CONTRACEPTION

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WHAT IS CONTRACEPTION?

- **Family planning** allows people to attain their desired number of children, if any, and to determine the spacing of their pregnancies. It is achieved through use of contraceptive methods and the treatment of infertility.
- **Contraception** is the use of methods or devices to prevent unintended pregnancy.

CHOOSING A BIRTH CONTROL METHOD

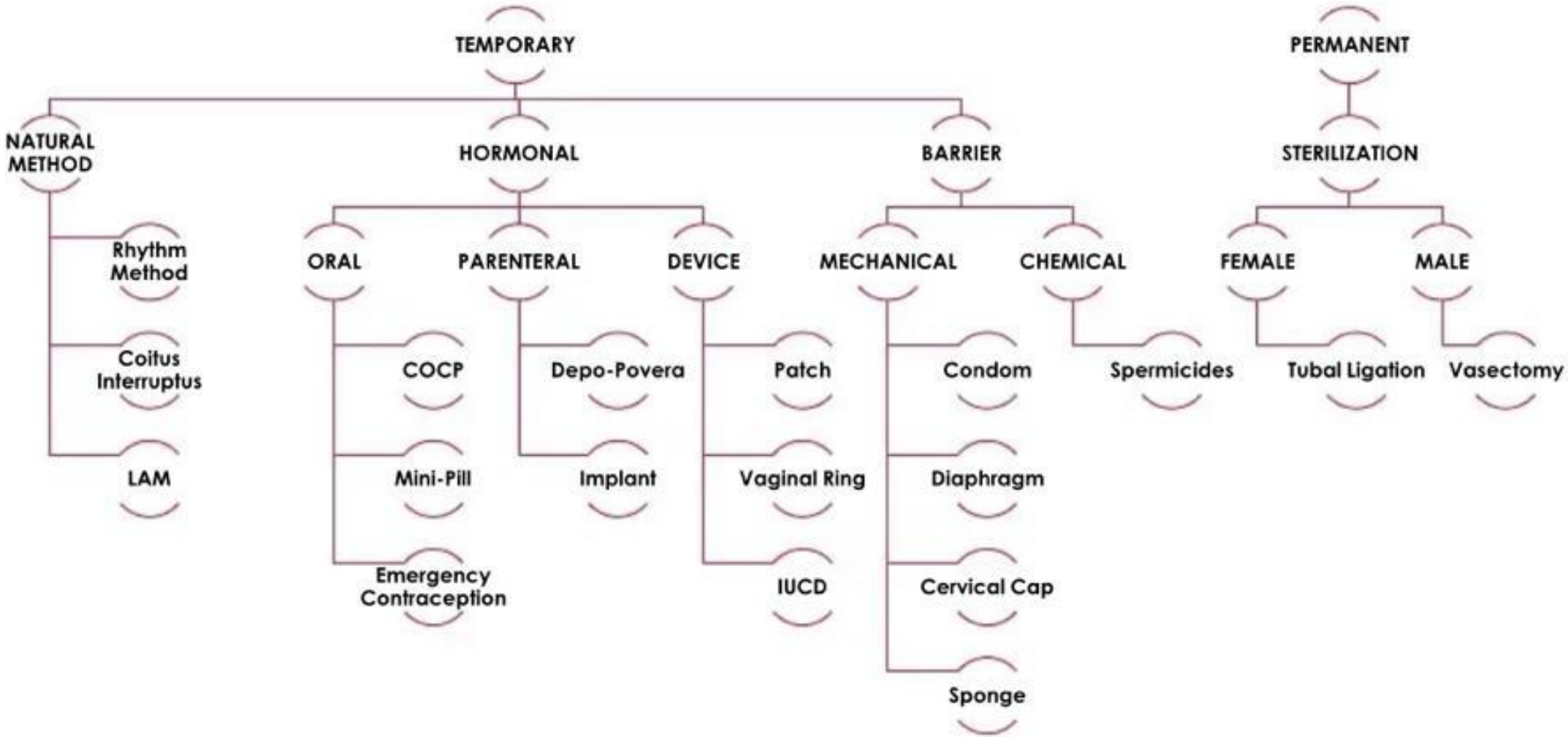
No birth control is perfect; you must balance the advantages and disadvantages of the different options and decide which method is best for you.

To consider that :

- Efficacy (how well it works to prevent pregnancy)
- Convenience
- How long the drug or device can be used
- Whether and how it affects your monthly period
- Type and frequency of side effects
- Affordability
- Privacy concerns
- Whether or not it also protects against sexually transmitted diseases
- How quickly your fertility will return if you stop taking it

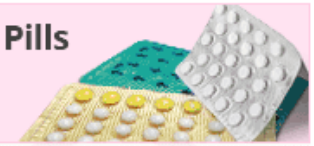
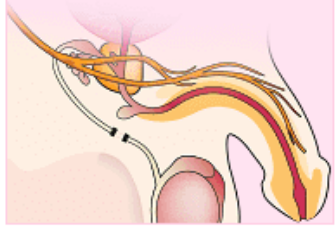
Shared decision-making

TYPES OF CONTRACEPTION



Birth Control Methods

There are **five types of birth control methods** from which to choose according to one's health, relationship status, lifestyle, and reproductive plans.

STERILIZATION METHODS	LONG-ACTING METHODS	SHORT-ACTING METHODS	BARRIER METHODS	NATURAL RHYTHM METHODS
*permanent	*reversible	*reversible	*reversible	*reversible
Tubal ligation 	IUD 	Pills 	Condoms 	Natural family planning 
		Patches 	Diaphragms 	
Male vasectomy 	Implants 	Shots 	Sponges 	Withdrawal 
		Rings 	Cervical caps 	

99% MOST EFFECTIVE — **84-91%** — **71-86%** — **75-78%** LEAST EFFECTIVE

NATURAL METHOD

- Certain methods used to ***achieve and avoid*** pregnancies.

- Based on observation of the naturally occurring signs and symptoms of the fertile and infertile phases of a woman's menstrual cycle.

WITHDRAWAL

- Coitus Interruptus.
- Removal of penis from the vagina before ejaculation occurs.
- Effectiveness rate is 60-80%.

- Failure due to

1) Delay withdrawal.

2) Presence of sperm in the pre-ejaculatory fluid.

Fertility Awareness-Based Methods(FAB)

- Based on identification of the fertile period of a cycle and to abstain from sexual intercourse during that period or use a barrier method.
- Requires partner's co-operation.

- Methods to determine:

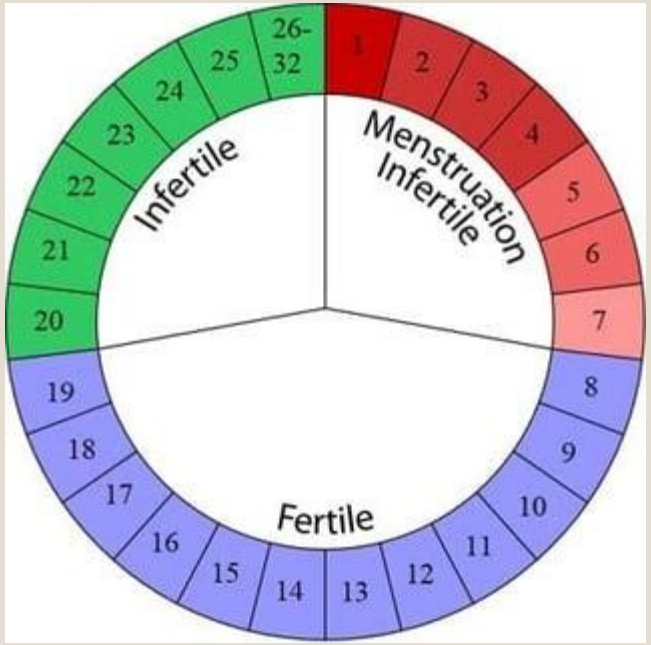
a) Calendar Rhythm (or Standard Days method)

b) Basal body temperature (BBT) method

c) Cervical mucous method

Standard Days method

- If your cycle is between 26 days and 32 days long, the Standard Days method considers days 8–19 to be the most fertile days. To prevent pregnancy, you should avoid having intercourse or use a barrier method of birth control on these days.



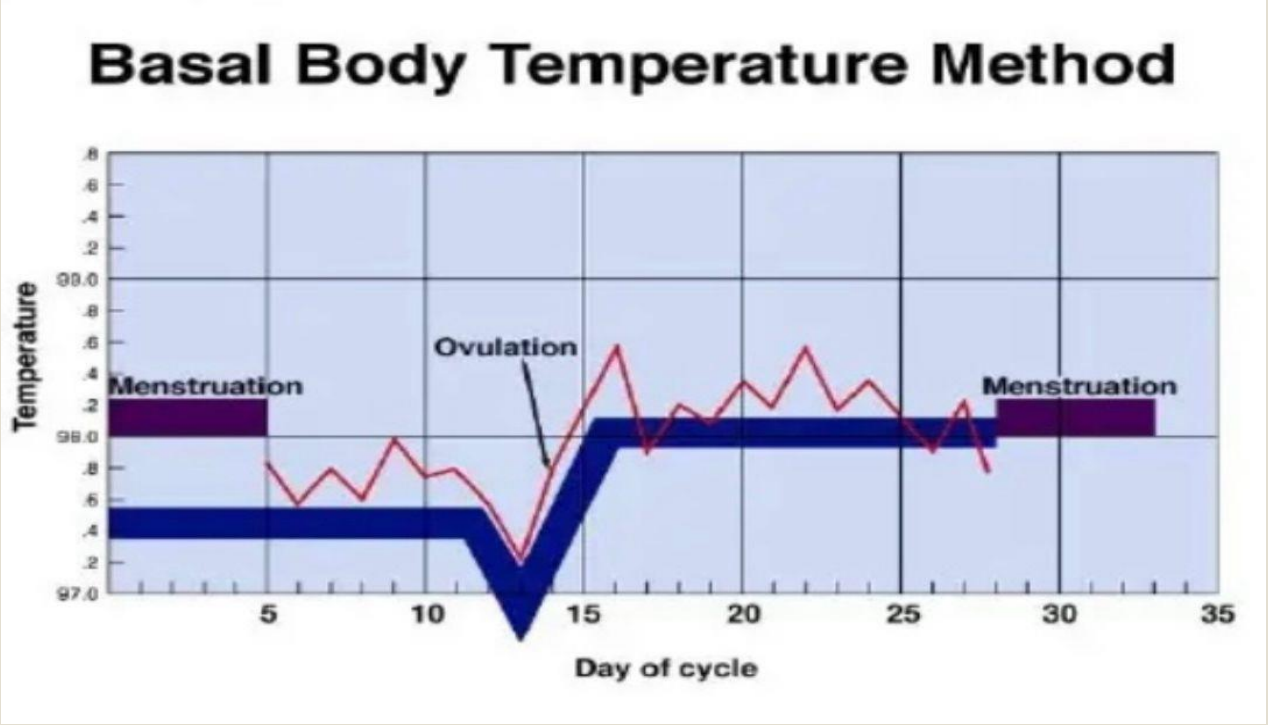
Cervical mucous method

- The cervical mucus method involves recognizing changes in the mucus produced by the cervix and in how the mucus looks and feels. Just before ovulation, the amount of mucus made by the cervix noticeably increases, and the mucus becomes thin and slippery. Just after ovulation, the amount of mucus decreases, and it becomes thicker and less noticeable. To prevent pregnancy, you should avoid sexual intercourse or use a barrier method of birth control from the time you first notice any cervical mucus.

Basal body temperature (BBT) method

- Unreliable technique to determine accurate ovulation timing.

- The body's normal temperature increases slightly during ovulation (0.5–1°F) and remains high until the end of the menstrual cycle. The most fertile days are the 2–3 days before this increase in temperature. To monitor your BBT, take your temperature every morning after waking up, before any activity, getting out of bed, or having anything to eat or drink. Record these temperatures daily.



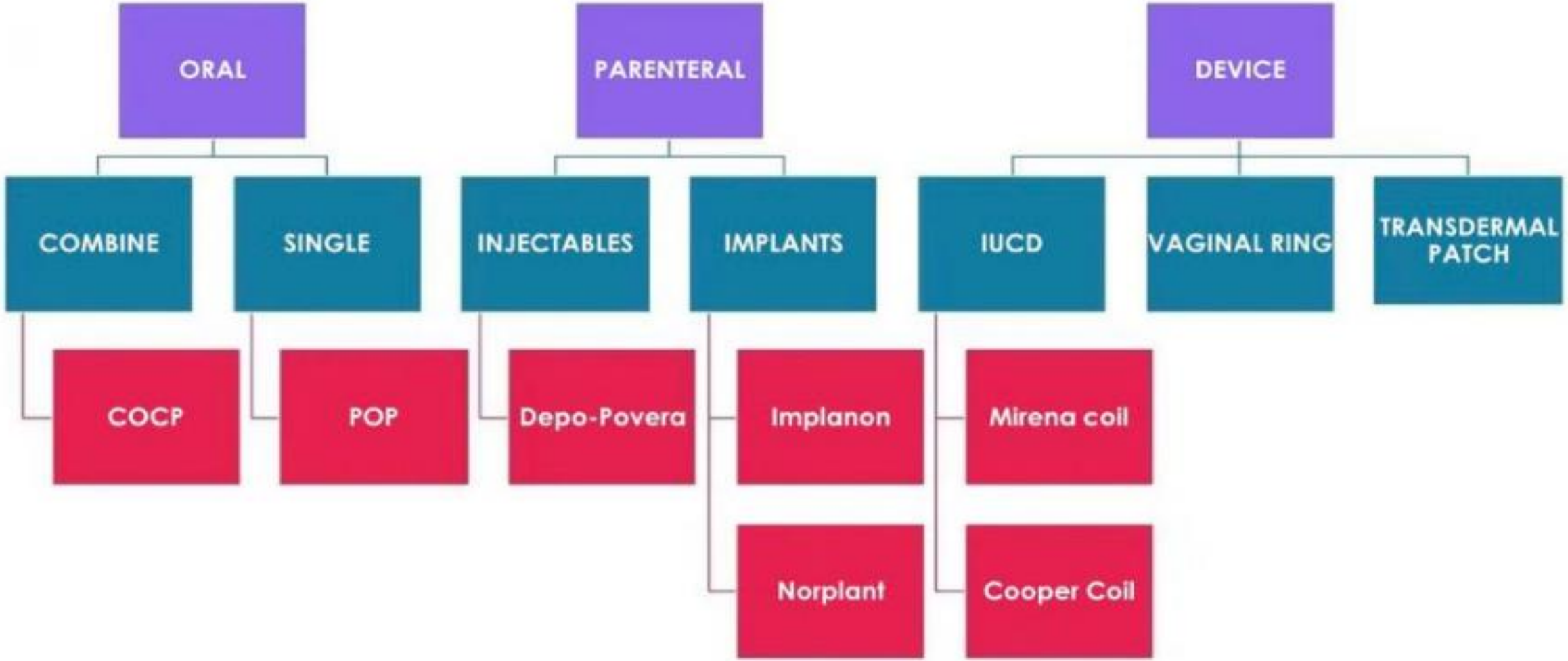
BREAST FEEDING LACTATION AMENORRHEA (LAM)

- Prolonged and sustained breastfeeding offers a natural protection of pregnancy.
- More effective in women who are amenorrhea than those who are menstruating.
- Risk of pregnancy who fully breastfeed an amenorrhea < 2% in the first 6 months.

- # HORMONAL

Hormonal compound taken in order to block ovulation and prevent occurrence of pregnancy.

HORMONAL CONTRACEPTION



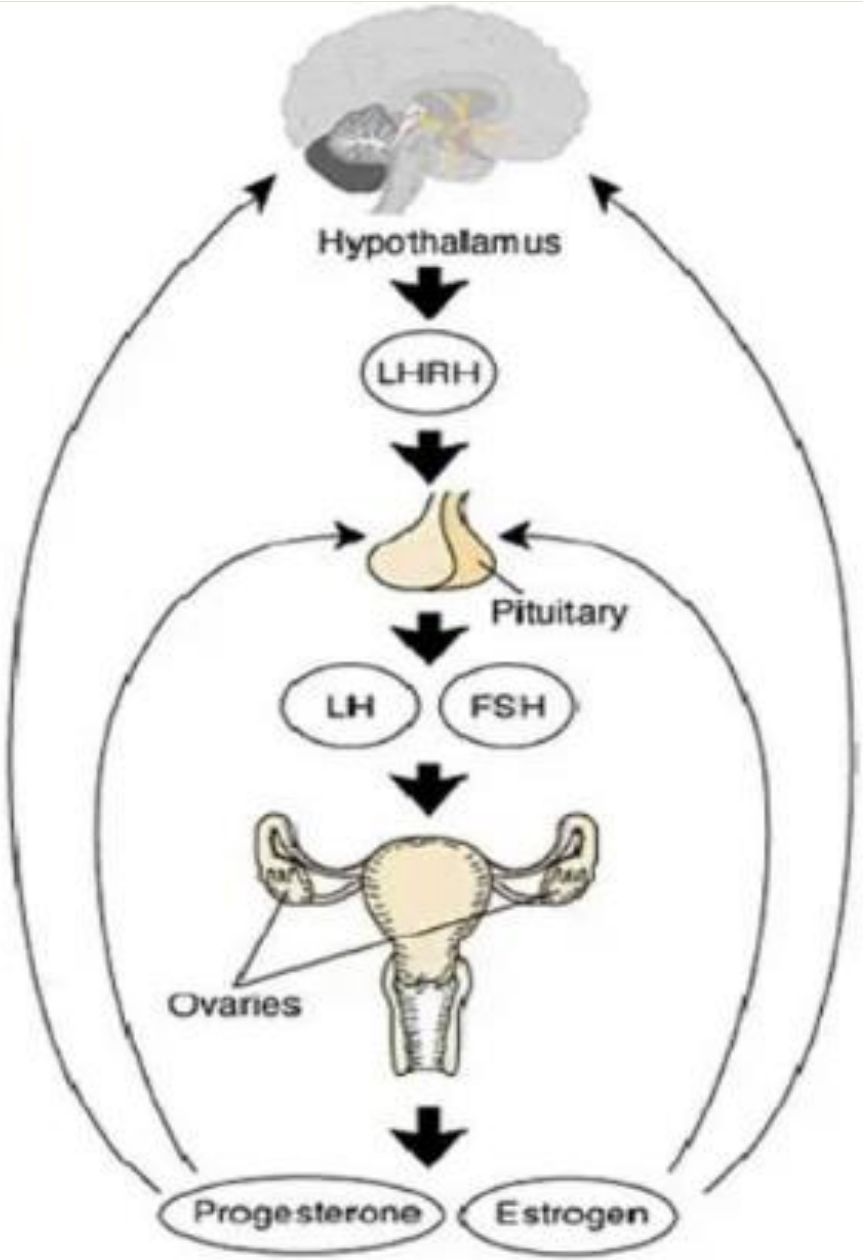
ORAL CONTRACEPTIVE PILL :

Oestrogen

- Ethinyl oestradiol (common)
- Mestranol (rare)

Progestogen

- Desogestrel
- Norethisterone
- Ethynodiol
- Norgestimate
- Gestodene
- Levonorgestrel



MODE OF ACTION

Prevent Ovulation

Prevents pituitary secretion of FSH and LH

Suppression of hypothalamic gonadotropin-releasing factors

↓ cervical mucus penetrability

Inhibit implantation

Inhibit ovum transport in tube

Failure rate: 1%

Progestin prevents ovulation

- Suppress luteinizing hormone
- Thickening of cervical mucus which becomes less permeable to penetration by sperm
- Endometrium unfavorable to implantation (endometrium non receptive to the embryo)
- Impairment of normal tubal motility and peristalsis

Estrogen prevents ovulation

- Suppress follicle-stimulating hormone

- Oral contraceptives consist of a combination of an estrogen and a progestational agent: Eithylestradiol (20mcg - 35mcg) and a progestogen (Levonorgestrel/ norethisterone/ desogestrel).
- taken daily for 3 weeks and then omitted for 1 week, during which time there is withdrawal uterine bleeding.
- Low dose pills now more commonly used :
  - Mercilon, Loette, Yasmin, Diane.

Some common medical conditions that represent an "unacceptable health risk" for COC initiation include :

- Age ≥35 years and smoking ≥15 cigarettes per day
- Multiple risk factors for arterial cardiovascular disease (such as older age, smoking, diabetes, and hypertension)
- Hypertension (systolic ≥160 mmHg or diastolic ≥100 mmHg)
- Venous thromboembolism (VTE; unless on anticoagulation) (see "Contraception: Counseling for women with inherited thrombophilias", section on 'Personal history of venous thrombosis')
- Known ischemic heart disease
- History of stroke
- Complicated valvular heart disease (pulmonary hypertension, risk for atrial fibrillation, history of subacute bacterial endocarditis)
- Current breast cancer
- Severe (decompensated) cirrhosis
- Hepatocellular adenoma or malignant hepatoma
- Migraine with aura
- Diabetes mellitus of >20 years duration or with nephropathy, retinopathy, or neuropathy

Efficacy

When taken properly, COCs are a highly effective form of contraception. Although the perfect-use failure rate is 0.3 percent, the typical-use failure rate approximates 7 percent (ethinyl estradiol formulas), due primarily to missed pills, drug-drug interactions, or failure to resume therapy after the pill-free interval

Advantages

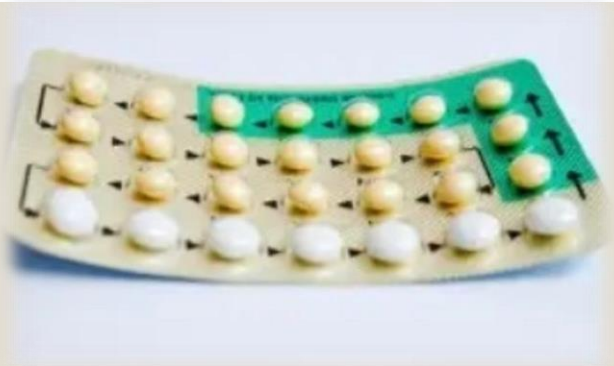
In addition to high contraceptive efficacy, COCs have many advantages including rapid reversibility, regulation of menstrual bleeding, decreased menstrual blood loss, and dysmenorrhea, as well as population-level reductions in the risk of ovarian and endometrial cancers.

Noncontraceptive uses

COCs are also used widely to treat a variety of gynecologic disorders including:

- Menstrual cycle disorders
- Pelvic pain disorders (endometriosis, dysmenorrhea)
- Hyperandrogenism
- hormone replacement in women with primary hypogonadism or premature ovarian insufficiency.
- Cancer risk reduction – Women at increased risk of endometrial and ovarian cancer can benefit from COC use to reduce their cancer risk as well as to provide a highly effective contraceptive. There is a similar reduction in risk for women with BRCA1 or BRCA2 ovarian cancers.

More info :



ADVANTAGES	DISADVANTAGES	SIDE EFFECT	CONTRAINDICATION
• Reversible. • Intercourse unaffected. • Reduce incidence of ovarian and endometrial cancer. • Controlled timing menses.	• Effective only if taken consistently. • Effectiveness is reduced by; ❖ phenytoin ❖ antibiotic like ampicillin • Vomiting and diarrhea – impair absorption.	• Nausea/ Vomitting. • Mastalgia. • Thromboembolism. • Strokes. • Weight gain. • Headache. • Hypertension.	• History of cardiovascular disease. • Hypertension. • Obesity. • Migraine. • Chronic hepatitis. • Breast cancer.

PROGESTIN ONLY PILL (MINI-PILL):

Small dose of progestogen daily without break.

- Levonorgestrel 75 ug
- Norethsterone 350 ug
- Desogestrel 75 ug
- Failure rate 2-3 %

- Contraceptive effect by; Progestin-only pills prevent conception in several independent ways. They prevent ovulation in about half of cycles, smooth the midcycle LH and FSH peaks, slow the movement of the ovum through the fallopian tubes, thicken the cervical mucus to prevent sperm penetration, and alter the endometrium.

- The first pill has to be taken on the first day of the cycle then continuously and regularly and at the same time of the day -> to be maximally effective

- No breaks between packs.

ADVANTAGES :

- Absence of major metabolic disturbance.
- Excellent choice for lactating women.
- Easy to take.
- Reduced the risk of PID and endometrial cancer.

DISADVANTAGES :

- Acne.
- Mastalgia.
- Headache.
- Disturbance of menstrual cycle.
- Functional ovarian cysts develop.
- Must be taken at the same or nearly the same time daily.

INDICATION :

- Older women.
- Lactation.
- Smokers over 35.
- Intolerance or contraindication s to estrogen.
- Hypertension.

CONTRAINDICATION :

- Pregnancy.
- Unexplained uterine bleeding.
- Recent breast cancer.
- Arterial disease.
- Thromboembolic disease.

INJECTABLE PREGESTIN INTRAMUSCULARLY

DEPO-POVERA

- Depo medroxyprogesterone acetate (every 3 months)
- Absorbed more slowly

NORGEST

- Norethisterone oenanthate (2 monthly)

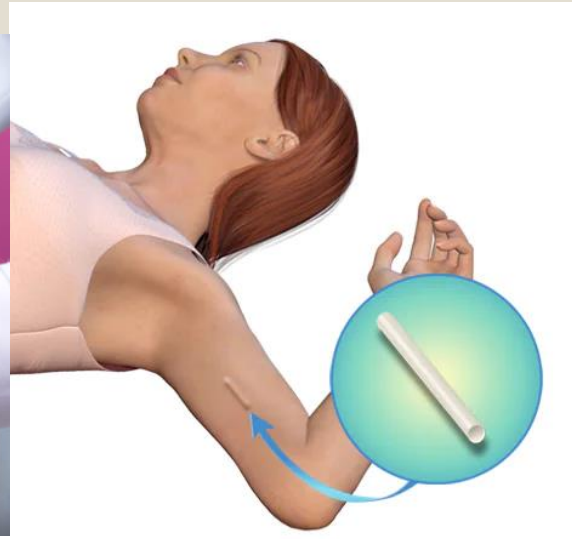
Dose:

- **150mg IM, every 12 weeks.**
- **reach active levels within 24 hrs.**
- **levels decrease by 4 - 5 months.**
- **undetectable by 7 - 9 months.**

INDICATION	CONTRAINDICATION	ADVANTAGES	DISADVANTAGES
•Good option for women who find it difficult to remember to take pill. • Useful if oestrogen is contraindicate. •Lactation.	•High risk for osteoporosis. •Same as POP.	•Safe during lactation. •No estrogen related side effect. • Menstrual symptoms reduced. •Protective against endometrial cancer	•Irregular bleeding. •Delay in return of fertility of 6 months. •Injections. •Depression Weight Gain. •Low failure rate (<1%). •Reduce risk of ovarian and endometrial cancer. •Long term use (>2 years) can lead to decreased bone density.

IMPLANON

- Progestin only delivery system containing: Etonorgestrel 68mg.
- Single closed capsule - Sub dermal implant-40mm × 2mm road, inserted on day 1-5 of the menstrual cycle.
- into the non-dominant arm in between the head of the biceps and triceps.
- It release hormone about 60 mcg, gradually reduced to 30 mcg/ day over 3 years.
- Efficacy 99%.
- Long-lasting (3 years).



ADVANTAGES

- Reversible
- Longevity of effectiveness
- No effect on lactation
- Not user dependent

DISADVANTAGES

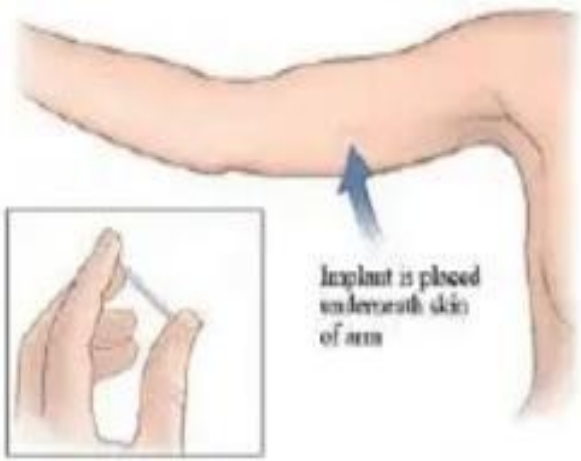
- Surgical
- Difficult to remove
- Not biodegradable

ADVERSE EFFECT

- Menstrual irregularity
- Headache
- Mood change
- Depression

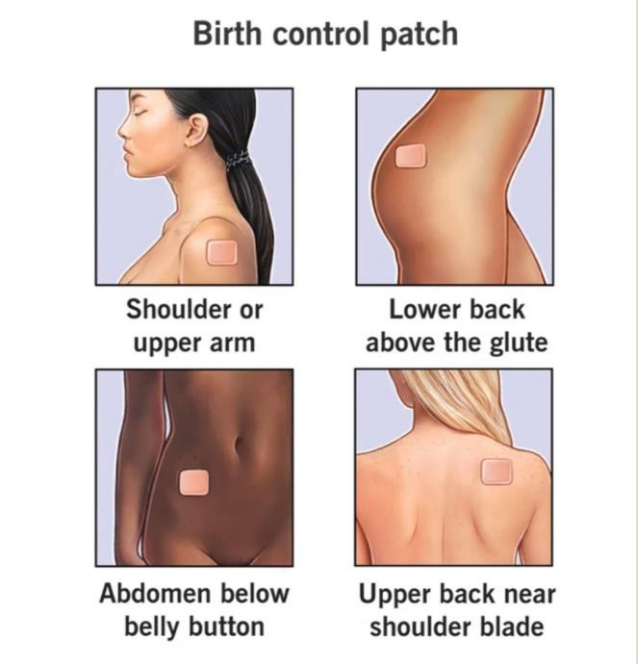
CONTRAINDICATION

- History of cardiovscular disease
- Hypertension
- Obesity
- Migraine
- Chronic hepatitis
- Breast cancer



PATCH (EVRA)

- **Delivers 150 g progestin norelgestromin + 20 g of ethinyl estradiol daily.**
- **Patch (Evra) is applied to :**
  - Buttocks.
  - Upper outer arm.
  - Lower abdomen.
  - Upper torso (avoiding the breasts).
- **A new patch is applied weekly for 3 weeks.**
- **→ followed by a patch-free week to allow for withdrawal bleeding.**
- **The patch was slightly more effective than a low-dose oral contraceptive in preventing pregnancy.**



ADVANTAGES

- Well tolerated
- Safe overall

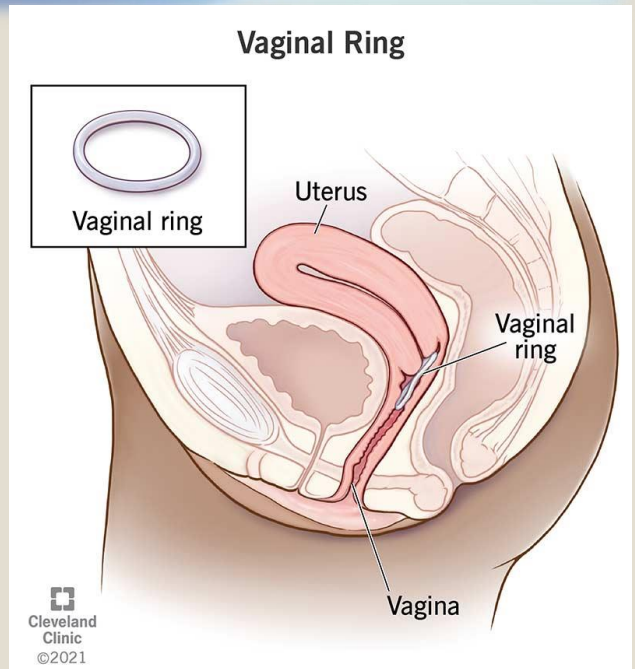
DISADVANTAGES

- Dysmenorrhea.
- Breast tenderness.
- Breakthrough bleeding in the first Two.
- 3% of women →

• - application site reaction severe enough to limit usage.

INTRAVAGINAL RING

- Flexible polymer ring.
- Contains ethinyl estradiol + etonogestrel.
- Released rates: 15 g and 120 g per day.
- Highly effective → failure rate was 0.65 per100 woman-years.
- The ring is placed within 5 days of the onset of menses and is removed after **3 weeks** of use for 1 week to allow withdrawal bleeding.



EMERGENCY CONTRACEPTIVE PILL

-Sometimes called the morning after pill, prevent pregnancy by preventing or delaying ovulation. For the best results, you should take it as soon as possible after sex.

-There are two key indications for emergency contraception:

Sexual intercourse without contraception, or

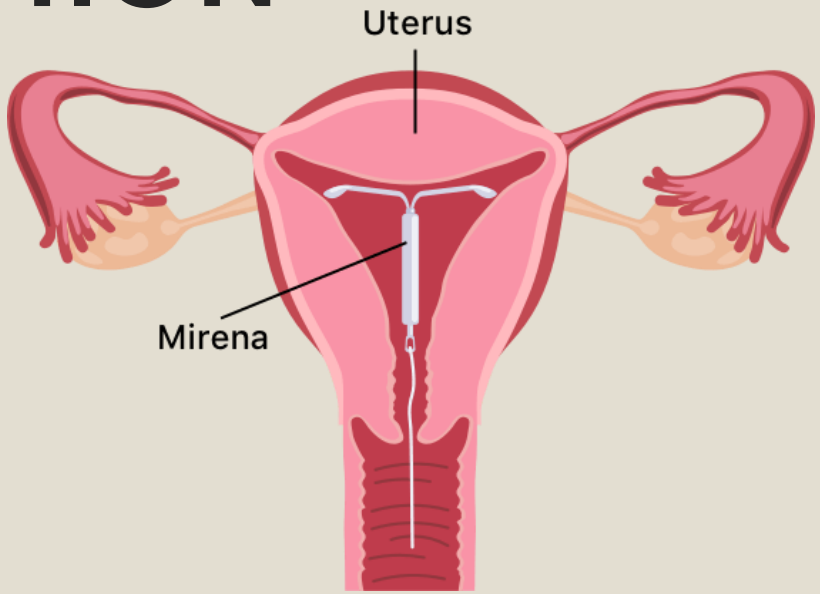
Contraceptive method has failed (e.g. a condom has torn).

-The 2 types of pill are:

1)pills with levonorgestrel (brands include Levonelle): you need to take this pill within 3 days (72 hours) after sex

2) pills with ulipristal acetate (brands include ellaOne): you need to take this pill within 5 days (120 hours) after sex

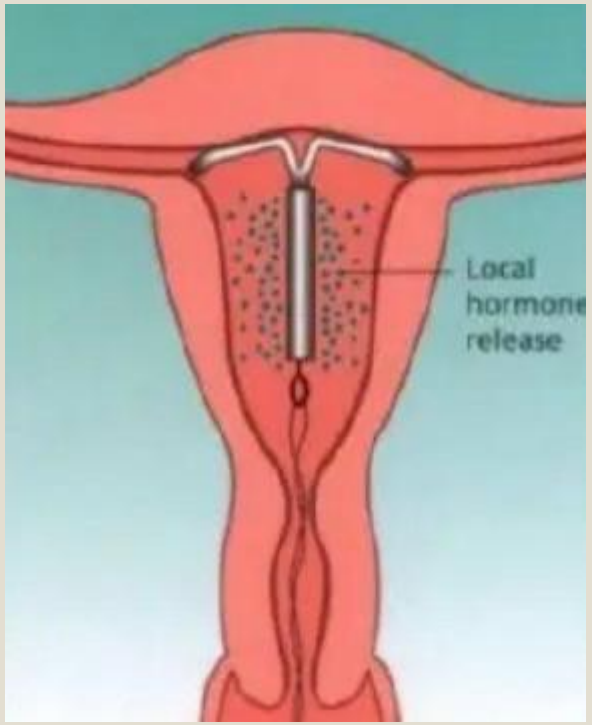
INTRAUTERINE CONTRACEPTION SYSTEM (MIRENA)



- Device contain progestogen- releasing rod, (reservoir releasing levenorgestrel 20 microgram 12 hourly). For up to 8 years.

- Levonorgestrel released directly into uterine cavity from a T-shaped plastic intra uterine device.

- Most effective contraceptive, failure rates<2/1000.



NON-CONTRACEPTIVE USES

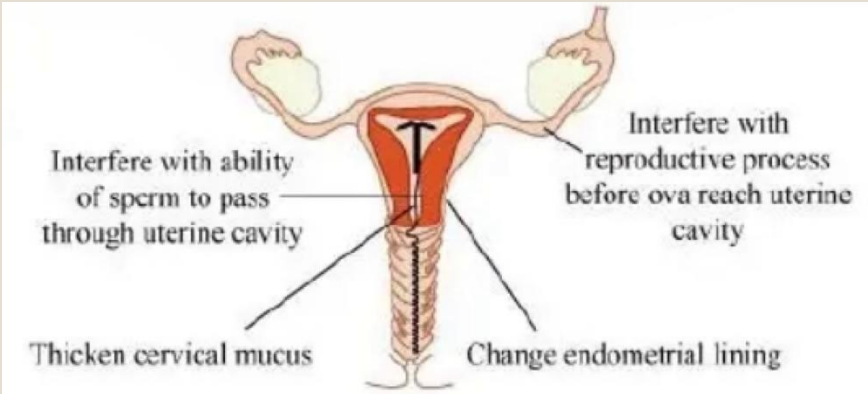
- Menorrhagia.
- To oppose ostrogen in HRT.
- To oppose effects of Tamoxifen on endometrium.

SIDE EFFECTS

- Minimal.
- Amenorrhoea (20%).
- Irregular bleeding (up to 6 months).
- PMS -like symptoms (rarely) If conception occurs - risk of ectopic pregnancy.

MODE OF ACTION

- Thickens cervical mucus
- Thins endometrium
- Local inflammatory reaction



COPPER IUCD:

- Copper effects are by causing a toxic effect to sperm and the egg. And preventing implantation.
- Licensed for use for up to 10 years.
- >99% effective.
- Has an increased risk of infection associated with the first 3 weeks of insertion Copper IUCD associated with increased menstrual loss.
- Occasionally can have problem of missing strings, lost IUCD that may require investigation or surgical exploration/ removal.

BENEFITS

- Does not require a person to take medication.
- Good for those with a contraindication to taking oestrogen.
- Useful for patients who are not compliant to taking medicines.

CONTRAINDICATION

- Pregnancy.
- Current STI or PID.
- Distortion of the shape of uterine cavity.
- Severe dysmenorrea.
- Valvular heart disease.
- Copper allergy.
- Heavy periods.

SIDE EFFECTS

- Pain.
- Menstrual loss.
- Expulsion <3%.
- Uterine perforation 1 in 1000.
- Salpingitis 1.5-7.5 per 1000.
- Endometritis.

TIME OF INSERTION :

1. **INTERVAL :**

•6 Weeks following childbirth or abortion.

• 2-3 days after the period is over.

• During lactational amenorrhea - can be anytime.

2. **POSTABORTAL:**

• Immediately following termination of pregnancy

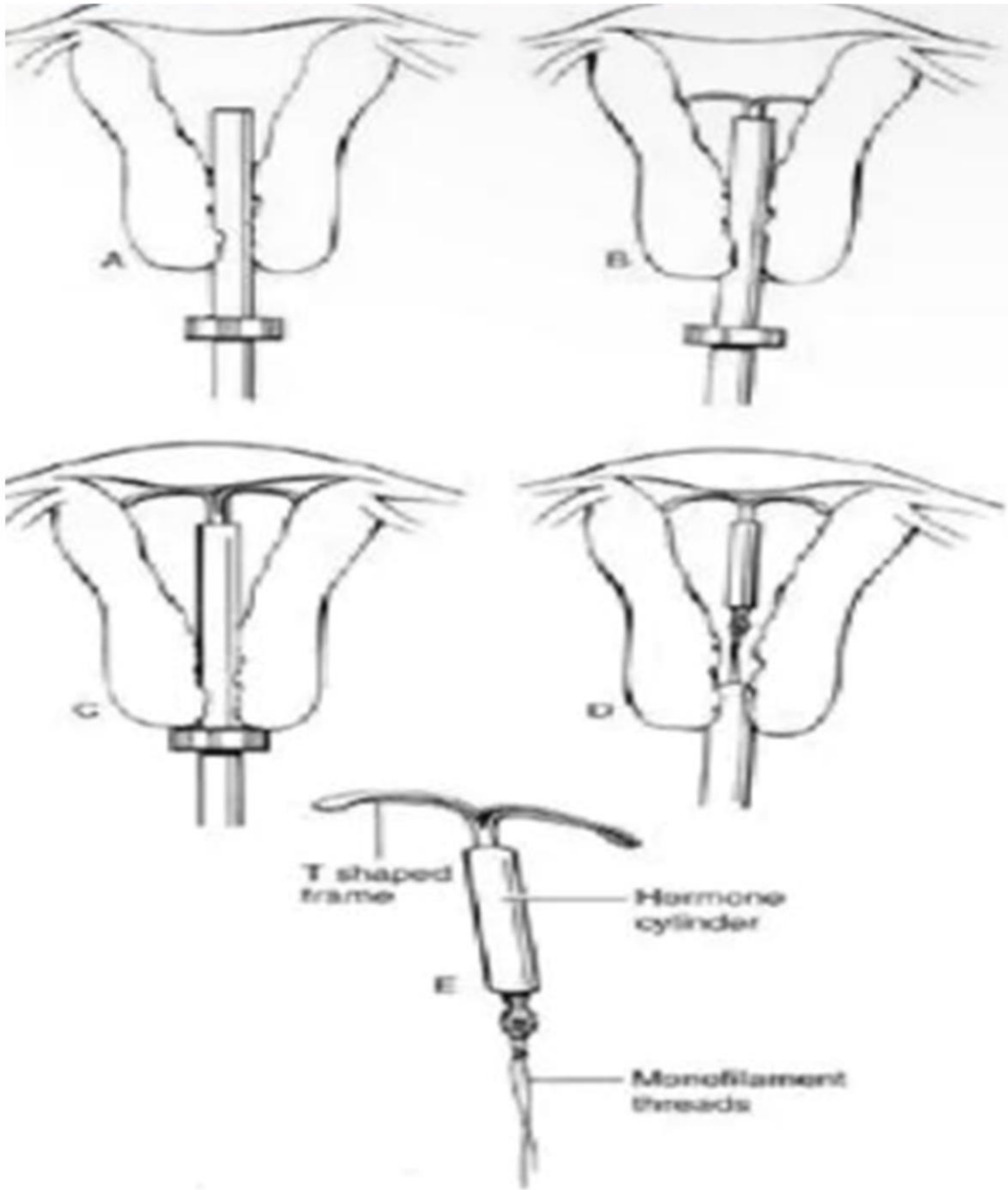
• Prevent uterine synechia

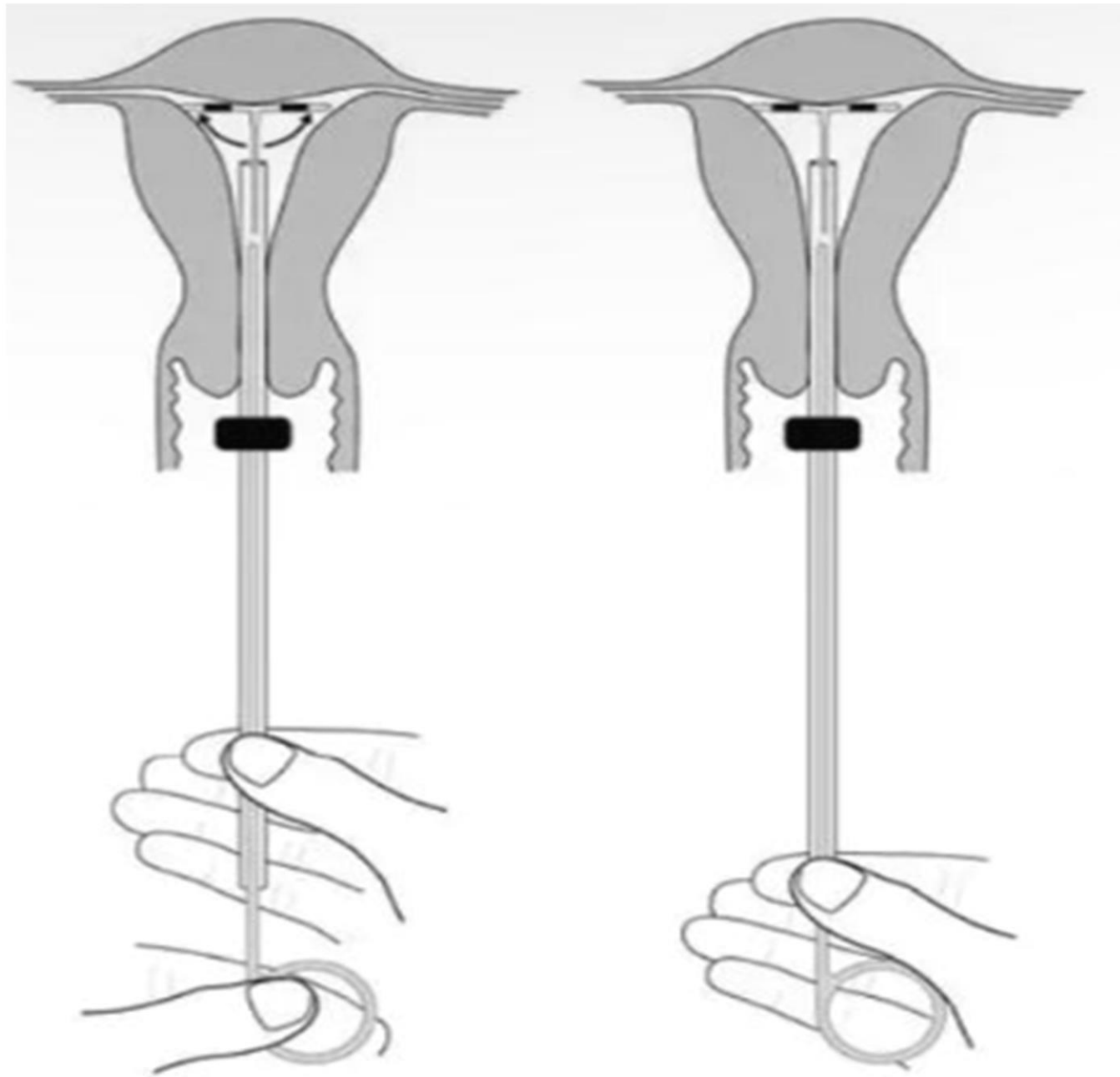
3. **POSTPARTUM:**

• 6 weeks following child birth when the uterus will be involuted to near normal size.

4. **POSTPLACENTAL DELIVERY:**

• Immediate insertion can be done.
• Rate of expulsion is high.


A
B
C
D
T shaped frame
Hormone cylinder
E
Monofilament threads



BARRIER METHODS

- Prevent pregnancy by blocking the egg and sperm from meeting.

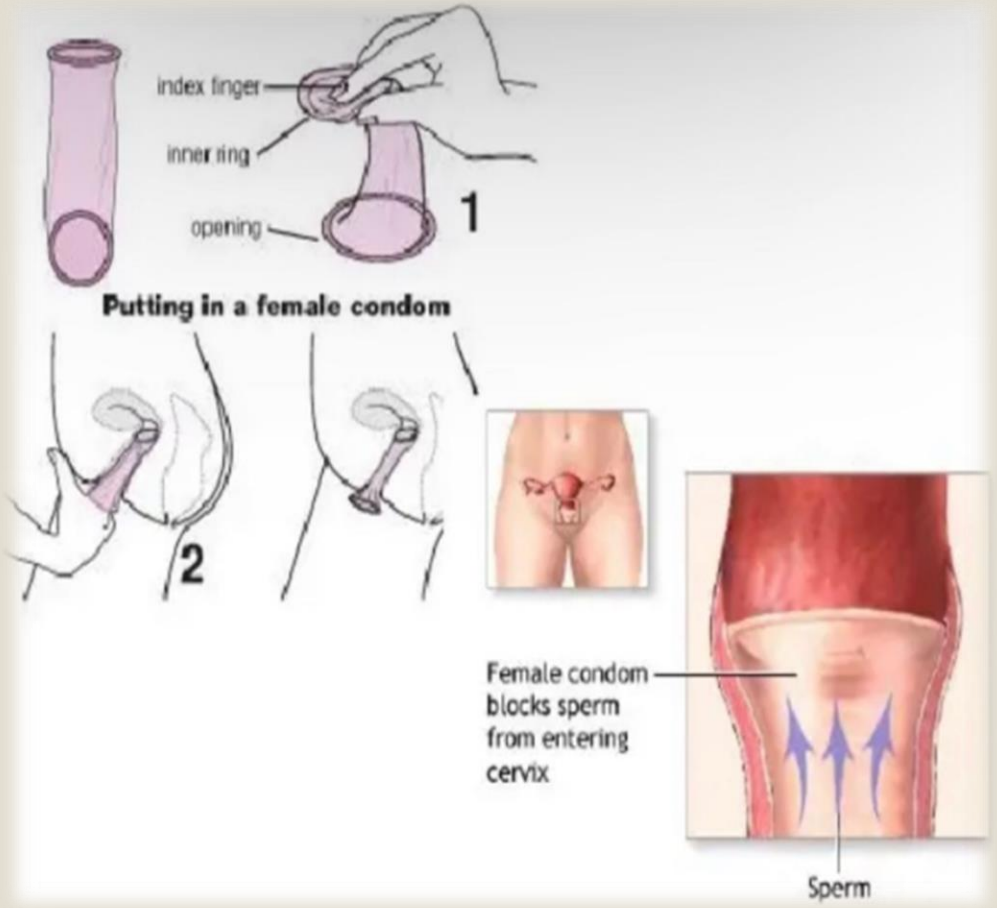
- Barrier methods have higher failure rates than hormonal methods due to design and human error.

MALE CONDOM

- Most common and effective → when used properly.
- Latex and Polyurethane.
- Benefit.
- v risk of venereal infection.
- Controlling the spread of HIV.
- Perfect effectiveness rate = 97%.
- Combining condoms with spermicides raises effectivenesslevels to 99%.

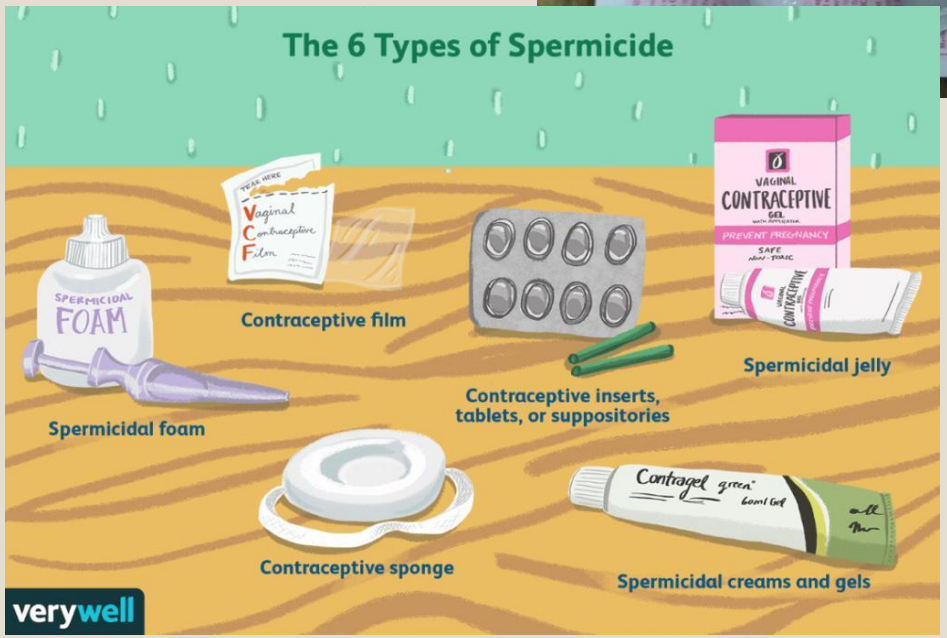
FEMALE CONDOM

- Made as an alternative to male condoms.
- Polyurethane.
- Physically inserted in the vagina.
- Perfect rate = 95%.
- Woman can use female condom if partner refuses.



SPERMICIDES

- **Chemicals kill sperm in the vagina.**
- **Different forms:**
- Jelly
- Film
- Foam
- Suppository
- **Some work instantly, others require pre-insertion.**
- **Only 76% effective (used alone), should be used in combination with another method i.e., condoms.**

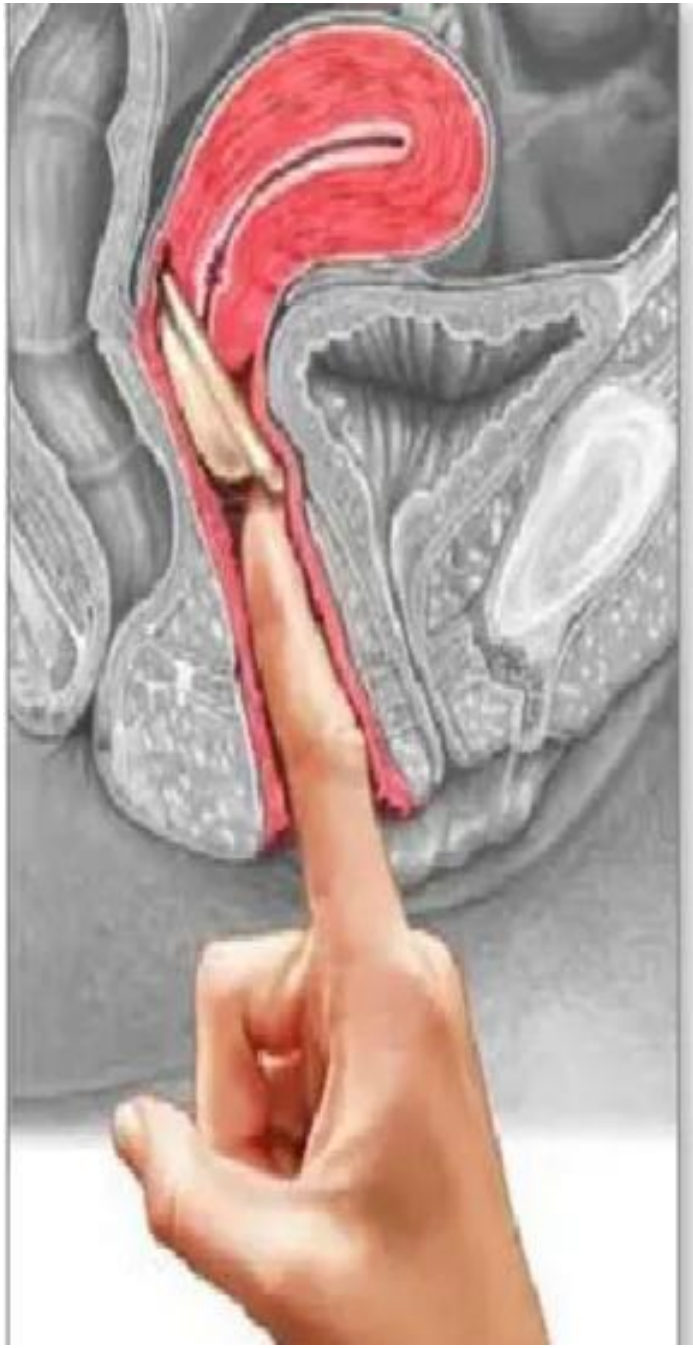


DIAPRAGHM

- Perfect Effectiveness Rate = 94%.
- Typical Effectiveness Rate = 80%.
- Latex barrier placed inside vagina during intercourse.
- Fitted by physician• Spermicidal jelly before insertion.
- Inserted up to 18 hours before intercourse and can be left in for a total of 24 hours.

CERVICAL CAP

- Perfect effectiveness rate = 91%.
- Typical effectiveness rate = 80%.
- Latex barrier inserted in vagina before intercourse "Caps" around cervix with suction.
- Fill with spermicidal jelly prior to use.
- Can be left in body for up to a total of 48 hours.
- Must be left in place six hours after sexual intercourse.



Barrier method:
The diaphragm fits over the cervical opening, preventing sperm from entering the uterus

Barrier method:
The cervical cap fits snugly over the cervix, preventing sperm from entering the uterus

SPONGE

- The sponge is inserted by the woman into the vagina and covers the cervix blocking sperm from entering the cervix.

- The sponge also contains a spermicide that kills sperm.

STERILIZATION

- *Medical techniques that intentionally leave a person unable to reproduce in the future.*

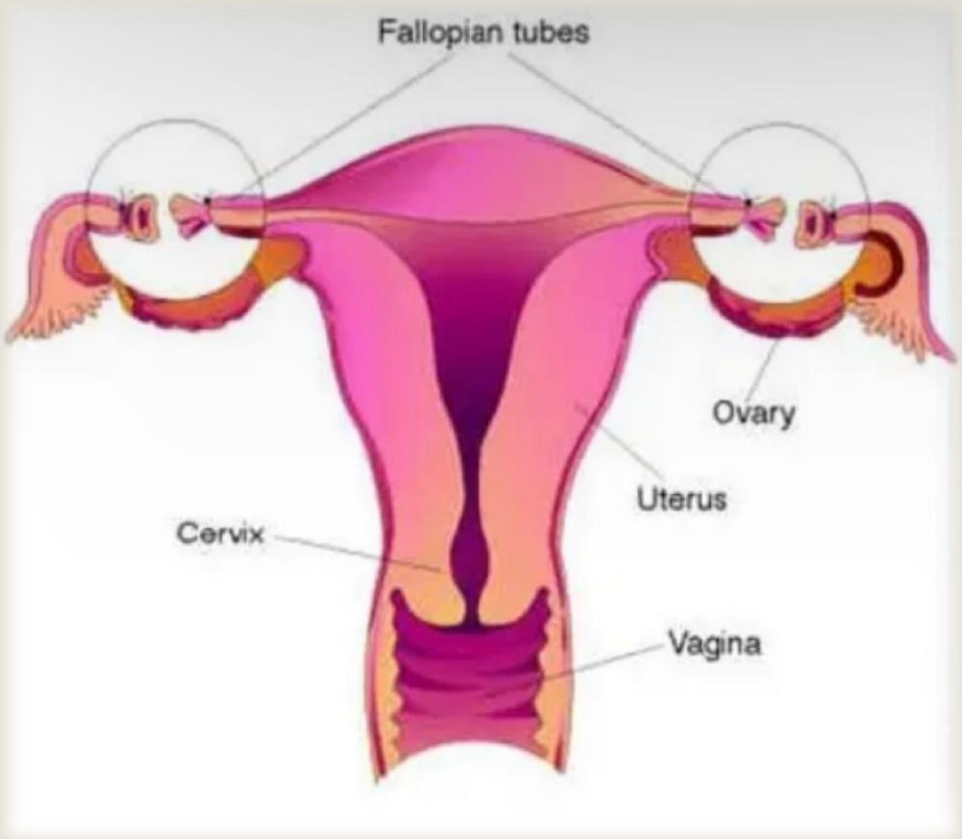
- *Generally permanent birth control techniques that surgically disrupt the normal passage of ova or sperm.*

STERILIZATION

- Have completed family.
- Have no other acceptable method.
- Female sterilization (laparoscopic / mini-lap or during CS).

  failure 1:200, not 100% reversible.

  10% risk of ectopic pregnancy.
- Male sterilization.
- failure 1:10 000, not 100% reversible.



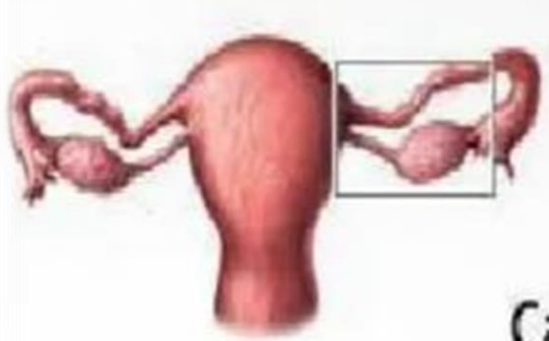
TUBAL LIGATION

- A small incision is made in the abdomen to access the fallopiantubes.
- Fallopian tubes are cut, tied, cauterized, blocked, burned, or clipped shut to prevent the egg from traveling through the tubes.
- Recovery usually takes 4-6 days.
- Failure rates vary by procedure, from 0.8%-3.7%.
- May experience heavier periods.

VASECIOMY

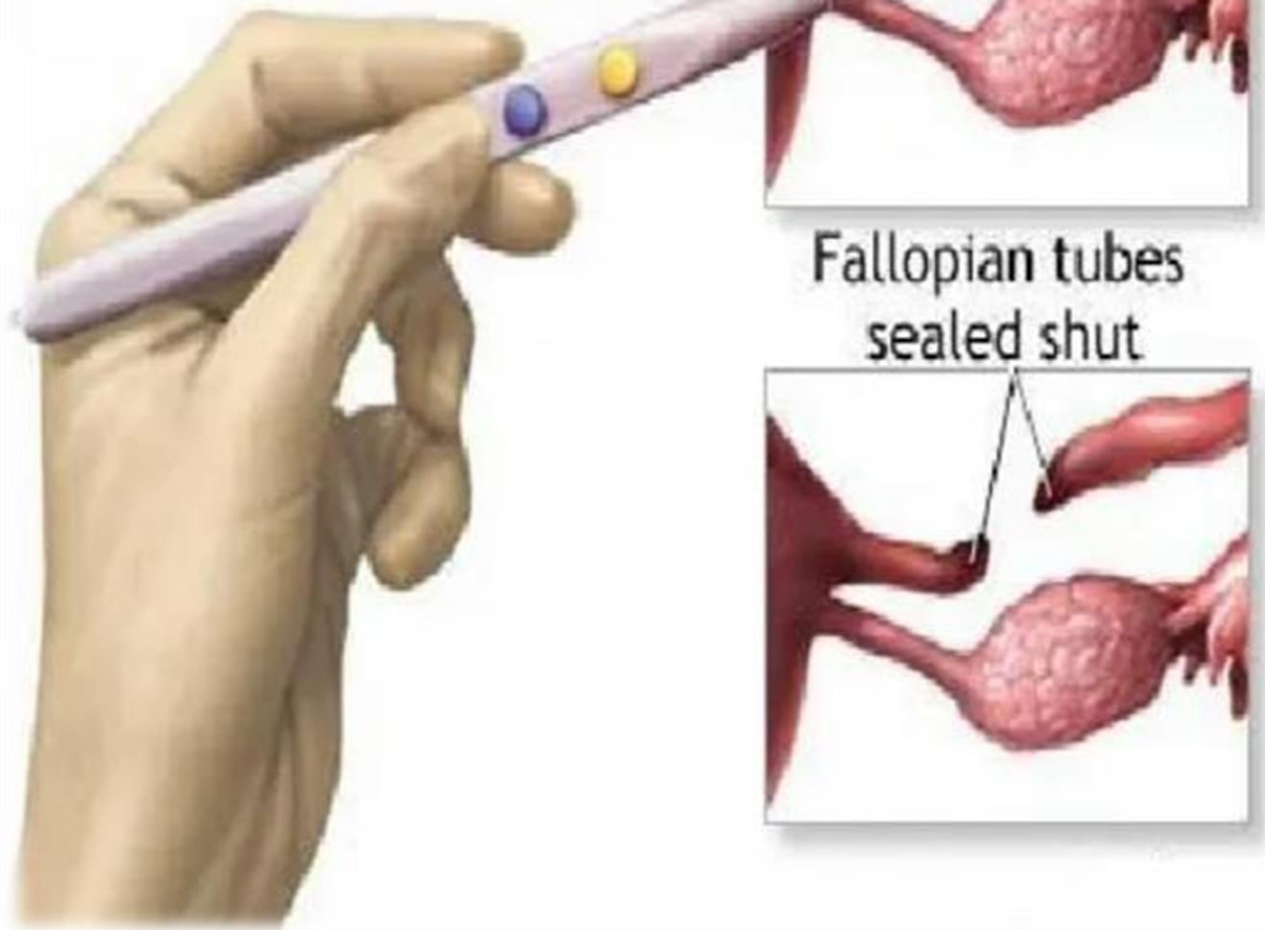
- A small incision is made to access the vas deferens, the tube the sperm travels from the testicle to the penis, and is sealed, tied, or cut.
- No-scalpel Vasectomy (NSV).
- Faster and easier recovery than a tubal ligation• Failure rate = 0.1%, more effective than female sterilization.
- After a vasectomy, a male will still ejaculate, but there won't be any sperm present.

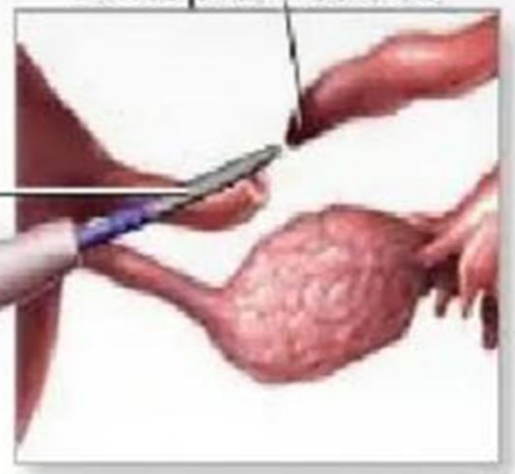
- *During a vasectomy ("cutting the vas") a urologist cuts and ligates (ties off) the ductus deferens.*
- *Sperm are still produced but cannot exit the body.*
- *Sperm eventually deteriorate and are phagocytized. A man is sterile, but because testosterone is still produced he retains his sex drive and secondary sex characteristics.*



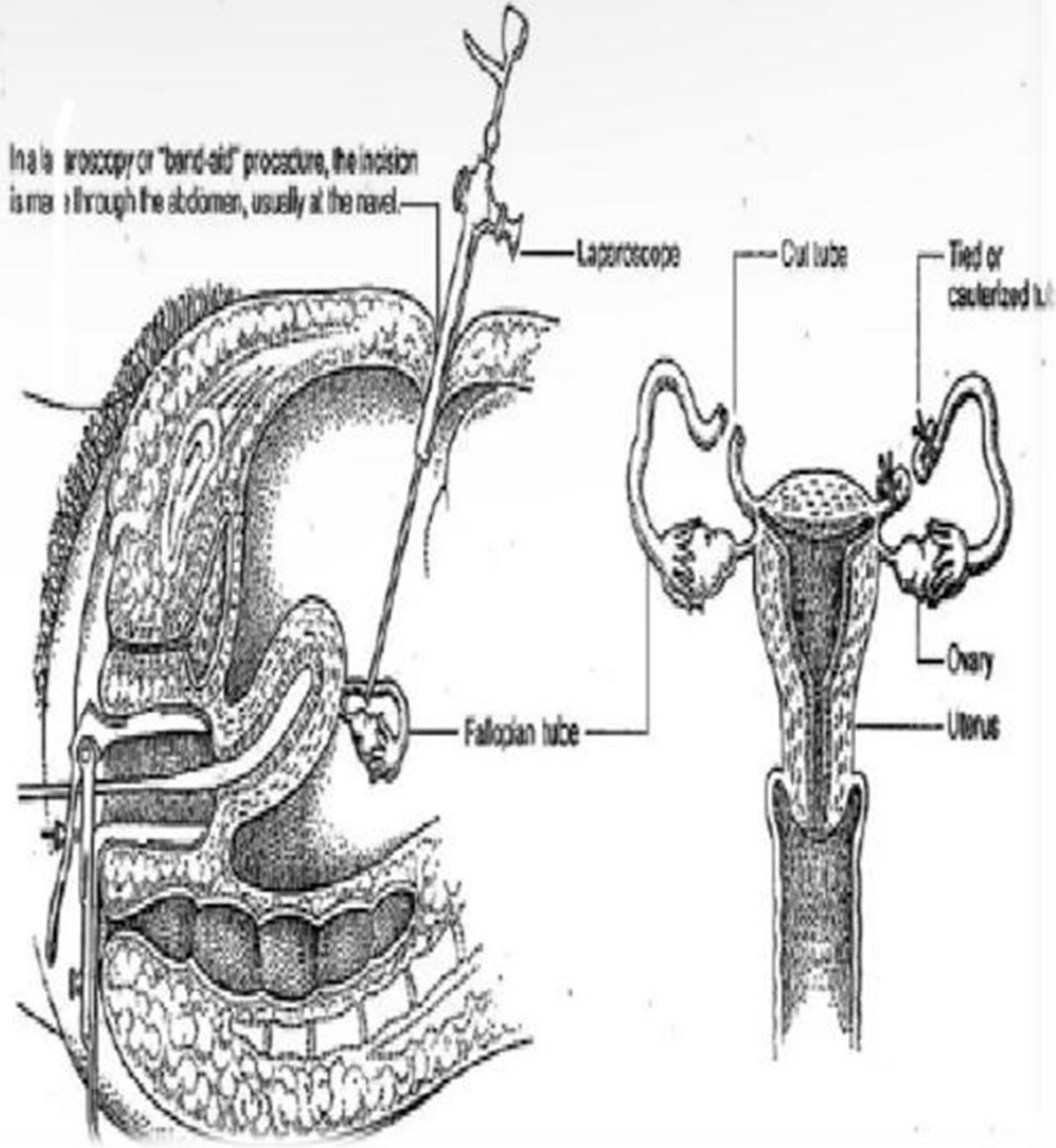
Cauterization of fallopian tubes

Cautery





Fallopian tubes sealed shut



CONCLUSION :

- **There are many forms of contraception available.**
- **Important to know the advantages and disadvantages of these options.**
- **Useful to see what is being advised for our post-natal patients and relate the types of contraception recommended with each individual patient.**

THANK YOU FOR YOUR ATTENTION !