



Contraception

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WHY DO YOU WANT TO
LEARN ABOUT
CONTRACEPTION?

Objectives

At the end of the lecture the student should be able to

1. define contraception.
2. list the commonly used methods of contraception.
3. describe the mode of action of the commonly used methods of contraception.

At the end of the practical the student should be able to

- 1. list the advantages , disadvantages and common side effects of contraceptive methods
- 2. choose the best method of contraception in a given practical/clinical scenario.

What is contraception?

“birth control”

All the measures designed to deliberately prevent pregnancy

Methods available for contraception

- Behavioral methods/ Natural methods
- Physical methods

Behavioral methods

Involves methods of intercourse to prevent the introduction of sperm into the female reproductive tract or regulating the timing of intercourse to prevent fertilization.

1. Abstinence
2. Coitus interruptus
3. Fertility awareness methods

Abstinence

No sexual encounter or avoidance of vaginal intercourse during the fertile period.

Coitus interruptus

Ending sexual intercourse before ejaculation.

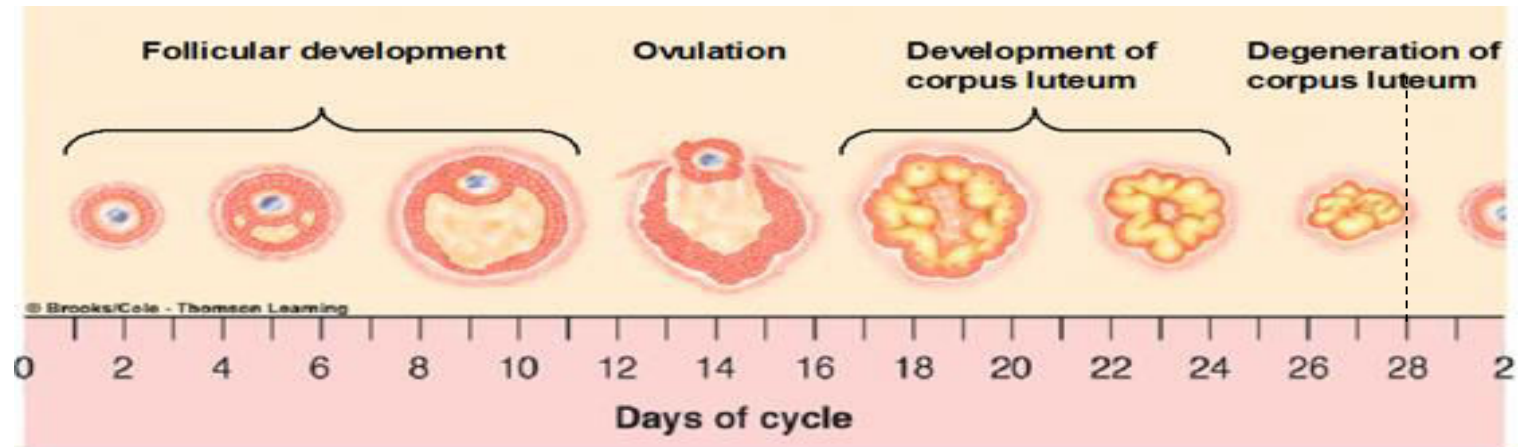
Require lot of control.

The pre-ejaculate contain sperm.

High failure rate.

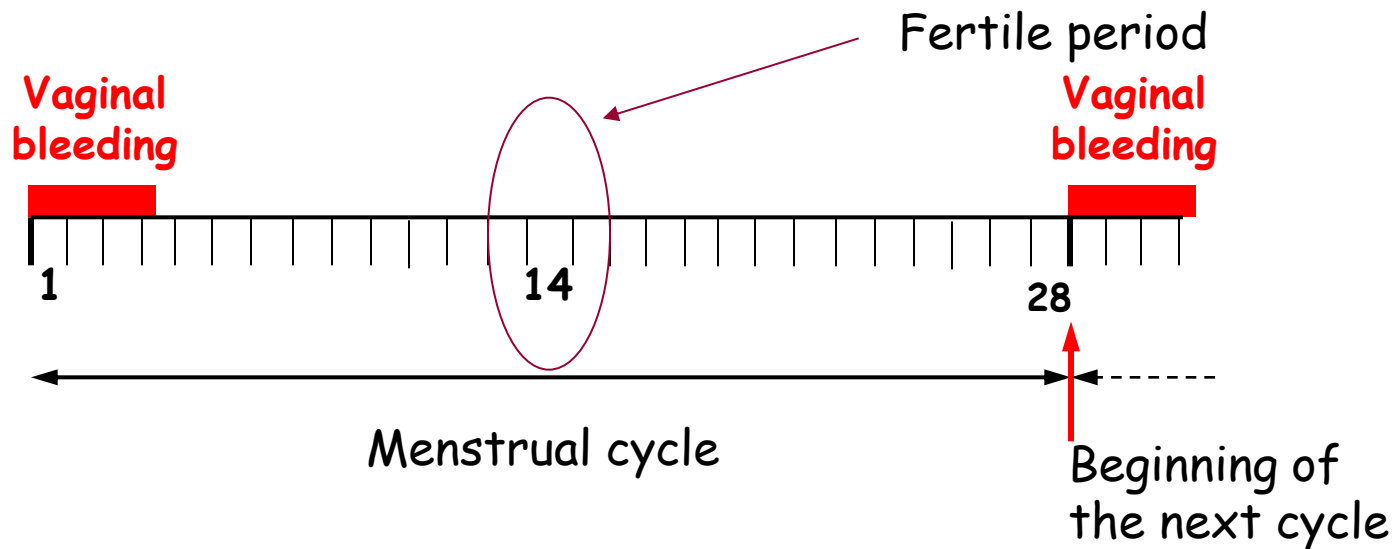
Fertility Awareness methods

How to determine the fertile period?



- Interval from ovulation to the onset of next menstruation is between 13-15 days.
- The most fertile period of a sperm is – 3 days
But Life span of a sperm – 5 days
- Ovum is capable of being fertilized within 24 hours after being expelled from the ovary.

But the life span is 72 hrs in the female genital tract.



Considering the above facts the fertile period is taken as 4 days before the calculated day of ovulation and 3 days after the calculated day of ovulation.

Should avoid intercourse during this period

Fertility awareness methods

- Rhythm or calendar method
- Basal body temperature method
- Cervical mucous method

Rhythm or calendar method

In a periodic 45 day menstrual cycle ;
ovulation occurs within 1 day of the 31st day of the
cycle.

In a periodic 20 day menstrual cycle ;
ovulation occurs within 1 day of the 6th day of the
cycle.

Should avoid intercourse 4 days before and 3
days after calculated day of ovulation

Can be used only if the menstrual cycles are regular

Basal Body Temperature method

Basal body temperature (BBT) is the lowest temperature attained by the body during rest (usually during sleep).

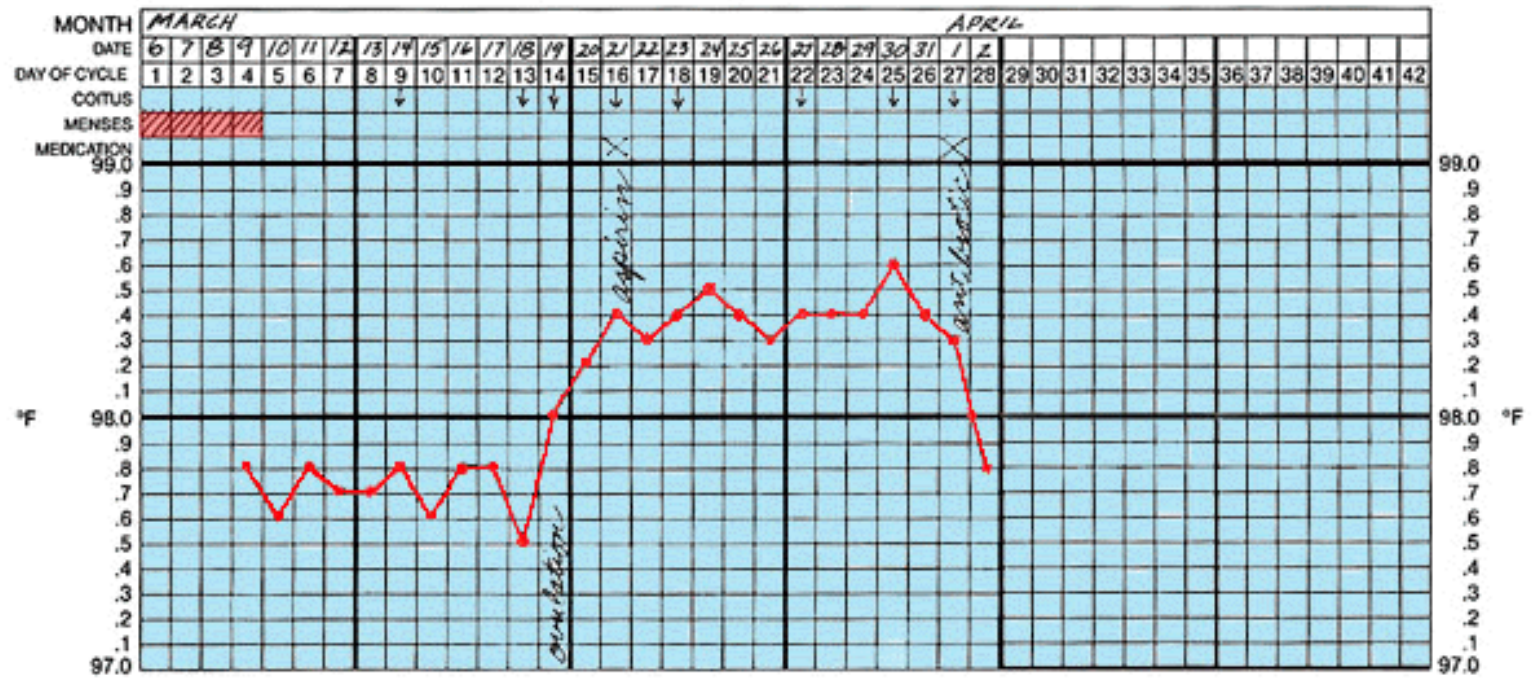
Measured immediately after awakening and before any physical activity has been undertaken.

Ovulation causes an increase of one-half to one degree Fahrenheit (one-quarter to one-half degree Celsius) in BBT.

The rise starts 1-2 days after ovulation.

The higher levels of Progesterone released by the corpus luteum after ovulation raise BBT.

Sample Chart



Cervical Mucous method (Billings method)



Oestrogen makes mucous thinner.

Thinnest at the time of ovulation and its elasticity (spinnbarkeit) increases.

After ovulation mucous becomes thick.

Avoid coitus around the period that changes taking place.

Contraceptive methods

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graph TD; A[Contraceptive methods] --> B[Behavioral Methods]; A --> C[Physical methods];
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Behavioral Methods

1. Abstinence
2. Coitus interruptus
3. Fertility awareness methods
 - Calendar method
 - BBT
 - Cervical mucous

Physical methods

Physical methods

1.Barrier methods

2.Hormonal methods

3.Intrauterine devices

4.Sterilization

Barrier Methods

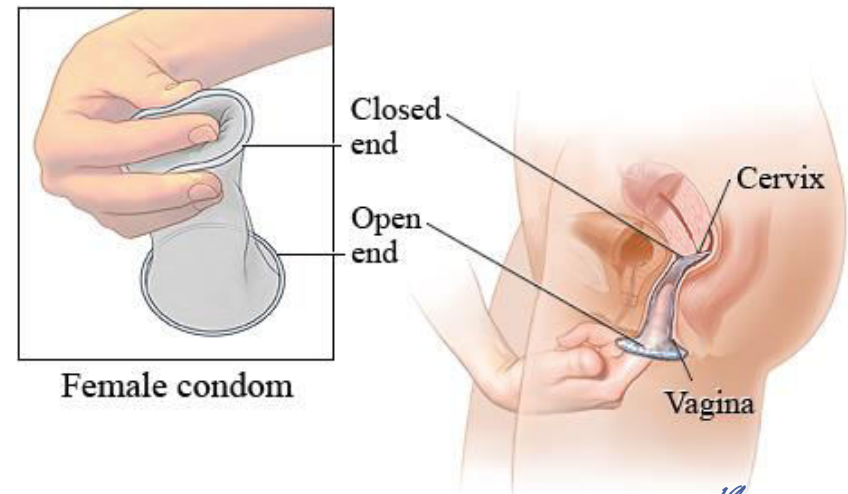
Prevent sperm – oocyte interaction

- Male condom



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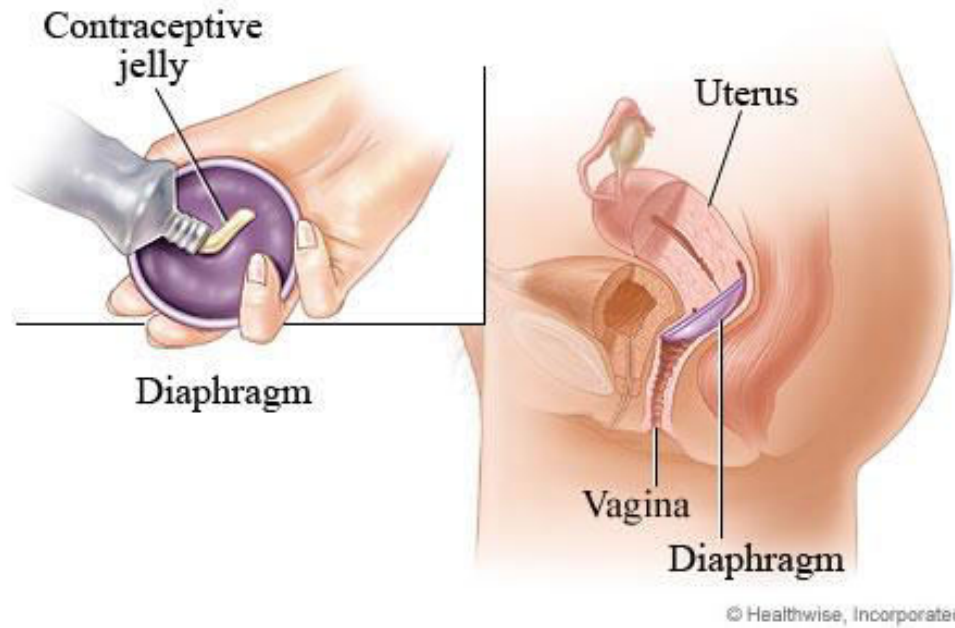
- Female condom



19
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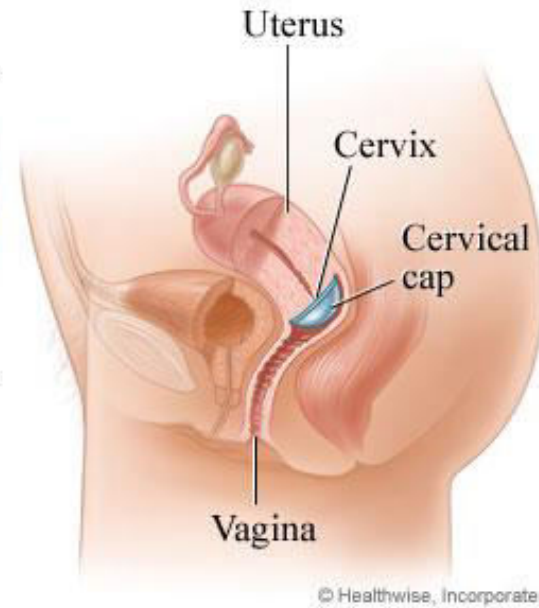
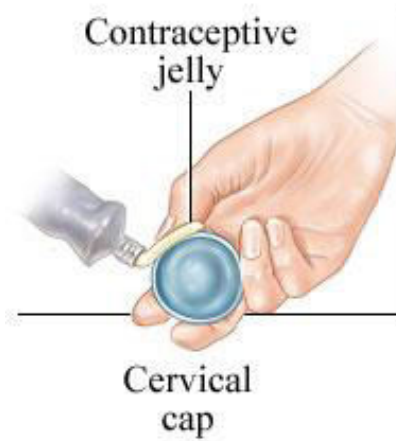
Barrier Methods

- Diaphragm



Barrier Methods

- Cervical cap



Spermicide: is a substance that kills sperms,
inserted vaginally prior to intercourse

Usually combined with a barrier method

Used alone is not very effective

Hormonal methods

Synthetic oestrogens & synthetic progestins are used as hormones for contraception.

Methods of delivery

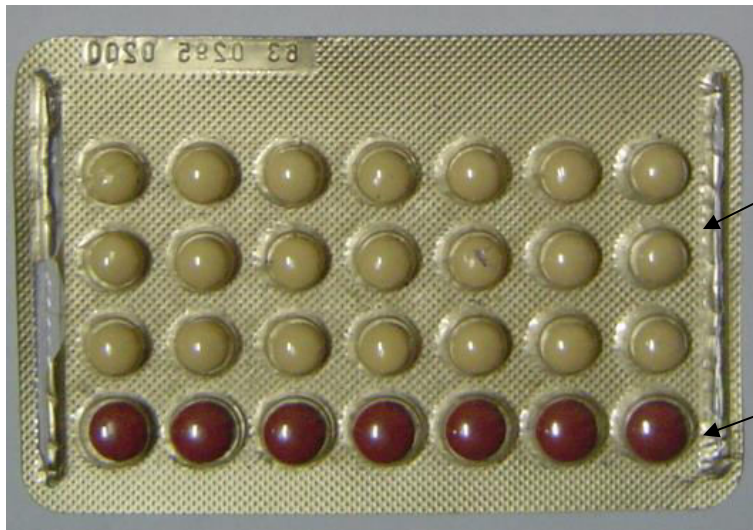
- Oral pill
- Patch
- implants
- Vaginal rings
- Injections

Oral contraceptive pill

Combined pill – contain both oestrogen & progesterone

21 pills containing hormones and 7 pills with placebo

Combined oral contraceptive pill



Hormonal tablets

Hormone free
tablets

COCP Side effects

COMMON	SERIOUS
Headache	Venous thromboembolism
Nausea	Myocardial infarction
Weight gain	Thrombotic strokes
Depression	Hypertension
Loss of libido	
Break through bleeding	
Breast pain	

Oral contraceptive pill

Progesterone only pill – contain only progestins

Taken continuously every day

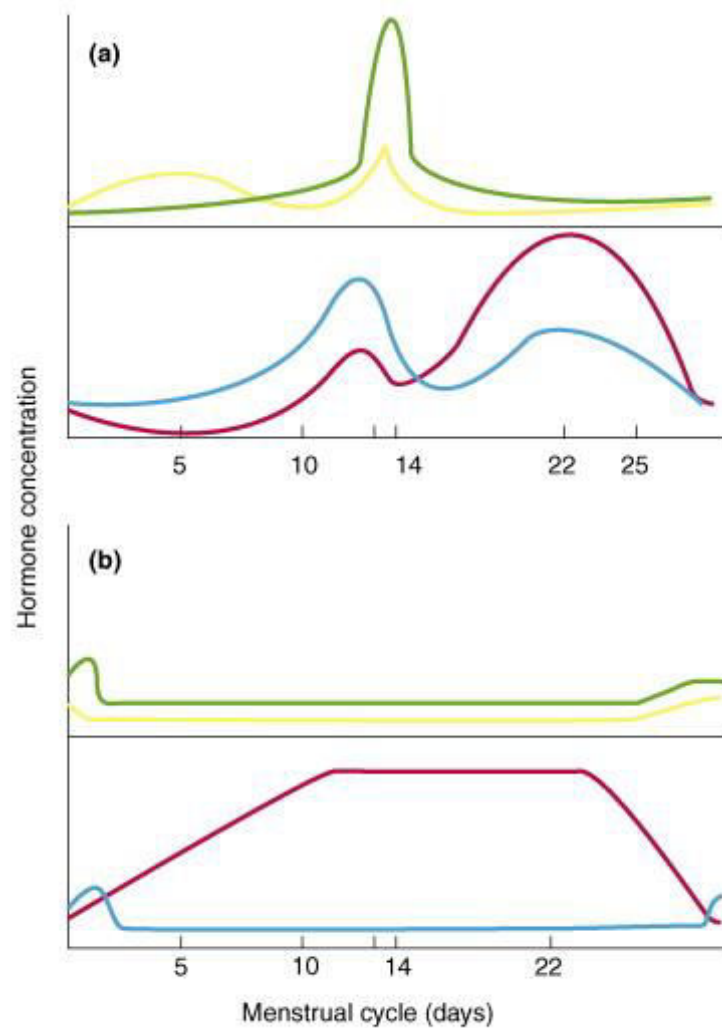


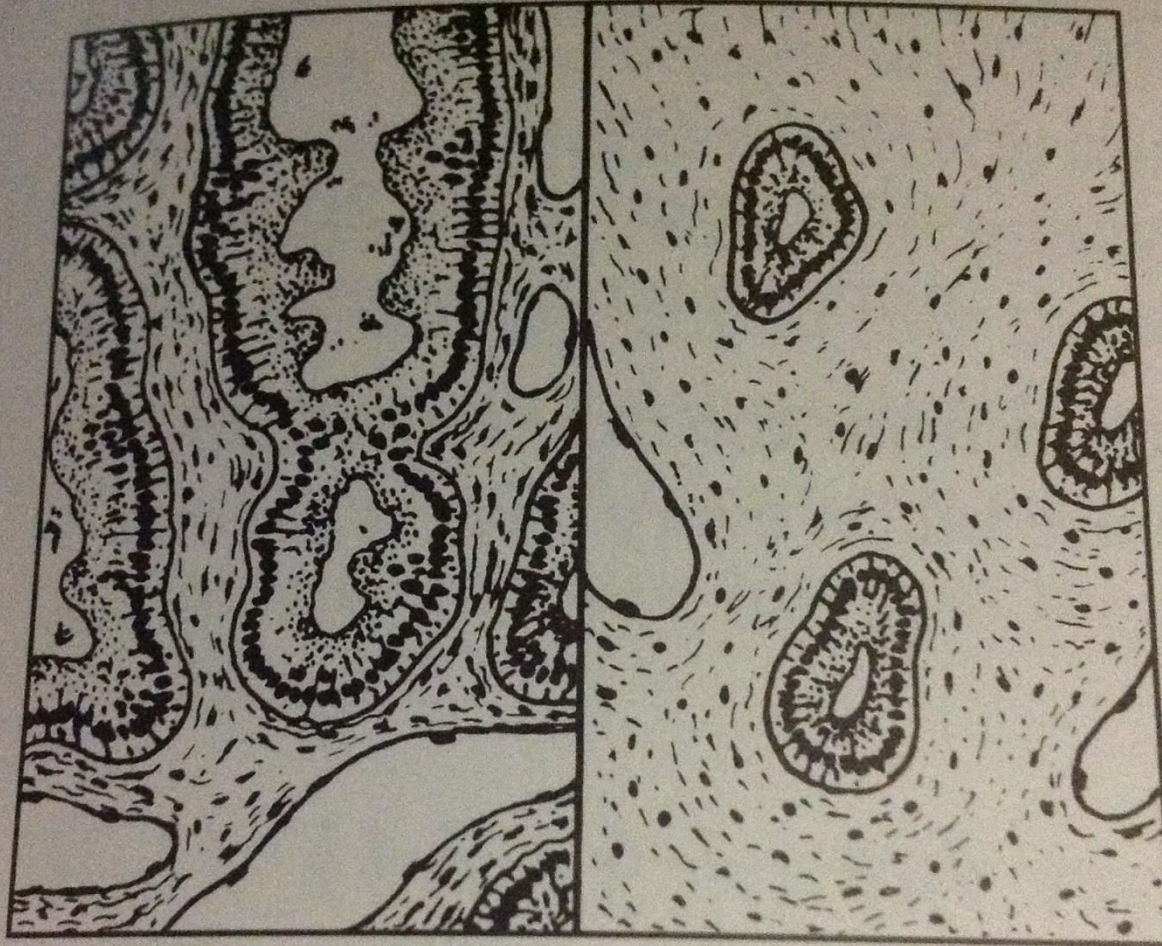
Combination of oestrogen & progesterone exert a negative feedback inhibition on both FSH & LH secretion , thereby preventing ovulation.

Progesterone makes the cervical mucous hostile for sperm penetration and endometrium unfavourable for implantation.

Newer preparations (biphasic, triphasic) are available to more closely simulate a normal menstrual cycle.

Hormonal levels with use of COCP





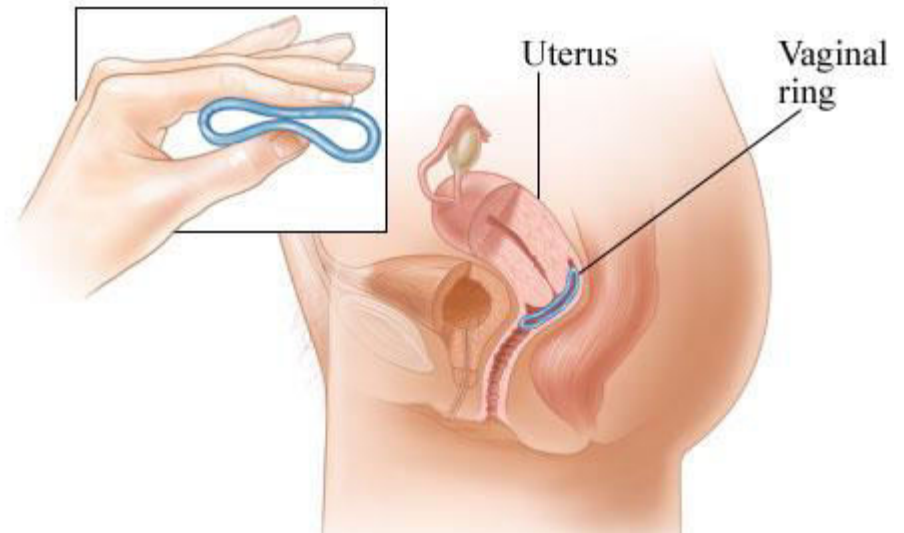
Normal
endometrium

'Pseudo-
atrophy'

Combined oestrogen and progesterone delivery systems



Combined hormonal patches



Combined hormonal vaginal rings

Implants & Injectables

High dose of progestins inhibit LH surge.

Thereby prevent ovulation

Makes the cervical mucous & endometrium unfavourable.

Injectable

Contain depot-medroxy
progesterone acetate 150 mg

Given every 90 days by deep
intra muscular route.



Implants

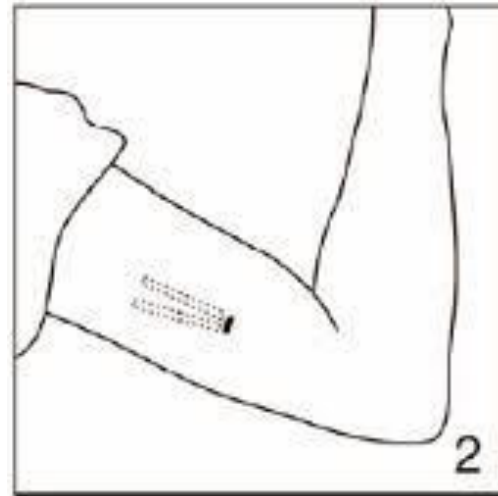


Implanon

Implants



Norplant



Jadell

	ADVANTAGES	DISADVANTAGES
COCP		
POP		
INJECTABLES		
IMPLANTS		

Intrauterine Contraceptive Device (IUCD)

These are contraceptive devices which are placed inside the uterus.

There are two main types of intrauterine contraceptives: those that contain copper (which has a spermicidal effect), and those that release a progestin.

Makes the endometrium unfavourable for implantation.



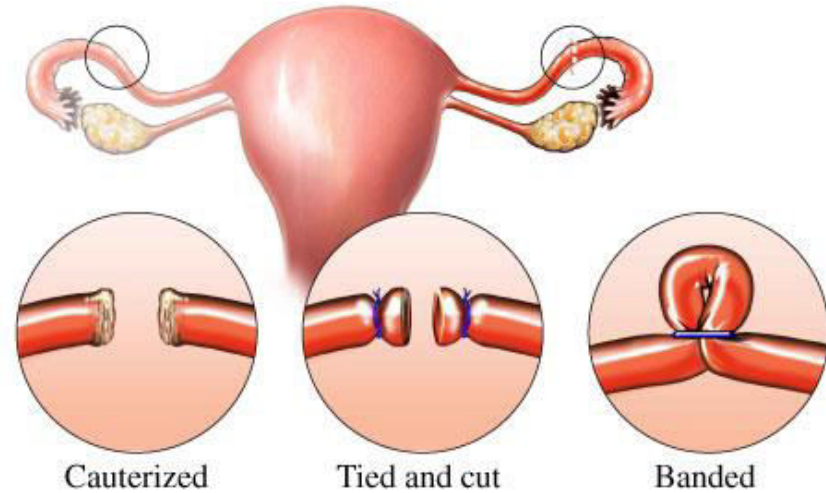
Sterilization

Surgical procedure to achieve contraception permanently.

In males – Vasectomy

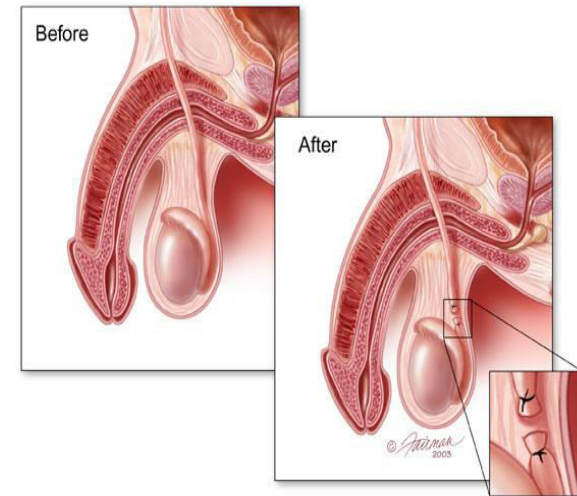
In females – Mechanical blockage of fallopian tubes

Female- Sterilization



- The fallopian tubes are cut or blocked to prevent the migration of the ovum towards the uterine cavity.
- Immediately effective.
- Difficult to reverse.
- Consent should be informed, mutual and voluntary.

Male- Sterilization



- Vas deference is cut, tied and sealed .
- Done under Local anaesthesia as an out patient procedure.
- Takes 3 months for the remaining sperm to be ejaculated. Need to use an alternative contraceptive method during this period.
- Seminal fluid analysis should be done at the end of 3 months.
- Not readily reversible.

Emergency Contraception

(Post coital contraception)

Are measure taken after unprotected sex to prevent pregnancy

1. Emergency contraceptive pill – Contain a high dose of progestin
2. Copper IUCD inserted within 5 days after coitus.

Emergency Contraception

Emergency contraceptive pill

Prevents release of ovum from the ovary and alters corpus luteal function depending on the stage of the menstrual cycle.

Contain high dose of hormone so higher risk of side effects.



Contraceptive methods

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graph TD; A[Contraceptive methods] --> B[Behavioral Methods]; A --> C[Physical methods]; B --> B1[1. Abstinence]; B --> B2[2. Coitus interruptus]; B --> B3[3. Fertility awareness methods]; B3 --> B3a[• Calendar method]; B3 --> B3b[• BBT]; B3 --> B3c[• Cervical mucous]; C --> C1[1. Barrier methods]; C --> C2[2. Hormonal methods]; C --> C3[3. Intrauterine devices]; C --> C4[4. Sterilization];
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Behavioral Methods

1. Abstinence
2. Coitus interruptus
3. Fertility awareness methods
 - Calendar method
 - BBT
 - Cervical mucous

Physical methods

1. Barrier methods
2. Hormonal methods
3. Intrauterine devices
4. Sterilization

Additional reading

- o **Gynaecology by Ten Teachers, 19th Edition** By Ash Monga, Stephen P. Dobbs
- o **A guide to family planning for community health workers and their clients.** 2012. World health organization.
- o **Gynaecology illustrated , 6th edition** by C M Bain, K Burton and C J McGavigan