

STANDARD OPERATIVE PROCEDURE

Diagnosis and Management of Abnormal Uterine Bleeding

Department of Health • Special Region (1)
Union of Myanmar

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1. Introduction

Abnormal uterine bleeding (AUB) is defined as bleeding from the uterine corpus that is abnormal in volume, regularity and/or timing that has been present for the majority of the last 6 months. It is a common clinical presentation in gynaecological practice, affecting up to one-third of women at some point during their reproductive years.

The FIGO (International Federation of Gynaecology and Obstetrics) PALM-COEIN classification system provides a structured approach to evaluating AUB, separating structural causes (PALM) from non-structural causes (COEIN). This system has been widely adopted internationally and endorsed by major gynaecological societies including the RCOG and ACOG.

In Myanmar, AUB represents one of the most frequent reasons for gynaecological consultation. This Standard Operative Procedure provides a systematic framework for the assessment, diagnosis and evidence-based management of abnormal uterine bleeding in healthcare facilities under the Department of Health, Special Region (1).

2. Definitions and Terminology

Accepted FIGO terminology for common patterns of AUB:

Abbreviation	Definition
AUB	Abnormal uterine bleeding — bleeding from the uterine corpus that is abnormal in volume, regularity and/or timing
HMB	Heavy menstrual bleeding — excessive menstrual blood loss (>80 mL per cycle)
IMB	Intermenstrual bleeding — bleeding between periods
PCB	Post-coital bleeding — bleeding after sexual intercourse
PMB	Postmenopausal bleeding — bleeding occurring more than 1 year after cessation of periods
BEO	Bleeding of endometrial origin — a diagnosis of exclusion; has replaced ‘dysfunctional uterine bleeding’ (DUB)

3. Classification of Causes (PALM-COEIN)

The FIGO PALM-COEIN system classifies causes of AUB into two broad categories:

3.1 Structural Causes — PALM

- **P — Polyps:** Endometrial or cervical polyps, typically diagnosed on ultrasound or hysteroscopy
- **A — Adenomyosis:** Endometrial tissue within the myometrium, often causing a bulky, tender uterus
- **L — Leiomyoma:** Uterine fibroids classified by location (submucosal, intramural, subserosal)
- **M — Malignancy and hyperplasia:** Endometrial cancer, atypical hyperplasia — must be excluded in at-risk women

3.2 Non-Structural Causes — COEIN

- **C — Coagulopathy:** Inherited (e.g., von Willebrand disease) or acquired bleeding disorders
- **O — Ovulatory dysfunction:** Anovulatory cycles, polycystic ovary syndrome (PCOS), thyroid disorders
- **E — Endometrial:** Primary endometrial disorders in ovulatory women (BEO)
- **I — Iatrogenic:** Medications (anticoagulants, hormonal contraceptives), intrauterine devices
- **N — Not yet classified:** Rare or unclassified causes

4. Clinical Assessment

All patients presenting with AUB require a systematic approach to assessment. The following protocol should be followed in sequence.

4.1 Initial Triage

1. Assess vital signs (BP, pulse, temperature, respiratory rate)
2. Estimate amount and rate of bleeding (pad count, presence of clots)
3. Assess for signs of haemodynamic compromise (tachycardia, hypotension, pallor)
4. Initiate resuscitation if necessary — IV access, crystalloid fluids, cross-match blood

4.2 History Taking

A comprehensive history is essential and should include:

- Age, parity, marital status
- Detailed menstrual history: age at menarche, cycle length, regularity, duration of bleeding, number of pads/tampons used, passage of clots

- Onset and temporal pattern of the current bleeding episode
- Preceding amenorrhoea or changes in cycle pattern
- Contraceptive history: type, duration, compliance, last dose
- Sexual history and history of post-coital bleeding
- Associated symptoms: pelvic pain, dyspareunia, vaginal discharge, abdominal mass
- Constitutional symptoms: fever, weight loss, fatigue, thyroid-related symptoms
- Personal or family history of bleeding disorders
- Drug history: anticoagulants, antiplatelets, hormonal therapy, herbal/indigenous medicines
- Past medical history: thyroid disease, liver disease, haematological conditions
- Obstetric history: previous pregnancies, miscarriages, terminations

4.3 Physical Examination

A thorough physical examination should include:

- General examination: assessment of pallor, jaundice, thyroid enlargement, lymphadenopathy, oedema, signs of hypo- or hyperthyroidism
- Vital signs: blood pressure, pulse rate (orthostatic measurements if indicated)
- Abdominal examination: distension, masses, tenderness, organomegaly
- Pelvic examination: external genitalia, speculum examination (cervical lesions, polyps, discharge), bimanual examination (uterine size, contour, tenderness, adnexal masses)

4.4 Investigations

Investigations should be guided by clinical findings and the woman's age and risk factors. The following are standard baseline investigations:

Investigation	Purpose
Urine or serum hCG	Exclude pregnancy (mandatory in all women of reproductive age)
Full blood count	Assess haemoglobin level and degree of anaemia; platelet count
Coagulation profile	Exclude coagulopathy (PT, APTT, INR)
Thyroid function tests	Exclude thyroid dysfunction (TSH, T3, T4)
Liver function tests	Exclude hepatic causes of bleeding

Pelvic ultrasound (TVS)	Assess endometrial thickness, detect polyps, fibroids, adenomyosis, RPOC
Cervical cytology (Pap smear)	Screen for cervical pathology
High vaginal and endocervical swabs	Exclude infection (including chlamydia, gonorrhoea)
Endometrial biopsy / hysteroscopy	Indicated in selected patients (see criteria below)

4.5 Indications for Hysteroscopy and Endometrial Sampling

Endometrial assessment (hysteroscopy with directed biopsy or D&C) is indicated in the following circumstances:

- Postmenopausal bleeding with endometrial thickness >4 mm on transvaginal ultrasound
- Women aged 45 years or older with new-onset AUB
- Heavy menstrual bleeding associated with intermenstrual bleeding
- Treatment failure after appropriate medical therapy
- Prior to consideration of endometrial ablative techniques
- Any clinical suspicion of malignancy

5. Differential Diagnosis

Based on history, examination and investigation findings, the following differential diagnoses should be considered:

5.1 Pregnancy-Related Causes

- Threatened, incomplete or missed miscarriage
- Ectopic pregnancy
- Gestational trophoblastic disease (molar pregnancy)
- Retained products of conception (RPOC)

5.2 Structural Gynaecological Causes

- Uterine leiomyoma (fibroids) — especially submucosal
- Adenomyosis
- Endometrial or cervical polyps

- Cervical intraepithelial neoplasia or malignancy
- Endometrial hyperplasia or malignancy
- Pelvic inflammatory disease (PID)

5.3 Non-Structural and Systemic Causes

- Ovulatory dysfunction — anovulatory cycles, PCOS
- Coagulopathy — von Willebrand disease, thrombocytopaenia
- Iatrogenic — hormonal contraception, anticoagulants, IUD
- Endocrine — thyroid disease, hyperprolactinaemia
- Liver or renal disease
- Bleeding of endometrial origin (BEO) — diagnosis of exclusion

6. Management

The management of AUB follows a stepwise approach, beginning with treating any identified underlying cause. Where no specific cause is identified (BEO/DUB), treatment is directed at controlling the bleeding pattern and improving quality of life.

6.1 Conservative Management

For women with mild symptoms and no identified pathology:

- Explanation and reassurance — many women benefit from understanding that their condition is not life-threatening
- Monitoring — menstrual diary to track cycle length, duration and severity of bleeding
- Nutritional advice — iron-rich diet, consider iron supplementation if ferritin low

6.2 Medical Treatment

6.2.1 Non-Hormonal Treatment

Suitable for women who prefer non-hormonal options or wish to conceive:

- Tranexamic acid 500 mg orally three to four times daily during menstruation — antifibrinolytic agent that reduces menstrual blood loss by 40–50%

- Mefenamic acid 500 mg orally three times daily during menstruation — NSAID with prostaglandin synthetase inhibition; also reduces dysmenorrhoea
- Combined use of tranexamic acid and mefenamic acid may provide synergistic benefit
- Antacid co-prescription to minimise gastrointestinal side effects
- Discontinue if no symptomatic improvement after 3 months of use

6.2.2 Hormonal Treatment

First-line hormonal options depend on the bleeding pattern and contraceptive needs:

For anovulatory dysfunctional bleeding (amenorrhoea followed by painless, profuse bleeding):

- Cyclical progestogen: norethisterone or medroxyprogesterone acetate 5–10 mg daily for days 15–26 of the cycle

For ovulatory dysfunctional bleeding (regular cycles with excessive flow):

- Norethisterone 5 mg three times daily from day 6 to day 26 of the cycle

When contraception is also desired:

- Combined oral contraceptive pills (COCP) — provided there are no contraindications (smoking >35 years, migraine with aura, history of thromboembolism)
- Levonorgestrel-releasing intrauterine system (LNG-IUS) — where available, this is the most effective medical treatment for HMB, reducing blood loss by 70–90%

6.2.3 Second-Line Medical Therapy

For women who have failed first-line treatment:

- Danazol 400–600 mg daily — effective but androgenic side effects limit long-term use
- GnRH analogues — effective for short-term use; add-back HRT recommended beyond 6 months to prevent bone loss
- Levonorgestrel IUS — if not used as first-line, consider before surgical intervention

6.3 Surgical Management

Surgical intervention is typically reserved for women who:

- Have completed their family (or do not desire future pregnancy)
- Have failed appropriate medical therapy
- Have structural pathology requiring surgical correction (fibroids, polyps)

6.3.1 Endometrial Ablation

Destruction of the endometrial lining using thermal, radiofrequency or other energy modalities. Suitable for women with HMB who have:

- Completed family
- Normal endometrial cavity on imaging
- No significant fibroids or adenomyosis
- Negative endometrial sampling

6.3.2 Hysterectomy

Definitive treatment — indicated as a last resort for:

- Severe menorrhagia requiring repeated blood transfusion
- Failure of all conservative and medical treatments
- Late reproductive age with no desire for further pregnancy
- Coexisting significant pelvic pathology (large symptomatic fibroids, adenomyosis)

7. Management of Acute Excessive Vaginal Bleeding

Acute, heavy bleeding requiring emergency management demands prompt intervention. The following protocol should be followed:

7.1 Immediate Management

1. Hospital admission — resuscitation area if haemodynamically unstable
2. Assess airway, breathing and circulation
3. Establish two large-bore IV cannulae; send blood for FBC, coagulation profile, group and cross-match
4. Commence IV crystalloid resuscitation if tachycardic or hypotensive
5. Transfuse blood products as clinically indicated (target Hb >8 g/dL in stable patients)

7.2 Pharmacological Control

- High-dose oral progestogen: norethisterone acetate 10 mg three times daily until bleeding stops, then taper to maintenance dose

- Combined oral contraceptive pills: one tablet three times daily for 7 days, then taper to standard daily dosing
- Tranexamic acid 1 g three times daily IV if oral route not feasible
- IV conjugated oestrogens 25 mg every 4–6 hours (maximum 24 hours) — stabilises endometrium
- Recombinant activated Factor VIIa — reserved for life-threatening haemorrhage unresponsive to standard measures

7.3 Definitive Management

Once the acute episode is controlled, transition to maintenance therapy and arrange definitive management:

- Hysteroscopy with D&C for diagnostic and therapeutic purposes
- Consider uterine artery embolisation for fibroid-related bleeding
- Surgical intervention (hysterectomy) if medical management fails and patient is not desiring future fertility

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