



- **Definition of abnormal uterine bleeding:** bleeding which occurs outside the menstrual cycle. Bleeding is called abnormal when changes are noticed in: amount, regularity or frequency.
- **What is the normal duration of the menstrual cycle?**
 - 2-7 days.
- **Blood loss during the menstrual cycle should be acceptable (how would you know that?)**
 - Ask you patient how many times does she change her pads? if she changes her pads \geq 5 times and all of them are soaked \rightarrow this is considered to be heavy bleeding.
 - Sometimes, you might suspect that a lady is having heavy bleeding when a young female presents to your clinic with anemia, weakness or she complains about passing large clots or waking up in the morning and a large area of the bed is soaked.
 - The normal amount of bleeding during the menstrual cycle is $<$ 80 ml per cycle.
- **Important terminologies:**
 - **Amenorrhea:** absence of menstrual periods. Amenorrhea can be:
 - ✓ **Primary:** the lack of a first menstrual period by the age of 16. This condition is known as “delayed menarche”.
 - ✓ **Secondary:** the absence of menstrual periods in a woman who has previously menstruated regularly. The periods must be absent for at least 3 months to be considered amenorrhea.
 - **Dysmenorrhea:** severely painful menstrual periods. This condition may be further classified as:
 - ✓ **Primary dysmenorrhea:** painful menstrual periods that are not caused by an underlying disease or condition.
 - ✓ **Secondary dysmenorrhea:** painful menstrual periods caused by an underlying disease or condition. In some patients, the pain may extend beyond the menstrual period and become chronic (e.g. endometriosis).
 - **Hypomenorrhea:** unusually light menstrual periods.
 - **Menorrhagia:** unusually heavy or long menstrual periods ($>$ 7 days!).
 - **Metrorrhagia:** menstrual bleeding that occurs at frequent, irregular intervals.
 - **Menometrorrhagia:** prolonged menstrual periods that occur at irregular intervals. This condition is a combination of menorrhagia and metrorrhagia.
 - **Oligomenorrhea:** unusually infrequent menstrual periods. Women with oligomenorrhea have fewer than 6-8 periods per year!
 - **Polymenorrhea:** unusually frequent menstrual periods compared to the normal variation of menstrual cycles.
 - **Postmenopausal bleeding:** vaginal bleeding that occurs more than 12 months after the last menstrual cycle.
- **A woman gets her period... how does it stop?**
 - Prostaglandins will be released from the uterus causing uterine contractions and vasoconstriction.
 - This is also aided by the systemic clotting system.
- **Categories of abnormal uterine bleeding:**
 - **Associated with ovulatory cycles:** organic cause.
 - **Associated with anovulatory cycles:** diagnosis of exclusion; based on the patient's history.
- **Examples on systemic causes for abnormal uterine bleeding:**
 - ITP (Idiopathic Thrombocytopenic Purpura).
 - Hypothyroidism.



- Coagulation defects.
- **Abnormal bleeding (according to age of the patient):**
 - **Pre-menarcheal (before puberty):** this can be caused by
 - ✓ Insertion of foreign bodies.
 - ✓ Child sexual abuse!
 - **Reproductive age (18-40 years):** mostly due to a gestational event.
 - **Post-menopausal:** mostly due to atrophy of the genital tract.
- **Reproductive tract-related cause of abnormal bleeding:**
 - Gestational event.
 - Malignancies (notice that there is a low risk of malignancy throughout the reproductive age).
 - Benign origin: atrophy, polyps, foreign bodies, infections... etc.
- **What is the difference between PGE₂ and PGF_{2α}?**
 - **PGE₂:** is secreted by the endometrium of the uterus and causes vasodilation.
 - **PGF_{2α}:** causes vasoconstriction and its secretion is increased by progesterone.
- **What are your plans for the following patients who might present at your clinic:**
 - **A young patient with abnormal bleeding.**
 - ✓ Take history.
 - ✓ Do physical examination (why?)
 - ❖ To look if there is any foreign body inserted; to check if there is any kind of abuse; to exclude pregnancy.
 - ✓ Investigations: CBC, PT/PTT and platelet count.
 - **A female with abnormal bleeding in her reproductive age.**
 - ✓ You have to exclude pregnancy.
 - ✓ Do an ultrasound.
 - ✓ Check for hormonal imbalance.
 - ✓ Hysteroscopy with biopsy.
 - **A post-menopausal female with abnormal bleeding:**
 - ✓ Do an ultrasound to exclude any sort of malignancy.
 - ✓ Endometrial biopsy must be taken.
 - ❖ Risk factors which increase the chance of endometrial carcinoma are: obesity, diabetes and hypertension.
 - ❖ The result of the biopsy can be:
 - Normal.
 - Simple hyperplasia.
 - Complex hyperplasia.
 - Carcinoma in situ.
 - ❖ Notice that if endometrial thickness is > 5mm → this indicated the presence of an abnormality.
- **What are the options available to control abnormal bleeding?**
 - **IV estrogen (but notice that you must exclude the risk of thrombosis in the patient). Estrogen can also be given as tablets or rings.**
 - **Surgical procedures:**
 - ✓ Ablation.
 - ✓ Resection.
 - ✓ Hysterectomy.
 - **Mirena IUCD (which lasts for 5 years in the uterus).**