GYNAECOLOGY

**Gynaecology:** is the branch of medicine **dealing with the health of the female reproductive system** (uterus, vagina and ovaries)

**MODULE COMPETENCIE:** This module is **designed to enable the learner** apply knowledge, skills and attitude in **management of patients with gynaecological conditions** hence promote health.

**UNIT 1; COMMON REPRODUCTIVE HEALTH DISORDERS**

1. **Definition of reproductive health**

Reproductive health is a **state of complete physical, mental and social well-being**, and not merely the absence of reproductive disease or infirmity. Reproductive health **deals with the reproductive processes, functions and system** at all stages of life.

... implies that people are able **to have a satisfying and safe sex life** and that they have the **capability to reproduce** and the freedom to decide if, when and how often to do so

**2. The importance of reproductive health**

The health **of the newborn is largely a function of the mother's health and nutrition status** and of her access to health care.

Failure to deal with reproductive health problems at any stage in life sets the scene for later health and developmental problems.

Is such an important component of general health it is a prerequisite for social, economic and human development.

The highest attainable level of health is not only a fundamental human right for all; it is also a social and economic imperative because **human energy and creativity are the driving forces of development**. Such energy and creativity cannot be generated by sick, tired people, and consequently a healthy and active population becomes a prerequisite of social and economic development.

1. **Stages of puberty in girls**
2. Accelerated growth
3. Thelarche (breast budding)
4. Pubarche and adrenarche (growth of pubic and axillary hair)
5. Maximal growth (peak height velocity)
6. Menarche; the first menstrual period; usually occurring during during puberty

* **Tanner staging (see paediatrics notes)**

1. **MENSTRUAL CYCLE**

**Characteristics**

* Menarche at age 11-14
* Entire cylcle 28+/- 7 day, with bleeding for 1-6 days.
* Polymenorrhea if <21 days. (abnormally frequent menstruation)
* Oligomenorrhea if >35 days. (infrequent or irregular menses)
* 25-60 ml of blood loss per cycle.

**Phases of menstrual cycle**

1. **Proliferative/follicular phase (day 5-13)**

* First day of menses to ovulation

**Ovulation: to produce ova; discharge eggs from the ovary; monthly release of mature ova from the ovary.**

**Menses: blood and other matter discharged from the uterus at menstruation; the monthly flow of blood from the female genital tract**

* Variable in length
* Low basal body temperatures
* Estrogenic (relating to or caused by oestrogen)
* Endometrial priming (**endometrium is the linning of the uterus)**
* Ovarian follicular development.

(**Follicle:** in female reproductive system, a follicle is a fluid-filled sac that contains an immature egg, or oocyte. Follicles are found in the ovaries. During ovulation, a mature egg is released from the follicle. While several follicles begin to develop each cycle, normally only one will ovulate an egg. The follicle that do not release a mature egg disintegrate. The follicle that release an egg turns into **a corpus leteum)**

1. **Ovulatory phase (day 14)**

* LH surge leads to ovulation (14 days before the onset of menses)

**(LH surge means; the sudden release of luteinising hormone that causes the follicle to release a mature egg)**

* Temperatures rise ( 0.5 degrees to 1 degrees)
* Increased cervical, accellular mucous with spinnbarkeit (long stretchy threads and ferning with KOH, seen under the microscope.

1. **Secretory /luteal phase (day 15 – 28)**

* Ovulation to onset of menses
* Fixed in length: 14 days.
* Corpus luteum formation.

(After an egg has matured and been ovulated from the follicle, the empty follicle becomes a corpus luteum. The corpus luteum secretes the hormones **estrogen** and **progesterone** preparing the body for the possibility of conception. If conception does not take place, the corpus **luteum diminishes,** leading to a drop in the hormones progesterone and estrogen. **This drop in hormones leads to menstruation)**

* Progesterone and estrogen secreted from the corpus leteum.
* Progesterone prepares endometrium for embryo implantation.
* Without pregnancy → progesterone withdrawal → constriction of spiral arteries → ischemia and endometrial necrosis → menses
* While lining is being shed, surface epithelium is already beginning to regenerate.

1. **Menstruation phase (day 1-5)**

* This is the phase when the uterine lining gets sloughed off or gets shed in a menstrual flow.
* The corpus luteum deteriorates into a corpus albicans if the ovum is not fertilized. There would be a decrease of the hormone progesterone and this would cause some blood vessels in the uterus to contract, which means that the blood supply is significantly lowered. The ischaemic endometrium would then be shed and for about one week, we would have menstruation.

**Note:** to get pregnant, you need to have sex before you ovulate, with the two or three days prior to ovulation being your most fertile days. Ovulation is usually on day 14 of the menstrual cycle (with day one being the day you get your period). Some women hear this and decide to plan to have sex on day 14. The problem is most women don’t ovulate on day 14 of their cycle. Normal ovulation can occur as early as day 10 and as late as day 20 (or even later, especially if your cycles are irregular.) How will you know you will ovulate; - **track your basal body temperature**. The best day for sex is the day you notice the most **fertile cervical mucus**

**PRECOCIOUS PUBERTY**

* Onset of puberty before age eight.
* 1/10,000 incidence.

**DELAYED PUBETY**

* Absence of normal pubertal events at an age of 2.5 SD from the mean.

Absence of thelarche by age 13

Absence of menarche by age 15

* Aetiology:

Ovarian failure: hypergonadotropic hypogonadism, +/- abnormal karyotype (e.g. turner syndrome 45 X10)

Hypothalamic, pituitary failure

Outlet syndromes; eugonadism, vafinal septum, imperforate hymen (

**Menstrual Disorders**

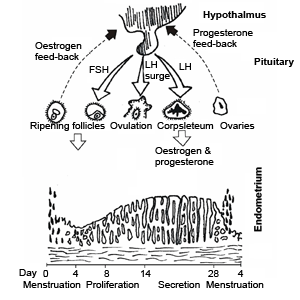
By the end of this section, you will be able to:

* Describe factors that influence menstruation
* Describe the various menstrual disorders and their management

**Factors Influencing Normal Menstruation**

The events occurring in the following organs influence the mechanism of normal menstruation:

* The **hypothalamus influences the anterior pituitary gland** to produce **follicle stimulating hormone**.
* The **anterior pituitary gland produces follicle** stimulating hormone, which **matures the Graafian follicle** under the influence of the hypothalamus. It also **produces the luteinising hormone**, which **influences the development of corpus luteum** to produce oestrogen or progesterone.
* The **ovaries develop the Graafian follicle**.
* The **uterine endometrium thickens under the influence of oestrogen and progesterone**, in preparation to receive the ovum.



**Menstrual disorders**

Includes; amenorrhea, dysmenorrhea,

1. **Amenorrhoea**

Amenorrhoea **is a symptom, not a disease**. It is derived from the Greek word amenrein, which translates as follows:

* A... without
* Men... month
* Rein... to flow

It can, therefore, be interpreted to mean 'without monthly flow', thus **amenorrhoea means 'absence or cessation of menstruatio**n'.

**Classification:** physiological and pathological amenorrhoea

**Physiological amenorrhoea**

The absence of menstrual periods **can be physiologically normal in the following periods**

* **Before puberty**, when the hormones concerned have not started functioning.
* **During pregnancy**, when the hormones concerned are diverted to the growth of the fertilised ovum.
* **During lactation** (after delivery), which results in lactation amenorrhoea due to the presence of prolactin.
* **At menopause,** when the hormones diminish and cease to be produced.

**Pathological amenorrhoea**

* Can be divided into two, namely primary and secondary amenorrhoea.

1. **Primary Amenorrhoea**

* **Primary amenorrhoea** means **that menstruation has never occurred**. This is seen in a young woman who is **over 17 years** of age and who **has not yet begun to menstruate** but **exhibits signs of sexual maturation**.

(Absence of menses by age of 15)

* **Pathological primary amenorrhoea** is when the patient has **never menstruated** and has **not developed secondary sexual characteristics.**

There are two main **factors that lead to primary amenorrhoea**. These are hormonal factors and developmental anomalies

**Hormonal factors:**

This is due to the **malfunctioning of the pituitary gland**. As a result, the hormones responsible for sex maturation are affected, which in turn affects the beginning of menstruation.

In **Cushing's syndrome**, the **excessive production of cortisols** may hinder menstruation from starting

(cortisols--?

**Developmental Anomalies**

The congenital abnormality in the vagina that causes primary amenorrhoea is an **imperforate hymen**. In this case, the girl experiences all the feelings and discomforts of menstrual flow. There is actually menstruation and the blood accumulates behind the hymen, (in the vagina), but does not come out. **This condition is known as cryptomenorrhoea** and **when not treated, the uterus distends, leading to what is known as haematometra**. The girl may present with abdominal pain and the absence of menstruation. The condition can be **cured by an incision of the hymen to allow the blood to flow out freely**. After the incision you should **advise the girl to maintain high standards of hygiene**. The **vulva should be cleaned three times a day until healed.**

Other causes include male pseudohermaphroditism (a male develops as a female) and Turner's syndrome where one has only one x-chromosome.

**2. Secondary amenorrhoea.**

Secondary amenorrhoea simply means that the **periods, which were once present, have stopped**.

There **are some women who have a longer cycle of up to two to three months and this is considered normal** as long as it is regular.

However, secondary amenorrhoea **occurs after a normal menarche**, which **then ceases for more than six months**. Six months is a considerable duration for it to be abnormal.

**The possible causes of secondary amenorrhoea**

1. **Hormonal Disturbances**

Hormonal disturbances in the pituitary gland can lead to **hypopituitarism**, especially after severe postpartum haemorrhage and collapse. This leads to pituitary cachexia/Sheehan's disease. In this condition, there is temporary deprivation of blood supply to the pituitary, leading to ischaemia. This impairs the functions of the pituitary gland.

In addition, disturbances in the adrenal gland, thyroid gland and/or ovaries can affect the influence of the hypothalamus on the pituitary gland.

1. **Debilitating Systemic Disorders**

**Chronic diseases** that cause general ill health, for example, **genital tuberculosis**, or **severe anaemia** may lead to secondary amenorrhoea

1. **Nervous Disorders**

**Any stress can act on the hypothalamus to inhibit follicle stimulating hormone/leutinising hormone-releasing hormone.**   
This may lead to stress or hypothalamic amenorrhoea. **Minor emotional upsets related to being away from home**, attending college, tension from schoolwork or interpersonal problems are the most common causes of secondary amenorrhoea, especially in adolescents.

Other related disorders that **cause stress include longstanding psychiatric disorders**, especially **depression** or **anxiety** and stress due to exercise, which leads to exercise amenorrhoea. This is especially common in marathon runners.

Others include **brain tumours** which may destroy the hypothalamus.

1. **Drugs**

**Contraceptives may lead to post contraceptive amenorrhoea** and in some individuals it may take three to six months before the return of menstruation. This is because **the ovulation had been suppressed** and therefore had an effect on the   
hormones concerned.

**Phenothiazines,** especially in large doses, may lead to **amenorrhoea due to prolactinaemia** and certain hypotensive agents have also been implicated. You may remember (as mentioned in lactation amenorrhoea) that these drugs stimulate prolactin

1. **Dietary Amenorrhoea**

**Loss of weight** due to prolonged fasting will affect the hypothalamic function in ways which are not yet understood. **Nutritional deficiency** will also affect menstruation

1. **Ovarian Cysts**

Ovarian cysts, especially **follicular and corpus luteum cyst**s, cause amenorrhoea, however these tend to regress with time and menstruation resumes

1. **Oligomenorrhoea**

Finally, this is a type of amenorrhoea where there is infrequent menstruation, which may occur months before menopause and, at times, due to emotional upset.

A woman with this problem should be **investigated thoroughly to exclude other serious conditions**, for example, neoplasms. You should reassure the patient if the cause of the condition is emotional.

**Management of Amenorrhoea**

* First, **establish the cause of the condition**. In each case you must **take a detailed history** and then **carry out a clinical examination to rule out pregnancy.**
* You should also consider the **general health of the woman, including psychological and environmental factors**. In the case of a young girl who appears normal on examination, it is better to wait until she is 18 years old but in the meantime reassure her and give her health education on sexuality.

**Remember: The most common cause of secondary amenorrhoea is almost always pregnancy, therefore, an obstetric and gynaecological history is important to making a diagnosis.**

* A series of investigations can be performed and these should include the following steps
* **History Taking**

This is very important as it helps you make a distinction between primary and secondary amenorrhoea and, therefore, institute appropriate management measures.

Some women have very infrequent and scanty bleeding, which is virtually primary amenorrhoea. If the patient is experiencing the physical disturbances of menstruation without actually bleeding, a cyclical change in the hormone level can be assumed and the cause of amenorrhoea is likely to be in the genital tract.

In history taking consider; tanner staging**, breast present**? **Uterus present**? R/o **possibility of pregnancy**

* **Pelvic Examination**

It is essential to **exclude pregnancy or uterine hypoplasia** (in virgins this is usually done under general anaesthesia).

**A bi-manual examination** can reveal gross abnormalities such as cryptomenorroea.

Remember **to inspect the secondary sexual characteristics** during pelvic examination.

* **Radiological Examination**

You should take an **x-ray of the chest and a straight skull x-ray to detect enlargement of the sella turcica (pituitary fossa**).

You will remember the pituitary gland plays a great role and chronic **diseases like TB can affect menstruation**

* **Endocrine Tests**

To find out the hormonal factors, the following should be carried out:

1. **Collection of urine samples for over 24 hours** to measure levels of different hormones.
2. **Estimation of blood hormone** levels. The hormones investigated are **follicle stimulating, leutinising and prolactin**. If there is hyper-prolactinaemia, then refer the patient to an endocrinologist for pituitary tumour investigation and management

**(prolactin ??...**

* **Laparoscopy**

This is done to detect any developmental anomalies. An ovarian biopsy can also be carried out during this procedure

* **Dilatation and Curettage**

This is commonly performed, especially in countries where tuberculosis is common. The **presence of the acid-fast bacilli in the endometrial cells or any other organisms** may be the cause of amenorrhoea

* **Others**

More recent technologies include the **ultrasound or CT scan which detect various abnormalities**. It can reveal the presence of tumours in the ovaries or the adrenal gland

* **Medical Treatment** ; The medical treatment will depend on the cause of the amenorrhoea.

1. **Clomiphene Citrate (Clomid)**

**If ovulation is the problem, then it can be induced using clomiphene citrate**. This drug should be restricted to those individuals desiring pregnancy because it **acts on the Graafian follicle**. It can also be used in adolescents with recurrent ovulatory bleeding in an attempt to establish regular ovulatory cycles.

The dosage initially given is 50mg daily for five days and ovulation is expected to occur five to eleven days following discontinuation. If there is no response, the dose is gradually increased up to 200mg.

**Side effects of clomid include:**

* **Hyper-stimulation** leading to enlargement of the ovaries.
* **Multiple gestation** because more than one ovum may mature.
* **Abortion** is common with patients treated for infertility.
* **Teratology**, that is, the increased incidence of congenital anomalies, if conception takes place while the woman is still taking the drug.
* **Bloating, nausea and vomiting.**

1. **Human Menopausal Gonadotrophin (HMG) and Human Chorionic Gonadotrophin (HCG) Pergonal**

This is a preparation **of leutinising hormone and follicle stimulating hormone** extracted from human menopausal urine and is available in ratio of 1:1.

The therapy is **indicated when there is failure to ovulate even after clomid administration for six to twelve months.** The dosage is HMG 375 units daily, increasing progressively up to 1500 units daily.

**Remember: Hormonal monitoring during this therapy is important in order to keep the hormones in balance**

1. **Bromocriptine**

This is **effective as an ovulatory agent** in most patients with hyperprolactinaemia from an anaplastic source.

It acts by suppressing the central and peripheral concentrations of prolactin, so that its level stimulates the production of oestrogen and progesterone. The dosage initially is 2.5mg up to four weeks.

1. **Other Agents**

Other agents used **for the induction of ovulation include glucocorticosteriods (dexamethosone 0.5mg nocte, prednisone 0.75mg) and oestradiol (estrogen).**

* **Psychotherapy:**

Do not forget that emotional disturbance is one of the features that cause amenorrhoea. Such patients will require psychotherapy **to relieve the tension/stress**. Through history taking, you may be able to get clues to any emotional stress and try to allay the patient's anxiety.

* **Surgical Management**

Pituitary tumours may require excision.

1. **Dysmenorrhoea**

**Dysmenorrhoea means painful menstruation**. Some women experience pain and discomfort during menstruation and **many will learn to live with it**. However, in some women the pain is severe enough to make the woman seek treatment.

**There are two types of dysmenorrhoea:**

* Primary Dysmenorrhoea (also known at Spasmodic Dysmenorrhoea)
* Secondary Dysmenorrhoea (also known as Congestive Dysmenorrhoea)

1. **Primary (or Spasmodic) Dysmenorrhoea**

* **Menstrual pain not caused by organic disease**
* May be due to prostaglandin-induced uterine contractions and ischemia.
* Begins 6 months – 2 years after menarche (ovulatory cycles)
* Colcky pain in abdomen, radiating to the lower back, labia and inner thighs.
* Begins hours before onset of bleeding and persists for hours or days.
* Associated with nausea, vomiting, altered bowel habits, headaches.
* The pain starts at the beginning of the period and lasts from a few hours to two days. This pain is 'cramp-like' and is felt in the pelvic and lower back region, and may radiate into the legs. Severe pain is sometimes accompanied by nausea, vomiting and fainting. These reactions may encourage the woman to seek treatment.
* The causes of this condition are not well known but several theories have been put forward. It may probably be caused by ischaemia due to prolonged contraction of the uterine muscle occurring in the first day of menstruation. The ischaemia means that oxygen to the uterine muscle is cut off accounting for the pain. In this case, it is said that childbirth may cure this condition since after the uterus has held the baby, it is more vascular and so not easily ischaemic
* Prostaglandins from disintegrating endometrium may cause uterine spasms (that is why in cases of dysmenorrhoea the concentration of PGF2 in menstrual fluids is increased).
* **Psychological factors** undoubtedly aggravate symptoms, for example, there may be fear of sexual or reproductive abnormalities, leading the uterus to spasm.
* Cervical stenosis also seems to be a factor. It is believed that during pregnancy and delivery the stenosed cervix is dilated hence the reason the problem may disappear after delivery.

**Management of Primary Dysmenorrhoea**

Unfortunately, **a spontaneous cure does not occur soon enough** for most women who suffer from primary dysmenorrhoea. Therefore, as part of your management, you should perform the following:

* **Take history** with special reference to the severity and duration of the pain.
* **Perform a physical examination** to exclude pelvic tumours.
* **Give a full and frank discussion of the normal cycle** as this is an important part of treatment.
* Share health messages on the importance of **exercise and the avoidance of unnecessary restriction** of general activities.
* Provide women suffering from dysmenorrhoea with **sympathy and support**.
* **Administer a suitable drug which will alleviate the pain** (administere antipyretics and analgesia); are effective to inhibit the synthesis of prostaglandins; include, aspirin, paracetamol, mafenamic acid, indomethacin (indocid), flufenamic acid
* PG synthetase inhibitors (e.g. naproxen); must be started before /at onset of pain.
* BCP to suppress ovulation and reduce menstrual flow.

These include **aspirin** and **paracetamol**, which are widely used and usually prescribed as two tablets three times daily**. Mefenamic** **acid (ponstan) 500mg** three times daily is also common. This drug is said to prevent the action of prostaglandin on muscles as well as inhibit its production. Other drugs include **flufenamic acid (arlef**) and **indomethacin (indocid).** Many of these drugs are usually prescribed for the relief of rheumatic pain but have been used with success in dysmenorrhoea.

**Remember:These drugs must be used carefully as they can adversely affect patients with other medical disorders, including asthma. Do not give strong analgesics like morphine, pethidine and other addictive drugs.**

* Another effective management method is **the contraceptive pill,** by inhibiting ovulation, will result in painless periods. Individuals should be placed on the pill for four to six months continuously, after which the problem may disappear completely. This is achieved with a high-progesterone, low-oestrogen combined pill, for example, minovular.
* **Surgery,** in the form of pre-sacral neurectomy, may be offered as a last resort to a patient whose dysmenorrhoea cannot be relieved by any other means and is interfering with her daily life

1. **Secondary (or Congestive) Dysmenorrhoea**

This type of dysmenorrhoea may be **caused by some pathology in the pelvis**. The patient usually **complains of a dull aching pain in the lower abdomen.** The pain commonly begins three to four days (or sometimes up to ten days) prior to menstruation, and ceases after the flow is established or may persist throughout the period.

Pain is often made **worse by exercise**.

**Menstrual pain due to organic disease**

Begins in women who are in their 20’s

Worsens with age

Associated **with dyspareunia**, abnormal bleeding and infertility

**Remember: Dysmenorrhoea, which starts after the age of 30 years, should always be investigated since it could be due to some pathology in the reproductive system**

**The causes of secondary dysmenorrhoea include:**

Chronic Pelvic Inflammatory Diseases (PID), Endometriosis, Uterine fibroids, abnormal fibrous attachments (adhesions), Salpingitis, PID, IUD, ovarian cysts.

It is important to remember, however, that **the most common cause of secondary dysmenorrhoea is chronic PID** and also with most women **complaining of infertility**.

**Management of Secondary Dysmenorrhoea**

* **Take a full history** to find out the cause of the condition, so that the patient can receive treatment according to the cause.
* **Treatment of the cause** will usually relieve the dysmenorrhoea, but as you know successful treatment of chronic PID is difficult and so prevention should be emphasised.

1. **Pre Menstrual Tension Syndrome (PMT)**

**Variable cluster of symptoms** that appear to occur on a regular basis prior to each menstrual episode

More **correctly called OVARIAN CYCLE SYNDROME** since symptoms depend on ovulation.

**Etiology is unknown.**

This condition is due to a large group of symptoms, which appear regularly and predictably about 12 days before the onset of menstruation. This group of symptoms includes:

* Occurs 7 – 10 days before menses and relived by onset of menses.
* **Water retention leading to weight gain**, painful breasts, abdominal distension and feeling of bloatedness.
* Pain in the form of **backache, headache, tiredness and muscle stiffness**.
* Autonomic reaction, for instance, dizziness/faintness, cold sweats, nausea and vomiting and hot flushes.
* Mood change, including tension, irritability, depression and crying spells.
* Loss of concentration, manifested as forgetfulness, clumsiness, difficulty in making decisions and insomnia (poor sleep).
* Miscellaneous symptoms, including feelings of suffocation, chest pains, heart pounding, numbness and tingling sensation.

**Treatment:**

* No proven beneficial treatment, only suggested treatment.
* Psychological therapy.
* Medical treatment: **vitamins** – B6 (pyridoxine), BCP, progesterone suppositories, **diuretics for severe** fluid retention, **NSAID**S for discomfort and pain, evening primrose oil (linoleic acid), danazol (danocrine), **SSRI antidepressants** in selected cases
* Regular exercise.
* Patients with the symptoms of PMT can be relieved by giving them **diuretics, for example, chlorothiazide** in the pre menstrual week.
* They can **also benefit from oral contraceptives**, for instance, progesterones like norethisterone 20mg daily from the 15th to 25th day of the cycle.
* Tranquillisers and psychotherapy also appear to be equally effective.
* Patients should be told about the physiology that is producing these symptoms because they may think they have a terrible disease and the worries may increase the intensity of these symptoms.
* **Dietary management involves taking a low salt diet and avoiding alcohol and caffeine. Increased protein.**

1. **Dysfunctional Uterine Bleeding (DUB)**

**Abnormal bleeding with no organic cause** (diagnosis of exclusion)

Dysfunctional uterine bleeding is **diagnosed by exclusion of the conditions**, which cause bleeding from the uterus. The conditions to be excluded include: Infection, Ruptured ectopic pregnancy, Trauma, Uterine fibroids and polyps, Genital cancers, Hormonal treatment

**Treatment;**

* if anemic iron supplement
* Once you have excluded the conditions mentioned above, the cause of DUB is most likely to be hormonal imbalance, which is associated with involuntary periods. As there is very little you can do, you should **refer all patients with abnormal uterine bleeding** to the hospital for investigations and management
* If the patient is very sick due to excessive bleeding**, then resuscitate and give intravenous fluids before referring.**
* In the hospital, teenage girls who have just started menstruating should be given **a combination of oestrogen and progesterone.** The contraceptive pill is a good option and treatment should be continued for three to six cycles. After treatment is stopped, menstruation often returns to normal.
* For women in the reproductive age group, true dysfunctional bleeding is uncommon. The most likely cause of abnormal bleeding at this age is some complication of pregnancy. **Diagnostic curettage** is needed and you must remember the possibility of malignant disease.
* In women over 40 years of age all the organic causes of bleeding, including malignant disease, may occur. Accurate diagnosis, including curettage is essential.
* Mild DUB

BCP 1 tab tid for 10 days then 1 tab od for 4-6 months or

Medroxyprogesterone acetate (provera) 5-10 mg od on first 10-14 days of each month.

* Severe DUB

**Replace fluid losses**

Medroxyprogesterone acetate (provera) 10mg for next 7-10days

Acute, severe DUB; estrogen (premarine) 25mg IV q4-6h

* Surgical

**Endometrial biopsy (for diagnosis)**

D$C

Endometrial ablation after pre treatment with danazol or GnRH agonists

Hysterectomy

1. **Abnormal uterine bleeding:** includes;
2. **Menorrhagia/hypernenorrhea**

Menorrhagia is a **normal cycle with an excessive loss of blood** (heavy menstrual flow). The normal average volume of menstrual loss is approximately 70ml (or duration > 7days). Menstrual loss is naturally greater in parous women.

Menorrhagia is clinically an important condition because **this excessive bleeding results in anaemia**. It is not a disease but a symptom and to treat it one must find out what is causing it. The best way to manage this condition is to refer the patient to hospital where investigations will be carried out and managed appropriately.

**The most common causes of menorrhagia include:**

* Fibroids due to a larger endometrial cavity hence larger bleeding areas
* Chronic PID ; Endometrial polyps ; Abnormalities in the blood clotting power, for example, leukaemia, thrombocytopenic purpura
* Abnormal hormonal state, leading to excessively thick endometrium, which bleeds heavily when shed
* Emotional factors, which can sometimes cause heavy bleeding ; Intrauterine contraceptive devices

**Management of Menorrhagia**; The management of this condition includes:

* **History taking followed** by **pelvic examination**.
* **Investigations of blood** for abnormalities and checking **Hb, grouping and cross-matching.**
* **Dilatation and curettage** under general anaesthetic. This procedure may be curative if there is not any other abnormality. The patient should be prepared preoperatively and postoperative care should be provided as for any other surgical procedure.
* Older women can be better treated by **a hysterectomy**

1. **Metrorrhagia**

**This is menstrual bleeding lasting too long**. It is caused by irregular shedding of the endometrium because the corpus luteum degenerates too slowly and the progesterone effect persists. Some secretory endometrium is still present early in the following cycle.

Uterine **bleeding occurring between periods**

**The causes of this disorder are:**

* The possibility of cancer of the genital tract with this kind of bleeding.
* Uterine polyps projecting into the vagina may cause bleeding.
* Incomplete evacuation after abortion.
* Hydatid form mole.
* Chorion carcinoma.
* Occasionally women on oral contraceptives may have what is called'break through bleeding'.

**Management of Metrorrhagia** **;** The management will include:

* Taking a detailed history.
* Performing a **digital examination and speculum** to visualise the cervix and even take a Pap smear, therefore, the patient should be **referred to the gynaecologist** as soon as possible.
* **Remember: Never dismiss metrorrhagia lightly. A thorough examination should be performed**

1. **Epimenorrhoea**

This is when normal **menstruation occurs too often due** to a shortened luteal phase by early degeneration of the corpus luteum.

**Management of Epimenorrhoea** **;** The management of this condition will include:

* A detailed **history** to establish the cause.
* **Refer all patients** with abnormal bleeding to hospital for investigations and treatment.
* In the hospital teenage girls who have just started menstruating should be treated **with a combination of oestrogen and progesterone contraceptive pil**l, which should be continued for three to six cycles.
* Meanwhile the patient should also be **given iron** to help replace any blood lost.
* In women of the reproductive age group, **diagnostic curettage is needed**. Remember the possibility of malignant diseases.
* Curettage may cure the condition, but if it does not, a **hysterectomy may** be the best option leaving the ovaries intact.

1. **Hypomenorrhoea**

This is when the period **occurs on a regular basis but is minimal**. For example, there are rare cases whereby a woman menstruates regularly twice or thrice in a year.

This is considered to be normal although you may be able to guess what problems this woman may have?

1. **Oligomenorrhea**

Episodic vaginal bleeding occurring at intervals >35 days. It usually associated with anovulation

1. **Polymenorrhea**

Episodic vaginal bleeding occurring at intervals < 21 days. Usually associated with anovulation

1. **Menometrorrhagia**

Uterine bleeding irregular in frequency and also excessive in amount.

1. **Postmenopausal bleeding**

Any bleeding > 1 year after menopause.

Investigations: endometrial sampling – biopsy D $ C , sonohystogram with possible ultrasound for endometrial thickness and polyps, hysterectomy.

**Climacteric Crisis**

In women climacteric crisis is the **period of menopause** (while in males it is known as **andropause**).

Definitions:

**Menopause;** cessation of menses for > 6 months or 1 year (depending upon source). Causes involve;

Physiological (average age 51)

Premature ovarian failure

Surgical.

**Climacteric:** period characterised by cessation of menses. Includes vasomotor, endocrine, somatic changes.

1. **menopause**

**Menopause is a period in a woman's life when menstruation ceases naturally**. There is progressive ovarian failure, which is preceded by complete absence of menstruation. Menopause is **declared after one year of no menstruation**. A considerable number of women will undergo physical or emotional upsets but the majority will not be significantly affected.

To **some, menopause is a threatening period** that declares the end of their femininity, while to others it is a time when many **former diseases or ailments recur**. A few will see this process as **witchcraft or untreatable disease**. You should note that **sexual desire is present** in most women for many years after menstruation ceases.

**Climacteric Symptoms**

The climacteric symptoms occur as a syndrome. Menopausal syndrome **refers to several symptoms related to hormonal imbalances in women**. Menopause may occur without any symptoms other than the cessation of menstruation, but it is not infrequently associated with other symptoms. The most common of these is the occurrence of **hot flushes**.

A hot flush is the **flushing of the face and neck often with sweating**. The flush may be only momentary or may last up to 15 minutes and recur many times a day. The flush occurs as a **result of a rise in the peripheral blood flow** (measured in the arm) and in **the pulse rate**, but no change in blood pressure. About 80 to 85% of women experience hot flushes. In Kenya these are **often mistaken for malaria or typhoid.**

***Remember:   
Flushes are particularly severe and abrupt when there is a change in the hormone balance, for example, after bilateral oophorectomy and, in men, after orchidectomy.***

**Other symptoms include**; **weight gain** in some women, which is generally **a result of low-level activity**. Exercise tends to promote hormonal balance. **Osteoporosi**s can also result and has been **attributed to oestrogen deficiency**.

**Atrophic changes in the vulva** will cause discomfort and d**yspareunia**. A **decrease in vaginal acidity** may allow organisms to survive and **lead to vaginitis or endometritis** (this occurs in a small number of women). This may be confused for STIs.

**Remember: Decrease in circulating oestrogen levels will lead to increased excretion of calcium in the urine. Calcium is essential in bone development.**

**Anxiety, irritability, insomnia and depression** are often present in varying degrees and are seen mainly in women who have a history of psychological instability. Additionally, aches**, pains, headaches, urinary urge and incontinence** are often as a physical expression of anxiety and depression. Some women experience **severe headaches** for unexplained reasons.

**Periods may cease abruptly** or gradually diminish at the menopause. Although excessive and irregular blood loss is not uncommon at about the time of menopause, it must never be accepted as normal or 'just the change'.

**Management of Menopause**

* The majority of women soon adjust to their new situation. This is especially true if they **get support and understanding from their husband and family**. For some, their problems may be severe enough to warrant them seeking medical advice.
* **Oestrogen may be administered to suppress hot flushes** and this may, **in turn relieve sleeplessness** and also help the depression. Some preparations that can be used include equine combined oestrogen (**premarin**) 0.62 mgs daily or oestrogen valerate (**progynoval**) 1 mg daily
* For **atrophic changes** in the genital tract, **Dienestrol cream** can be applied locally.
* Long-term therapy (as long as ten years) may benefit the patient in preventing this condition, but on the other hand, may induce endometrial carcinoma or enhance the growth of pre-existing carcinoma of the breast. Therefore, it should be established as far as possible that no such tumour is present when this therapy is employed. **Progesterone, if added, may prevent this**
* Prophylaxis of osteoporosis is managed by **increasing calcium intake**. It is important for all women to know the importance of a balanced diet, especially plant foods, for example, fresh fruits and vegetables, which promote hormone production and especially soya beans, which have natural oestrogen.
* The majority of middle aged or older women do not know what to expect at certain times in their later life, including the cessation of menstruation. **Psychological counselling** is often valuable and helps the patient understand the intricacies of the physiological changes that are taking place in her

**b). Andropause**

* Andropause is a condition that is associated with the decrease in the male hormone testosterone.
* It is unlike menopause in that the decrease in testosterone and the development of symptoms is more gradual than what occurs in women.

**Symptoms and complications of andropause; although symptoms may vary from person to person; common symptoms include**

* Low sex drive,
* Difficult getting erections or erections that are not as strong as usual
* Lack of energy
* Depression
* Irritability and mood swings
* Loss of strength or muscle mass
* Increased body fat
* Hot flushes.

Complications: include; increased risk of cardiovascular problems and osteoporosis,

**Treatment and prevention**

* Replacing of testosterone; available in form of gels, capsules, and injections. , skin patches; this is to help relieve the symptoms.
* Diet rich in calcium.
* Encourage exercise.
* Psychological support.

**GENITAL DISORDERS AND INJURIES**

**Genital prolapse;**

Is herniation of the genital organs through the genital tract.

**Classification:**

* Vaginal wall prolapse

Anterior;

1. **Urethrocele:** descent of the lower part of the anterior vaginal wall containing the urethra.
2. **Cystocele:** descend of the upper part of the anterior vaginal wall containing the bladder.

Posterior:

1. **Enterocele:**  descend of the upper posterior vaginal wall containing small bowl from the pouch of douglas
2. **rectocele :** descend of the lower posterior vaginal wall containing the rectum

Middle:

1. **vault prolapsed:** descend of the vaginal vault after hysterectomy, usually contains : small bowl and omentum.

* Uterine prolapse

**Vaginal wall prolapse**

1. **Cystocele**

This is the **herniation of the bladder through the anterior vaginal wall**. It may be classified into the following degrees:

* **Mild cystocele**, where the anterior vaginal wall prolapses to the introitus upon straining.
* **Moderate cystocele,** where the vaginal wall extends beyond the introitus upon straining.
* **Severe cystocele**, where the vaginal wall extends beyond introitus in the resting state.

A small cystocele will generally cause no significant symptoms but if it is a large one, the following symptoms may be noticed:

* It will bulge out of the vaginal introitus and make the patient complain of vaginal pressure or it may manifest as a protruding mass that may give her feeling that she is 'sitting on a ball'.
* Symptoms are aggravated by vigorous activity, prolonged standing, coughing, sneezing or straining. They are relieved by resting and assuming a recumbent or knee-chest position.
* Urinary incontinence or incomplete bladder emptying feeling which may lead to frequent micturition.

**Management of Cystocele**

The management of a patient with this condition will include investigations using urinalysis, x-ray and/or cystoscopy. If the patient is suffering from a small or moderate cystocele, she should be reassured that it is not a serious condition. A woman of childbearing age should not have corrective surgery until she has borne her children. She will need conservative management, which will include:

* The insertion of a pessary or tampon in the lower part of the vagina, which may provide temporary support. However note that prolonged use may eventually lead to pressure necrosis and vaginal lacerations.
* Exercises in young patients will give definite improvement of pressure symptoms.
* Oestrogen in post-menopausal women for a number of months may greatly improve the tone, quality and vascularity of musculo-fascial support.
* Surgical measures especially for large cystoceles, causing retention and recurrent bladder infection. The most common measure is anterior-vaginal colporrhaphy, which ensures the most effective surgical correction of a cystocele. By preventing further pregnancies, a hysterectomy averts the problem of vaginal delivery, which would destroy the bladder support provided by the anterior colporrhaphy

**Prevention of Cystocele**

* A woman should do **intrapartum and postpartum exercises**, especially those designed to strengthen the levator and perineal muscles groups.
* **Correct or avoid obesity, chronic coughs, straining and traumatic deliveries.**
* **Oestrogen therapy** maintains the musculo-fascial tissue after menopause and prevents or postpones the appearance of cystocele and other forms of pelvic relaxation.

The prognosis for recovery is excellent after surgery in the absence of subsequent deliveries or stress that increases intra-abdominal pressure

1. **Rectocele**

This is the **herniation of the rectum through the posterior vaginal wall**. Some of the **causes** of this condition include:

* Disruption of the fibrous connective tissue (recto-vaginal fascia) between the rectum and vagina during childbirth.
* **Operative deliveries**, especially of a large foetus or breech delivery.
* **Slow involutional** changes in the pelvic musculo-fascial supporting tissues as a result of menopause.
* Bowel habits whereby lifelong **chronic constipation** with straining at stool causes this condition

**Remember: Early and adequate episiotomy reduces the amount of damage to the recto-vaginal fascial supporting tissues.**

**Clinical Diagnosis**

A small rectocele is usually demonstrable in virtually all multiparous patients and usually causes no symptoms but the following are **essentials of diagnosis**:

* **Difficult evacuation of faeces.**
* **Sensation of vaginal fullness** expressed as 'falling-out' pressure.
* Presence of soft, reducible mass bulging into lower half of the posterior vaginal wall, frequently a flat lacerated perineal body.

**Management of Rectocele**

* The management of this condition will include **digital extraction if there is faecal impaction.**
* In the long term, it is advisable to **wait until the woman has had all the babies** she wants in order to intervene especially for rectocele causing symptoms. **Surgically, posterior colpoperineorrhaphy is usually curative**.
* To ensure permanent integrity of the rectocele repair, the patient should be **advised to avoid straining, coughing and other strenuous activities**
* **Prevent constipation through** a proper diet, plenty of fluid intakes and the use of stool softening laxatives and lubricating suppositories.

Recurrence of the condition after adequate repair is uncommon if chronic constipation has also been corrected. **Subsequent vaginal deliveries should be avoided**, hence pointing to the need for elective Caesarean section.

**Complications that may arise from rectocele and cystocele;**

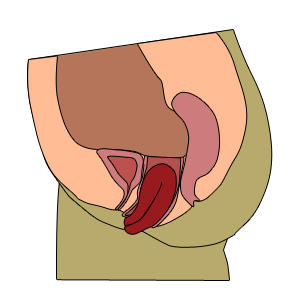
Some of the complications that may arise from rectocele and cystocele include:

* **Leukorrhoea** or increased vaginal discharge.
* Abnormal uterine bleeding.
* **Abortion** as a result of infection or disordered uterine or ovarian circulation in the prolapse.
* **Urinary tract infection** is common with prolapse because of the cystocele and urethra obstruction with hydronephrosis.
* **Haemorrhoids** due to straining with constipation, especially with rectocele.

**Uterine Prolapse**

A uterine prolapse is the **abnormal protrusion of the uterus through the pelvic floor aperture or genital hiatus**. Uterine prolapse can be classified into the following degrees.

* [F**irst degree**: The cervix is in the mid-portion of the vagina](file:///C:\Users\Danvas\academics\AMREF-NCK%20e-learning\obsteatrics\Unit%205\pages\pg20051212093022223.html)
* [S**econd degree**: The cervix is in the introitus](file:///C:\Users\Danvas\academics\AMREF-NCK%20e-learning\obsteatrics\Unit%205\pages\pg20051212093022223.html)
* [**Third degree:**The cervix is beyond the introitus](file:///C:\Users\Danvas\academics\AMREF-NCK%20e-learning\obsteatrics\Unit%205\pages\pg20051212093022223.html)*Second Degree  
  Cervix projects beyond the vulva   
  when the patient strains.Third degree (procidentia)  
  The entire uterus has   
  prolapsed outside the vulva.*

**The most likely causes of uterine prolapse will be:**

* Uterine prolapse occurs most commonly in multiparous women, like **the cystocele and rectocele conditions with which it is   
  usually associated.**
* In Caucasian women, it occurs as the result of gradually progressive injuries to the endopelvic fascia **due to childbirth and lacerations of muscles**, especially the levator muscles and those of the perineal body.
* The condition may also be the **result of pelvic tumour**, sacral nerve disorders, especially injury to the S1-4, diabetic neuropathy, caudal anaesthesia accident and pre-sacral tumour

**Clinical Findings of Uterine Prolapse** ; Symptoms of uterine prolapse include:

* Pelvic pressure manifested by sensation of fullness in the vagina.
* Low backache.
* Uterus may protrude between the labia.
* Cervix may become eroded and may bleed due to drying effect on mucous membrane, especially in the third degree.
* Firm mass palpable in the lower vagina.
* Patient complains of dyspareunia due to trauma on the cervix during coitus.
* Leukorrhoea due to uterine engorgement.
* Compression and distortion of the bladder by the displaced uterus and cervix may lead to accumulation of residual urine, which leads to urinary tract infection, urgency and dribbling of urine due to overflow incontinence

**Prevention of uterine prolapse:**

Advise mothers on the following:

* The importance of pre-natal and postnatal 'Kegel' exercises to strengthen levator muscles.
* The need for early and adequate episiotomy during the second stage of delivery.
* Traumatic deliveries should be avoided at all cost.
* Prolonged oestrogen therapy for menopausal and postmenopausal women tends to maintain the tone and integrity of the endopelvic fascia and pelvic floor musculature, and can therefore, act as a preventive measure.

**Management of Uterine Prolapse**

* Surgical measures
* Investigations on the haemoglobin level, blood group, urea and urinalysis to detect any other abnormalities and also as a preparation for surgical intervention.
* Give the patient antibiotics and dressings, especially for third degree cases, after which a vaginal hysterectomy may be performed.
* For first and second degree cases, and for women of a reproductive age, Manchester repair is carried out. This entails colporrhaphy and amputation of the cervix.

**Medical measures will include:**

* Vaginal pessaries (inflatable doughnut) as a palliative measure if surgical treatment is contra-indicated or as a temporary measure to mild to moderate prolapse.
* Oestrogen therapy (systemically or vaginally) administered to post-menopausal women to improve the tissue tone.
* Dilatation and curettage may be necessary to investigate for malignancy if there is bleeding.
* Vaginal creams and/or medicated tampons may be useful.
* Urinary tract infection or cardiovascular complication should be treated appropriately.
* Enema or laxatives should be prescribed to help with constipation.
* Obese patients should be advised to try and lose weight

**Prognosis of Uterine Prolapse**

Vaginal hysterectomy with anteroposterior colporrhaphy provides excellent and permanent vaginal support and if good healing occurs, preservation of vaginal functions as well. Recurrence may result from unrepaired cystocele and rectocele or from occupational factors such as heavy lifting or straining.

**Traumatic Disorders of the Genital Organs**

Injury to the genital organs may be as a result of gynaecological or obstetric surgery. Fistula may occur due to direct or indirect occlusion, as a result of angulation or obstruction.

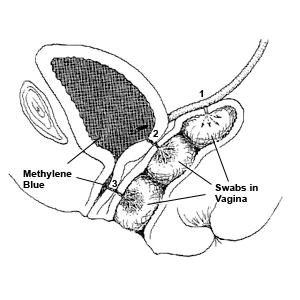
* **Vulva:** Injuries may be in the form of bruises or lacerations. These will heal by themselves as long as hygienic measures are observed
* **Perineum**: The injuries here may include primary tearing involving vaginal mucosa, secondary tearing involving vaginal mucosa plus skin, or third degree tearing involving vagina mucosa, skin and muscles. Tears are usually termed as 'fresh' within 24 hours of occurrence and can be repaired. After 48 hours they are deemed 'old' and they cannot be repaired until healed.
* **Vagina**; the injuries to this organ may be bruises or lacerations. If oozing is present, then a vaginal pack is required. Alternatively, the vagina may have to be repaired.
* **Cervix;** Injuries here may be in the form of bruises, lacerations and/or tears. Bleeding which is oozing or active will need a vaginal pack. For tears with active bleeding, the area should be repaired under general anaesthesia because unrepaired tears will lead to cervical incompetence causing mid-trimester abortion
* **Uterus;** The uterus can be perforated as a result of poor technique of IUCD insertion or dilatation and curettage. The rupture may be either partial or total. It can be repaired if perforated or partially ruptured but with total rupture, a sub-total abdominal hysterectomy is required

**Fistula**

Fistula means 'a pipe'. It is defined as an abnormal, winding opening between two internal hollow organs

The most common areas in the genital tract that may be connected abnormally are:

* Vagina to bladder - Vesicovaginal Fistula (VVF)
* Rectum to vagina - Rectovaginal Fistula (RVF)
* Urethra to vagina - Urethrovaginal (UVF)
* Urinary fistula however, can occur at many sites. Study the illustration opposite.

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**Some common causes of fistula include:**

* Obstructed labour due to pressure by the presenting part, causing necrosis. This accounts for 85% of cases in developing countries.
* Radiation therapy for gynaecological conditions, which accounts for 15% of cases (usually many years after treatment).
* Disease processes, such as carcinoma in advanced stages of the neighbouring organs.
* Chronic tuberculosis or syphilis.
* Congenital fistula, that is, an accessory ectopic ureter, which may open into the vagina. This condition can be recognised in childhood.

**The main symptoms and diagnosis of VVF include:**

* The patient keeps on complaining of constant dribbling of urine from the vagina and generally does not pass any urine by the normal route.
* On inspection with Sim's speculum, the fistula is situated in the midline half way up the anterior vaginal wall. This usually occurs as a result of prolonged labour. Postoperative fistulas are generally higher up.
* Small fistulae admit a probe with difficulty, but may be seen on cystoscopy. Large fistulae admit one or two fingers.
* Coloured fluid (methylene blue) runs into the bladder through a catheter and immediately flows out into the vagina.

This condition may also affect the individual patient in different ways. Some patients report that they do not experience any sexual enjoyment. In addition, there is the possibility of psychogenic amenorrhea and vulval excoriation with urine. The individual may feel like a social outcast.

**Rectovaginal Fistula (RVF)**

**Causes**: result of unrepaired third degree lacerations of the perineum and posterior vaginal wall, or repairs that have broken down. Advanced cancer of the rectum or vagina.

**Common symptoms of RVF include:**

* With small fistulae, only mucus from the rectum may leak into the vagina. If the fistula are larger, faeces and flatus escape into the vagina.
* The patient will complain of feculent vaginal discharge.
* An inspection of the posterior wall of the vagina and the use of a probe will demonstrate the smaller fistula.
* Perineal excoriation due to leakage of urine and faecal matter.
* Symptoms may also depend on the site of the fistulae. If on the lower half of the vagina there is incontinence, flatus, or fluid faeces while if on the upper half there is continuous passage of faeces per vaginum.

**Management of VVF and RVF**

First and foremost, prevention is easier than cure. In most cases fistulae formation can be avoided by:

* Ensuring that labour does not go beyond 12 hours.
* Frequent emptying of bladder or catheterisation during normal labour since a distended bladder is easily traumatised by the pressure of the presenting part, especially in cephalic presentation.
* Control of infection and excoriation (use of infection prevention principles).
* In the event of destructive delivery due to prolonged labour, catheters should be left in situation for 48 hours to   
  seven days.
* For VVF, recently formed fistulae will heal if the bladder is drained continuously for 21 to 28 days and for RVF, a low residue diet should be given for the same period.

Where surgery is indicated, it is important that fresh VVF is repaired at once. However, if it is only noticed some days after the injury, then two to three months should be allowed to elapse before the repair. This allows local damage and infection to settle and urinary infection to be eradicated. Most VVF can be closed by an operation via the vaginal route.

In the management of a patient who is due for surgical correction the pre-operative care will include:

* Blood for haemoglobin level, urea, Intravenous Pyelography (IVP) for ureteric fistula.
* Examination Under Anaesthesia (EUA) to detect the type of fistulae.
* Dye test (methylene blue) into the bladder to detect site of fistulae.
* Nursing care, including proper nutrition to ensure fitness forthe operation.
* The woman will need a lot of encouragement and support since it can be a very distressing time.
* RVF is repaired after a course of antibiotics to reduce bowel infection.
* Also sterilise the gut with tabs cabbracol 500gm BD for five days.
* Give enema on the morning of the operation.
* After the operation, the patient should be placed on a liquid diet for two weeks.
* Liquid paraffin 10ml tds for two weeks, followed by analgesics and broad spectrum antibiotics.
* Together with the above, ensure that you provide other general postoperative care, for example, regular observation and   
  personal hygiene.

***Remember:   
Once the fistula is repaired, the patient should always opt for elective caesarean section delivery.***