Intermenstrual and Postcoital Bleeding

**Intermenstrual bleeding (IMB)** refers to vaginal bleeding (other than postcoital) at any time during the menstrual cycle other than during normal menstruation. It can sometimes be difficult to differentiate true IMB bleeding from metrorrhagia (irregularly frequent periods).

**Postcoital bleeding (PCB)** is non-menstrual bleeding that occurs immediately after sexual intercourse.

**Breakthrough bleeding** is irregular bleeding associated with hormonal contraception.

IMB and PCB are both symptoms, rather than diagnoses, and warrant further assessment. They occur commonly and are emphasised in referral guidelines for suspected gynaecological cancers. Whilst genital tract malignancy is an uncommon cause of bleeding and a rare cause in young women, it must be considered in all patients.

**Epidemiology**

- Around 14% of premenopausal women experience irregular or excessively heavy menstrual bleeding.\(^1\)
- It has been estimated that in those women who present to primary care with menstrual problems, around one third will have IMB or PCB in addition to heavy menstrual loss.\(^2\)
- The two-year cumulative incidence of IMB has been shown to be 24% and that of PCB was around 8% in a study of perimenopausal women.\(^3\)
- Unscheduled bleeding causes anxiety and concern because it can be a presenting symptom for gynaecological cancer, particularly cervical and endometrial cancer.\(^3\)

**Aetiology**

The causes of abnormal bleeding typically vary with age and a malignant cause is very uncommon in younger women. In addition, the likelihood of uterine polyps and fibroids increases with age.

Many women will present with a combination of PCB and IMB.

**Causes of postcoital bleeding (PCB)**

- Infection.
- **Cervical ectropion** - especially in those women taking the combined oral contraceptive pill (COCP).
- Cervical or endometrial polyps.
- Vaginal cancer.
- **Cervical cancer** - usually apparent on speculum examination.
- Trauma.

**NB:** no specific cause for bleeding is found in about 50% of women.\(^4\)

**Causes of intermenstrual bleeding (IMB)**

- Pregnancy-related, including ectopic pregnancy and gestational trophoblastic disease.
- Physiological:
  - 1-2% spot around ovulation.
  - Hormonal fluctuation during the perimenopause (this should be a diagnosis of exclusion).
• Vaginal causes:
  • Adenosis.
  • 
  • Vaginitis (bleeding uncommon before the menopause).
  • Tumours.

• Cervical causes:
  • Infection - chlamydia, gonorrhoea.
  • Cancer (but bleeding is most often postcoital).
  • Cervical polyps.
  • Cervical ectropion.
  • Condylomata acuminata of the cervix.

• Uterine causes:
  • Fibroids (occur in over 25% of women of reproductive age).
  • Endometrial polyps.
  • Cancer (endometrial adenocarcinoma, adenosarcoma and leiomyosarcoma).
  • Adenomyosis (usually only symptomatic in later reproductive years).
  • Endometritis.

• Oestrogen-secreting ovarian cancers.

• Iatrogenic causes:
  • Tamoxifen.
  • Following smear or treatment to the cervix.
  • Missed oral contraceptive pills.
  • Drugs altering clotting parameters - eg, anticoagulants, selective serotonin reuptake inhibitors (SSRIs), corticosteroids.
  • Alternative remedies when taken with hormonal contraceptives - eg, ginseng, ginkgo, soy supplements, and St John’s wort.

Causes of breakthrough bleeding
Unscheduled vaginal bleeding is common when a new contraceptive method is started and often settles without intervention. It is important to exclude pregnancy and also any underlying infection.

Bleeding problems are more common with progestogen-only methods. Smokers actually have a greater risk of breakthrough bleeding.

• COCP:
  • Preparations containing 20 micrograms ethinylestradiol are more likely to be associated with breakthrough bleeding than those containing 30-35 micrograms. In combination with an enzyme-inducing drug - eg, rifampicin.

• Progestogen-only contraceptive pill (POCP).
• Contraceptive depot injections.
• Intrauterine system (IUS) or implant.
• Emergency hormonal contraception.

Presentation
Given the wide differential for non-menstrual vaginal bleeding, a careful history and examination are paramount.

History
• Menstrual history:
  • Last menstrual period - ask whether the last period was a ‘normal’ period.
  • Regularity and cycle length.
  • Duration of abnormal bleeding - discuss prolonged versus recent change.
  • Presence of menorrhagia.
  • Timing of bleeding in the menstrual cycle.
  • Associated symptoms - eg, abdominal pain, fever, vaginal discharge, dyspareunia.
  • Factors that aggravate bleeding - eg, exercise, intercourse.
• Obstetric history:
  - Previous pregnancies and deliveries, including time since last delivery/miscarriage/termination.
  - Current breast-feeding.
  - Risk of current pregnancy - increased, for example, with unprotected intercourse, forgotten pills, gastroenteritis or antibiotics used with the COCP.
  - Risk factors for ectopic pregnancy - for example, a history of pelvic inflammatory disease or endometriosis, IVF treatment, use of an intrauterine contraceptive device (IUCD) or the POCP.

• Gynaecological history:
  - Current use of contraception
  - Smears - most recent test results, any previous smear abnormalities, colposcopy, treatment for abnormalities, etc.
  - Previous gynaecological investigations or surgery.

• Sexual history - risk factors for sexually transmitted infection (STI) in those aged <25 years, or at any age with a new partner or more than one partner in the preceding year; past history and treatment for STIs.
• Medical history - eg, bleeding disorders, diabetes.
• Current medication (including unprescribed).

Examination
• Establish that the bleeding is from the vagina, not the rectum or in the urine. Any doubt can be eliminated by inserting a tampon which will confirm presence of blood in the vagina.
• BMI - high BMI is an independent risk factor for endometrial cancer.
• Abdominal examination noting the presence/absence of pelvic masses.
• PV examination (speculum and bimanual) looking for obvious genital tract pathology. Note whether any contact bleeding occurs, friability of tissue, cervical 'excitation' or tenderness, presence of ulceration, polyps or discharge and any other lower genital tract sites of bleeding. Common findings include:
  - Cervical ectropion (or erosion) - appears as a red ring around the external os due to extension of the endocervical columnar epithelium over the ectocervix.
  - Cervical polyp - mass arising from the endocervix, usually protruding through the external os into the vagina. They can be avulsed and sent to histology. Occasionally, endometrial polyps can be seen extruding through the cervix.
  - Cervicitis - the cervix appears red, congested and sometimes oedematous. There may be purulent discharge and the cervix is usually tender to palpation. The most common cause of infection currently is Chlamydia trachomatis. Neisseria gonorrhoeae as a cause of cervicitis should not be forgotten. A rarer cause is Trichomonas vaginalis where the cervix is friable, with prominent papillae and punctate haemorrhages, and is commonly described as a 'strawberry cervix'. Herpetic cervicitis gives rise to multiple ulcerated regions.

Who needs referral?
Referral for further investigation is recommended for:

• Women with an abnormal-looking cervix need an urgent referral.
• Women with a cervical polyp that is not easily removed in primary care or that looks suspicious.
• Women with a pelvic mass found on examination.
• Women at high risk of endometrial cancer:
  - Those with a family history of hormone-dependent cancer.
  - Those with prolonged and irregular cycles.
  - Those women taking tamoxifen.

• Women aged over 45 years with IMB and women aged under 45 years with persistent symptoms or risk factors for endometrial cancer.

NB: bleeding of more than three months' duration, particularly when heavy, will require further evaluation.
Investigations

Always exclude the possibility of pregnancy and STIs as a cause of bleeding.\[6\]
- **Pregnancy test** - have a low threshold for checking.
- **Infection screen** - always consider STIs, in particular chlamydia, with IMB and PCB. The decision to test for *N. gonorrhoeae* will depend on the woman's individual sexual risk and the local prevalence of this infection.

In general, cervical smears should only be taken where a woman is due or overdue for her regular screening. Blood tests may include:
- FBC
- Clotting
- TFT
- FSH/LH levels (if onset of menopause suspected)

Transvaginal ultrasound is the investigation of choice to look for structural abnormality. Ultrasound should ideally be done immediately postmenstrually, as the endometrium at its thinnest and polyps and cystic areas tend to be more obvious. Evidence of endometrial thickening should prompt referral for biopsy.

Endometrial biopsy may be done as a surgical or clinic-based procedure using the Pipelle® device or Vabra® aspirator. As the incidence of endometrial cancer starts to rise sharply at age 40, referral for endometrial biopsy should be considered in women aged between 40 and 45 years, and referral is indicated for women aged 45 or more.\[7\].

For women with persistent PCB, colposcopy is often recommended because of its high sensitivity.\[8\]

Management

Management is dependent on the cause of the bleeding.

Suspected cancer

If gynaecological cancer is suspected, refer urgently for investigation.

National Institute for Health and Care Excellence (NICE) guidelines suggest:\[9\]
- A mandatory full pelvic examination, including cervical speculum examination for symptoms including IMB and PCB.
- Where clinical features are suggestive of cervical cancer on examination, urgent referral of the patient.
- Do not wait for a smear result or delay due to a previous negative smear result - refer immediately where there is clinical suspicion.
- Consider urgent referral for women with persistent IMB but negative examination findings.

Infection

- Antibiotic treatment will depend on the organism involved and local patterns of sensitivity.
- Contact tracing and treatment of sexual partners should be initiated.
- Electrocautery of secondarily infected Nabothian follicles is sometimes performed for chronic cervicitis.

Hormonal contraception\[6\]

- Warn women that unscheduled bleeding in the first three months after starting a new hormonal contraceptive method is common, and that up to six months' unscheduled bleeding with the IUS and progestogen-only implant may be considered normal.
- For persistent bleeding beyond the first three months' use, or where there is a change in bleeding pattern, or where a woman has not participated in a National Cervical Screening Programme, a speculum +/- bimanual examination should be performed.
- Where clinical findings are normal, there are no other associated symptoms, the woman is 45 years or under and has no risk factors for endometrial cancer, reassurance or medical treatment is appropriate.
If abnormal bleeding patterns persist with any contraceptive method beyond the first six months of use or arise de novo, gynaecological investigations, including an ultrasound scan, are indicated.[2]

Strategies for treating unscheduled bleeding in those using hormonal contraception:

- For COCP users:
  - Stick with the same pill for a trial of at least three months, as bleeding may settle.
  - Use a pill with a dose of ethinylestradiol sufficient to provide the best cycle control - consider increasing to a maximum of 35 micrograms.
  - A different COCP may be tried, or a different dose or type of progestogen.
  - Taking more than one packet of combined pills together before having a break or continuous use of the pill may exacerbate the problems so should be stopped.

- For POCP users:
  - A different POCP may be tried (although there is no evidence that changing the progestogen type or increasing the dose improves bleeding).
  - There is no evidence that desogestrel-only pills (eg, Cerazette®) have better bleeding patterns than traditional POCPs.
  - There is no evidence that doubling to two pills per day improves bleeding.
  - A non-steroidal anti-inflammatory drug (such as mefenamic acid 500 mg three times daily) may shorten the duration of the bleeding episode.

- For progestogen-only implants, depots and IUS users:
  - A first-line COCP (with 30-35 micrograms ethinylestradiol) may be considered for up to three months continuously or in the usual cyclical regimen. This can be repeated as often as needed.
  - There is no evidence that reducing the injection interval for depot progestogen injections improves bleeding.
  - Mefenamic acid can be used to reduce the duration of bleeding for women.

**Cervical ectropions**
- These may resolve spontaneously if the COCP is stopped, or following pregnancy.
- They can be treated conservatively or cauterised with silver nitrate.
- Other treatment options include thermal cautery and diathermy, cryosurgery, laser or microwave therapy.

**Cervical and endometrial polyps**
- Cervical polyps should be avulsed and sent for histology.
- A systematic review and meta-analysis found that the incidence of cancer within an endometrial polyp in women of reproductive age was only 1.7%, compared with 5.4% in postmenopausal women.[10]

**Fibroids**
- Small fibroids can be removed hysteroscopically.
- Uterine artery embolisation can be very effective.
- Medical management includes using drugs that reduce oestrogen levels.
- Women with larger fibroids can be treated with drugs, vascular embolisation, surgery, or a combination of these methods, with good resolution of their bleeding disorder.

Note: there is a high rate of spontaneous resolution of intermenstrual and postcoital bleeding in naturally menstruating women during the perimenopausal years. One study demonstrated that the rates of spontaneous resolution without recurrence for two years were 37% for women with IMB and 51% in those with PCB.[3]

**Further reading & references**


6. Management of Unscheduled Bleeding in Women Using Hormonal Contraception; Faculty of Sexual and Reproductive Healthcare (2009)

7. Heavy menstrual bleeding; NICE Clinical Guideline (January 2007)


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