of the 84 day cycle |
| | Ethinyl estradiol/norelgestromin (Xulane® Patch) | Patch | 35 mcg/150 mcg per day | • Apply one patch each week. Skip patch-free week if using to prevent vaginal bleeding.<br>• Contraindicated as a contraceptive if BMI ≥ 30 kg/m$^2$. May be less effective if weight is ≥ 90 kg. |
| | Medroxyprogesterone acetate (Depo-Provera®) | IM injection | 150 mg | • For IM administration, platelets must be ≥ 50 K/microliter. Transfuse if platelets < 50 K/microliter.<br>• **Every 3 months** |
| **Hormonal Agents** | Estrogens, conjugated, equine (Premarin®) | IV injection | 25 mg/5 mL | 25 mg IV every 6 hours for 24 hours |
| | Medroxyprogesterone acetate (MPA) (Provera®) | Tablet | 10 mg | 20-40 mg PO three times daily until bleeding slows or stops, then 10-20 mg daily continous |
| | Megestrol acetate (Megace®) | Tablet | 20 mg | 20-40 mg PO three times daily until bleeding slows or stops, then 20 mg once daily continous |
| | Norethindrone acetate (NETA) (Aygestin®) | Tablet | 5 mg | 10-20 mg PO three times daily until bleeding slows or stops, then 5-15 mg daily continuous |
| | Progesterone (Prometrium®) | Capsule | 100 mg | 100-200 mg PO once daily |
| | Levonorgestrel-intrauterine system (LNG-IUS) (Mirena IUS®) | IUS | 52 mg | IUS can be used safely by patients with immunosuppression due to cancer and patients with thrombocytopenia |
| **Other** | Leuprolide acetate (Lupron® Depot) | IM injection | 11.25 mg | • Contraindicated in women who are pregnant or breastfeeding • Repeat every 3 months<br>• For IM administration, platelets must be ≥ 50 K/microliter<br>• Start/continue OCP or progestin after first dose, if not contraindicated • Use may preserve fertility |
| | Tranexamic acid | Tablet | 650 mg | 1,300 mg PO three times daily for 5 days |
| | Aminocaproic acid (Amicar®) | IV injection<br>Tablet<br>Oral Solution | 250 mg/mL<br>500 mg<br>25% (250 mg/mL) | • 1 g/hour IV infusion<br>• 1-4 g PO every 6 hours for 5 days<br>• 1-4 g (4-16 mL) PO every 6 hours for 5 days |

EE = ethinyl estridiol

[1] Not on MD Anderson Formulary

# Abnormal Uterine Bleeding (AUB)





## APPENDIX B: Gynecology Options

| **Medical options:**<br>**(See Appendix A for Dosing Recommendations)** | **Surgical options:** |
|---|---|
| • Estrogen short-term for severe bleeding in breast cancer<br>• IV estrogen for severe bleeding<br>• Medroxyprogesterone acetate or other hormonal options<br>• Leuprolide – may preserve fertility<br>• Aminocaproic acid, consult Benign Hematology | • Dilation and curettage (D&C)<br>• Endometrial ablation (hysterectomy if ablation unsuccessful and blood indices stabilized)<br>• Balloon tamponade<br>• Uterine artery embolization (UAE) |

## SUGGESTED READINGS

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## DEVELOPMENT CREDITS

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