

Puberty – Menstrual cycle

CONTRACEPTION

Menstrual Cycle Overview:

- The menstrual cycle starts on the first day of the menstrual period and ends with the start of the following period.

- It is made-up of four phases during which hormones change to prepare women for pregnancy each month.

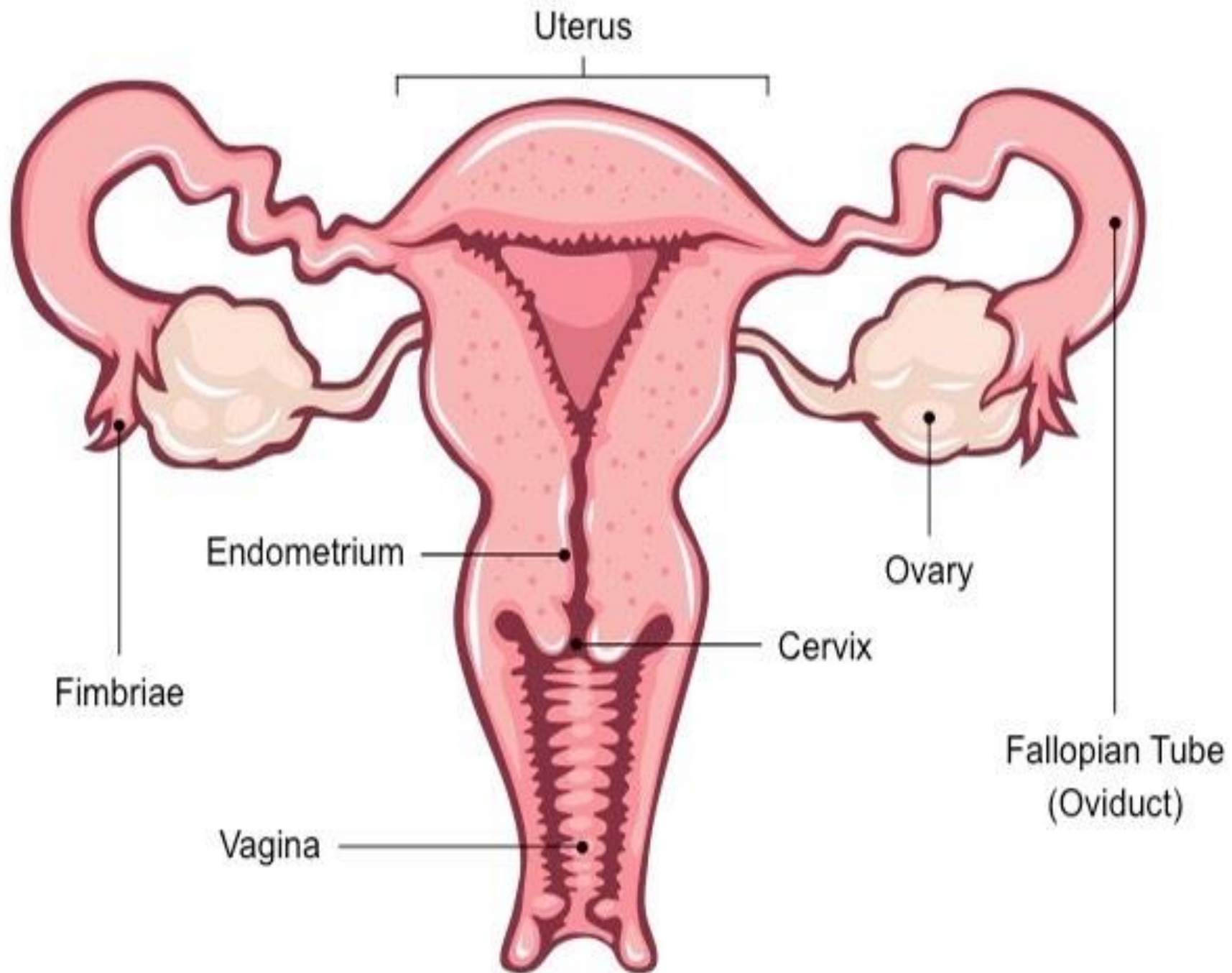
- It is natural to experience some discomfort during the menstrual cycle while other issues might require a visit to the doctor.

- Treating these problems depends on their causes.

- There are several methods and advice to relieve pain before and during a menstrual period

Structure of the female reproductive system:

- The vagina: It is the canal between the uterus and the external reproductive organs.
- The uterus: It is a hollow pear-shaped organ where the fetus grows during pregnancy. It is separated from the vagina by a narrow canal called: the cervix.
- Fallopian tubes: They are narrow canals connected to the upper part of the uterus. Through them, the eggs travel from the ovaries to the uterus, and inside them, the egg meets the sperm (fertilization). Then, the fertilized egg travels through the tubes to the uterus where it can stick to the uterine wall and form an embryo.
- Ovaries: They are small oval-shaped glands located on the sides of the uterus. Eggs form inside the ovaries that also produce female hormones.



Menstrual cycle:

- A menstrual cycle consists of natural changes that occur in a woman's body every month in preparation for pregnancy. Menstruation starts at puberty and ends at menopause.
- The cycle lasts an average of 28 days but may vary between 20 and 40 days. The first day of a cycle is the first day of a menstrual period and the last day is that of the following period. First menstrual period: The menstrual cycle often begins at puberty between the ages of 8 and 15 (average age of 12). It usually starts two years after breasts and pubic hair start to develop.

Phases of the menstrual cycle:

There are four phases:

menstruation,
the follicular phase,
ovulation and
the luteal phase.

-Menstruation:

-Menstruation is the elimination of the internal lining of the uterine wall along with other secretions from the body through the vagina.

It usually lasts three to seven days but this could change to more or less days from month to month and depending on each woman.

The follicular phase:

The follicular phase starts on the first day of menstruation and ends with ovulation.

During this phase the pituitary gland (situated at the base of the brain) releases a follicle (cyst) stimulating hormone.

This hormone produces 10 to 20 follicles in the ovary and each follicle houses an immature egg.

These follicles produce the hormone estrogen, which in turn thickens the lining of the endometrium in preparation to receive a fertilized egg.

Often, only one follicle keeps growing and travels to the ovarian surface while the remaining follicles gradually fade and are absorbed back into the body.

Ovulation:

Ovulation occurs 12 to 16 days before the following period but not necessarily in the middle of the cycle.

The term “ovulation” indicates the formation of a mature egg by one of the ovaries.

The release of estrogen during the follicular phase causes the brain to produce a gonadotrophin-releasing hormone that prompts the pituitary gland to produce raised levels of luteinising hormone (luteotropic hormone).

This extracts the mature egg from the follicle (cyst) and transports it from the ovary to the fallopian tube.

If fertilization does not occur during this phase, the egg continues to the uterus and dissolves within 6 to 24 hours. –

The luteal phase:

During this phase, the follicle from which the mature egg burst out (now called the yellow body of the ovary or corpus luteum) released a large quantity of progesterone and some estrogen.

The two hormones help thicken the lining of the endometrium and maintain its thickness.

If fertilization does not occur, the yellow body degrades and progesterone levels decrease, leaving the lining unstable.

The lining then falls away and a new menstrual cycle period begins.

- Contraception=against conception
- The preventive methods to help women avoid unwanted pregnancies are called contraceptive methods.



Need for contraception

- To avoid unwanted pregnancies
- To regulate the timing of pregnancy
- To regulate the interval between pregnancy

Ideal contraceptive???

- Safe
- Effective
- Acceptable
- Reversible
- Inexpensive
- Long lasting
- Requires little or no medical supervision

Contraceptive methods

```
graph TD; A[Contraceptive methods] --> B[Spacing methods]; A --> C[Terminal methods];
```

Spacing methods

- 1) Barrier
- 2) IUDs
- 3) Hormonal
- 4) Emergency contraception

Terminal methods

- 1) Male fertilisation
- 2) Female fertilisation

Barrier methods

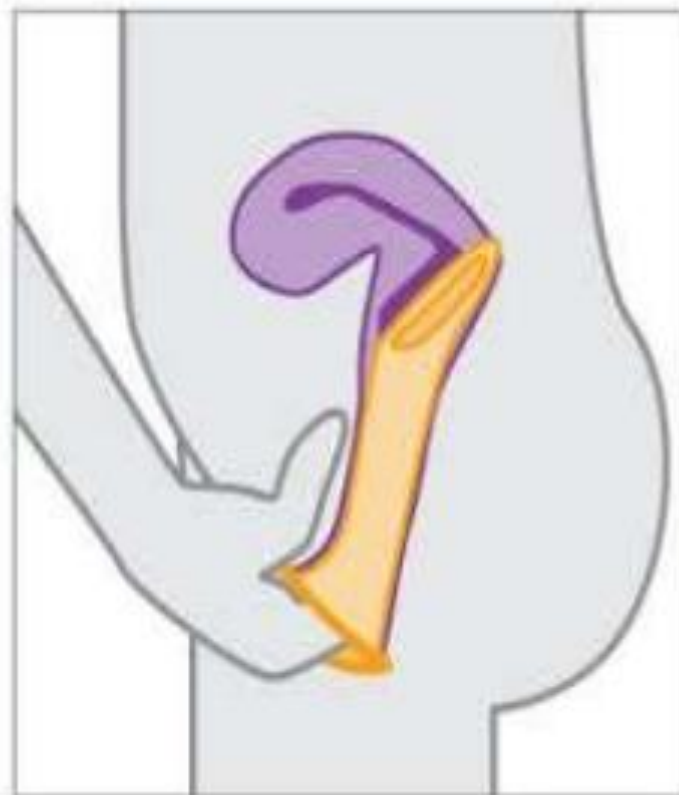
- Male condoms
- Female condoms
- Diaphragm
- Spermicides

Male condom

- Most commonly known and used contraceptive
- Better known in India as NIRODH



Female condom



Diaphragm



Various birth control methods, such as the diaphragm and spermicide, prevent sperm and egg from meeting.

spermicides

- Spermicides are surface active agents which attach themselves to spermatozoa and kill them.
- Available in various forms like
 1. Foams
 2. Creams
 3. Suppositories
 4. Soluble films

Intra uterine devices

- 1st generation:
 - Inert/non-medicated devices
 - Eg:lippes loop(left as long as required)
- 2nd generation:
 - Metallic IUDs
 - Cu-T380 A(10 years)
 - Nova T(5 years)
 - Multiload devices
- 3rd generation:
 - Hormonal IUDs
 - progestasert(2 years)
 - Mirena(LNG-20)(10 years)



Hormonal contraceptives

- Combined pill:

- combination of estrogen and progestogen

- MALA-N, MALA-D (0.15mg levonorgestrel & 0.03mg ethinyl estradiol)

- Progestogen only pill

- used in people above 40 years of age & CVS problem

- Post coital contraception:

- Levonorgestrel

- Ullipristal

- Mifepristone



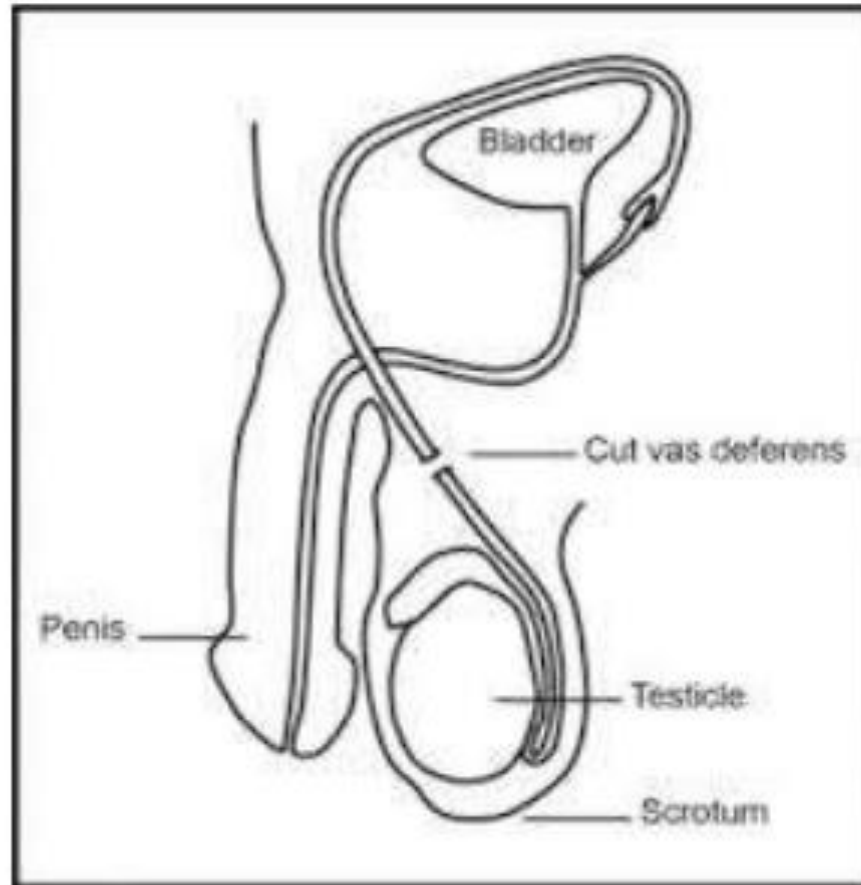
Terminal methods

- Permanent methods
- One time method

-Guidelines

- Husbands age:25-50 years
- Wife's age:20-45
- 2 living children at the time of operation

Male sterilisation



Male sterilisation

- Complications:
- Operative
- Sperm granules
- Spontaneous recanalisation
- Psychological

Post op advice:

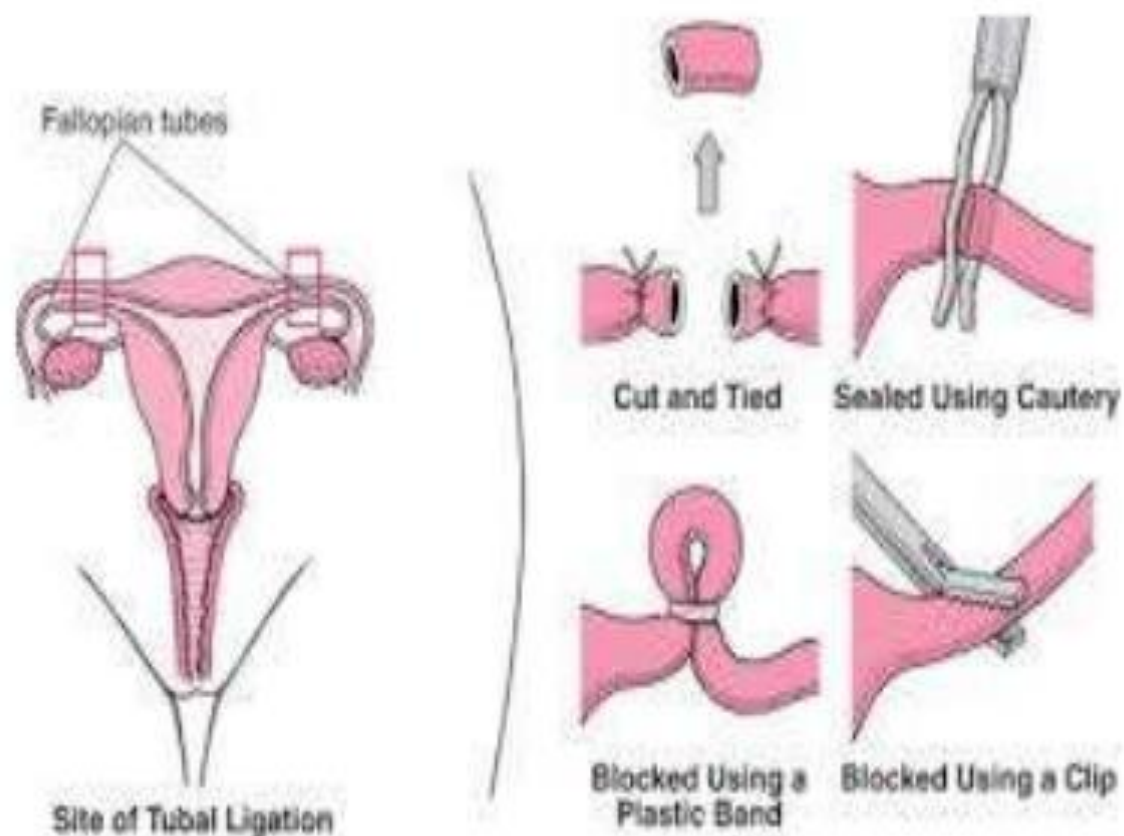
Not sterile till 30 ejaculations

Avoid bathing till 24 hours of operation

Avoiding heavy weights and wearing a langot

Female sterilisation

- Laparoscopy
- Mini lap



Family planning in india

- India was the first country in the world to have launched a National Programme for Family Planning in 1952.
- Over the decades, the programme has undergone transformation in terms of policy and actual programme implementation and currently being repositioned to not only achieve **population stabilization** goals but also promote **reproductive health** and reduce **maternal, infant & child mortality and morbidity**