

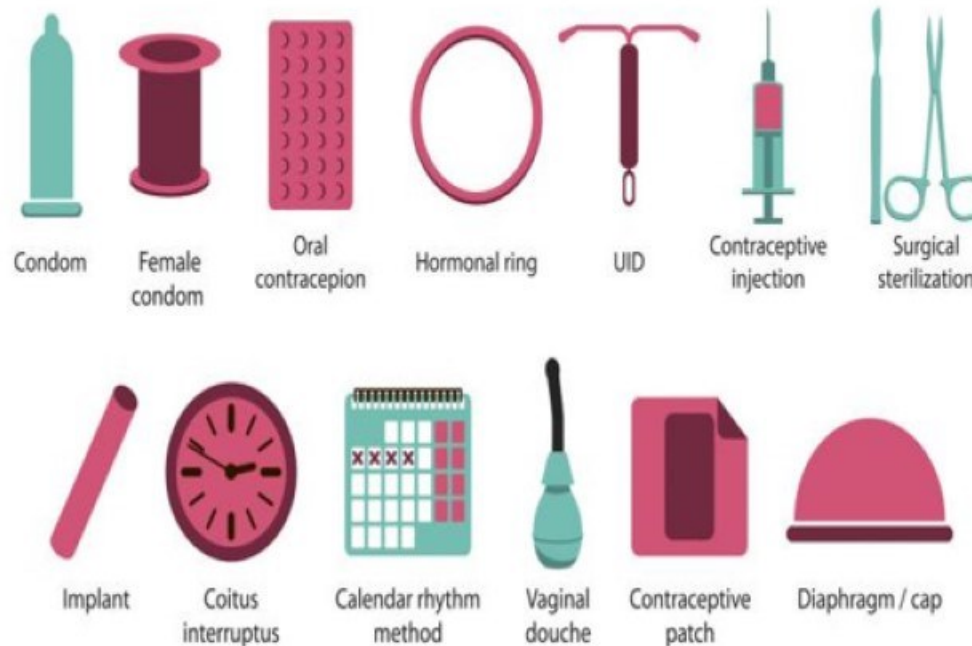


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Family Planning- Contraception

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Contraception methods



Contraception. Is the intentional prevention of pregnancy during sexual intercourse.

Birth control. Is the device or practice used to decrease the risk of conceiving or bearing offspring.

- Family planning is the conscious decision on when to conceive, or avoid pregnancy, throughout the reproductive years.
- Informed consent is a vital component in the education of the patient concerning contraception or sterilization.
- The ideal contraceptive should be safe, easily available, economical, acceptable, simple to use, and promptly reversible.
- ***Contraceptive failure rate*** refers to the percentage of contraceptive users expected to have an accidental pregnancy during the first year, even when they use a method consistently and correctly.

- Safety of a method depends on the woman's medical history.
- Barrier methods offer some protection from STIs, and oral contraceptives may reduce the incidence of breast, ovarian, and endometrial cancer but increase the risk of thromboembolic problems.

Using the acronym *BRAIDED* may be useful

B- Benefits: information about advantages and success rates.

R- Risks: information about disadvantages and failure rates.

A- Alternatives: information about other available methods.

I-Inquiries استفسار: opportunity to ask questions

D- Decisions: opportunity to decide or to change mind.

E-Explanations: information about method and how it is used.

D-Documentation: information given and patient's understanding.



Methods of Contraception

A. Reversible Methods

1. Behavioral

- Withdrawal (Coitus interruptus)
- Abstinence
- Fertility Awareness Methods
- Lactational amenorrhea method (LAM)

2. Barrier

- Condom (male and female)
- Diaphragm
- Cervical cap
- Sponge

3. Hormonal

- Oral contraceptives
- Injectable contraceptive
- Transdermal patches
- Vaginal ring
- Implantable contraceptives
- Intrauterine systems
- Emergency contraceptives

B. Permanent Methods

- Tubal ligation for women
- Vasectomy for men

A. Reversible Methods

1. Behavioral Methods

Behavioral methods refer to any natural contraceptive method that does not require hormones, pharmaceutical compounds, physical barriers, or surgery to prevent pregnancy. These methods require couples to take an active role in preventing pregnancy through their sexual behaviors.

Behavioral

1- Coitus interruptus (Withdrawal or pulling out).

- Involves the male partner withdrawing the entire penis from the woman's vagina and moving away from her external genitalia before he ejaculates.
- Adolescents and men with premature ejaculation may find this method difficult to use.

Advantages

- Immediately available.
- Costs nothing.
- Involves no hormonal alterations or chemicals.

The percentage of women who will experience an unintended pregnancy within the first year of typical use (failure rate) of withdrawal is about 27%.

- Some religions and culture prohibit this technique.
- Coitus interruptus does not protect against STIs or HIV.

2- Fertility awareness methods (FAMs)

- FAMs of contraception depend on identifying the beginning and end of the fertile period of the menstrual cycle.
- Women who want to use FAMs about the menstrual cycle, three phases should be identified:
 - a. Infertile phase: before ovulation
 - b. Fertile phase: approx. 5 to 7 days around the middle of the cycle, including several days before, during, and the day after ovulation.
 - c. Infertile phase: after ovulation
- FAMs consist of nearly a dozen categories. Each one uses a combination of charts, records, calculations, tools, observations, and either abstinence (natural family planning) or barrier methods.

Advantages

- Low to no cost
- Absence of chemicals and hormones
- Lack of alteration in the menstrual flow pattern.

Disadvantages

- Keeping strict records and attending time consuming training sessions to learn about the method may be difficult.
- Decreased spontaneity of coitus.
- External influences such as illness can alter a woman's core body temperature and vaginal secretions.
- FAMs have decreased effectiveness in women with irregular cycles.
- Failure rate for most FAMs is 25% during the first year of use.
- FAMs does not protect against STIs or HIV.

FAMs involve several techniques;

A. Natural Family Planning (NFP)

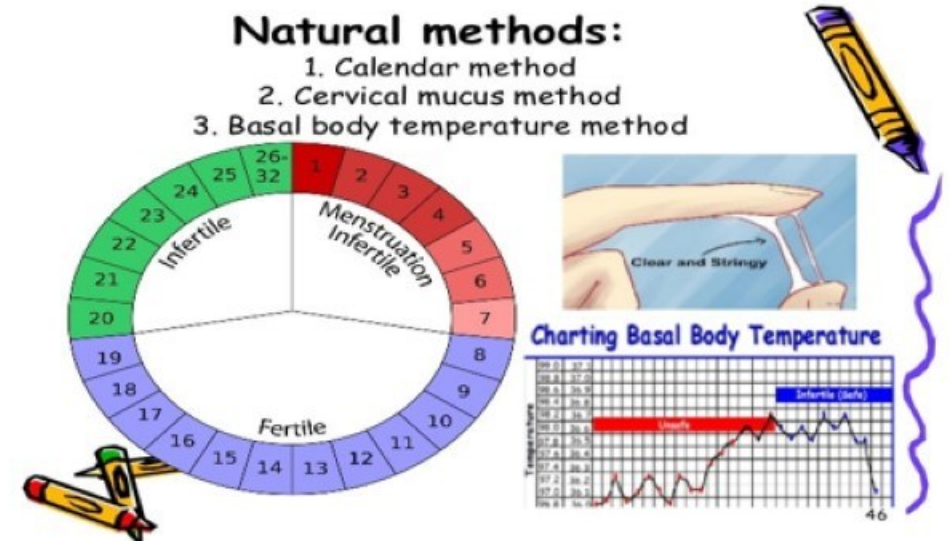
1. Periodic abstinence

- Provides contraception by using methods that rely on avoidance of intercourse during fertile periods.
- It is the only contraceptive practices acceptable to the Roman Catholic Church.

Disadvantages:

1. The exact time of ovulation cannot be predicted accurately, couples may find it difficult to exercise restraint for several days before and after ovulation.
2. Women with irregular menstrual periods.
 - The typical failure rate is 25% during the first year of use.

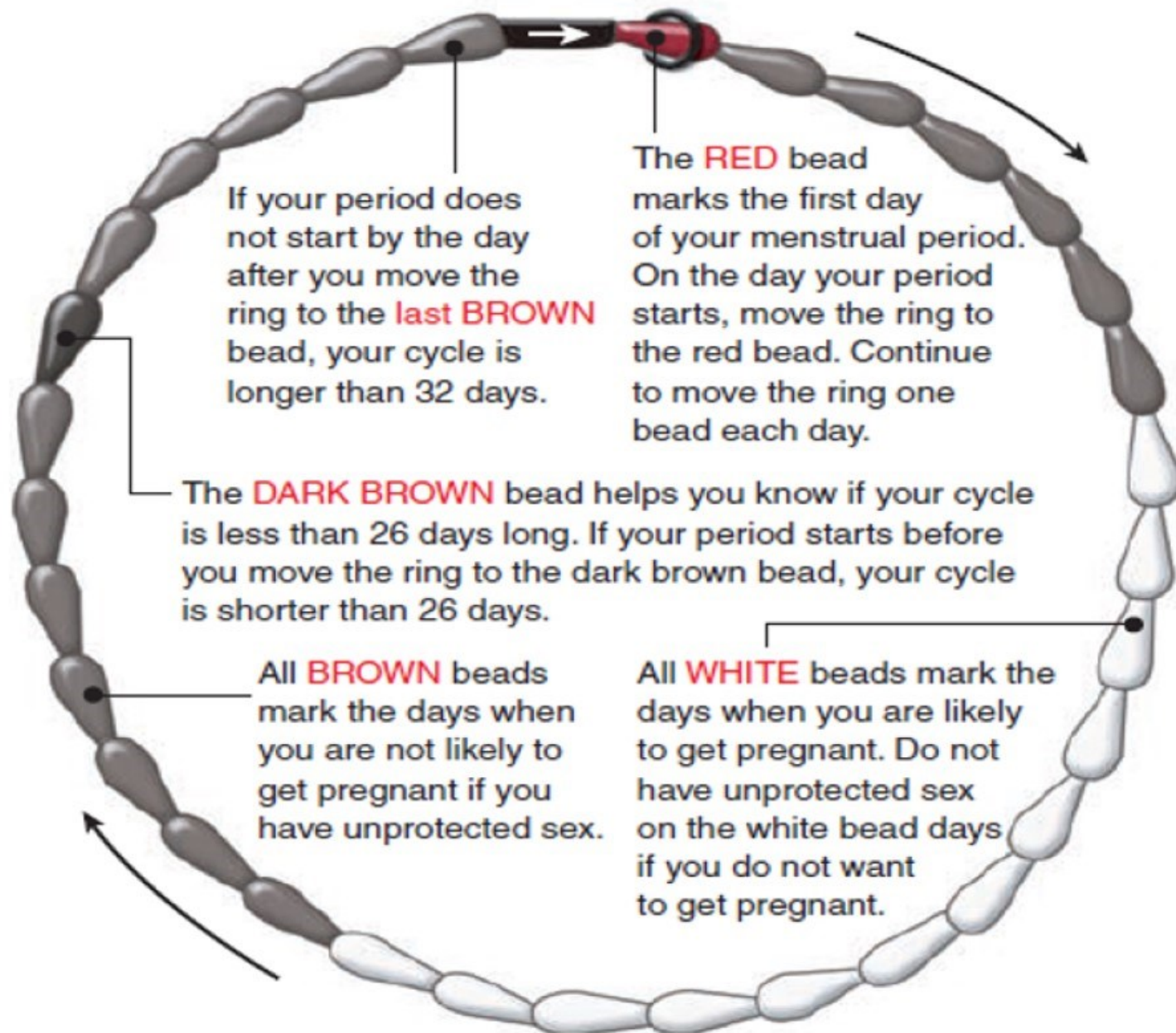
- The human ovum can be fertilized no later than 16 to 24 hours after ovulation.
- Motile sperm have been recovered from the uterus and the oviducts as long as 7 days after coitus. However, their ability to fertilize the ovum probably lasts no longer than 24 to 48 hours.
- Pregnancy is unlikely to occur if a couple abstains from intercourse for 4 days before and for 3 or 4 days after ovulation (fertile period).
- Unprotected intercourse on the other days of the cycle (safe period) should not result in pregnancy.



2. Standard Days Method - Cycle beads.

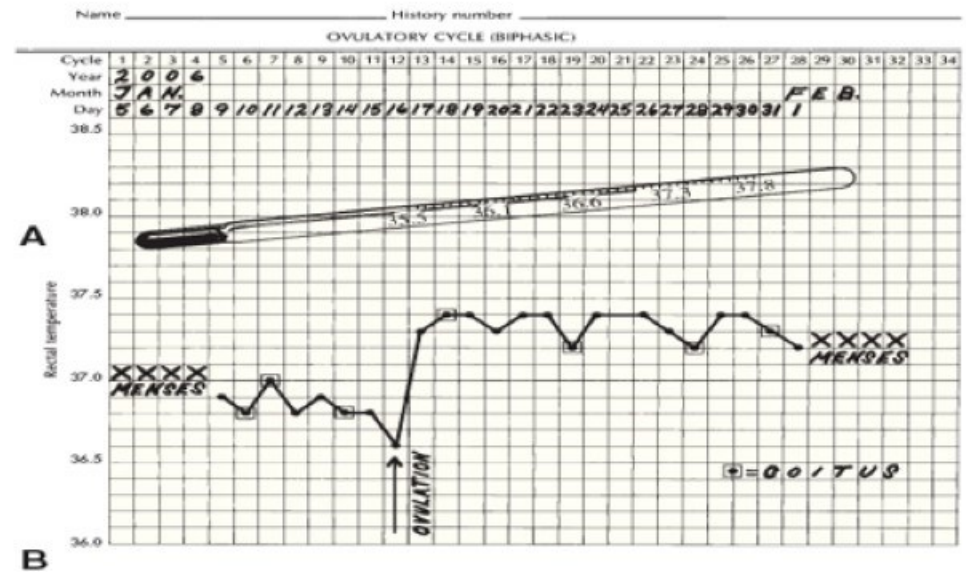
- Red bead marks the first day of the menstrual cycle.
- White beads mark days that are likely to be fertile days; therefore, unprotected intercourse should be avoided.
- Brown beads are days when pregnancy is unlikely and unprotected intercourse is permitted.
- The typical failure rate for the SDM is 12% during the first year of use.





3. Basal Body Temperature

- The woman takes her temperature orally before rising and records it on a chart.
- Preovulation temperatures are suppressed by estrogen, whereas postovulation temperatures are increased under the influence of heat-inducing progesterone.
- Temperatures typically rise within a day or two after ovulation and remain elevated for approximately 2 weeks



4. Cervical Mucus Ovulation-Detection Method.

- The mucus becomes more abundant غزير, clear, slippery, and smooth; it can be stretched between two fingers without breaking.
- Under the influence of estrogen, this mucus looks like egg whites. It is called spinnbarkeit mucus.
- After ovulation, the cervical mucus becomes thick and dry under the influence of progesterone.
- Near ovulation, the cervix feels soft and is high/deep in the vagina, the os is slightly open.

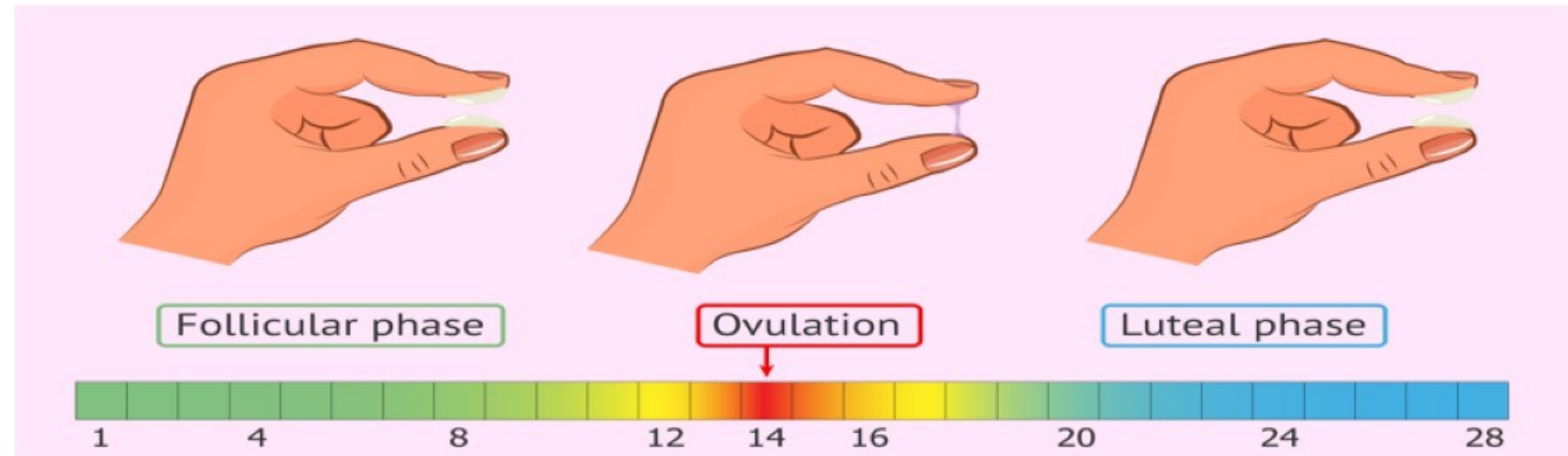




FIGURE 4.5 Spinnbarkeit is the ability of cervical mucus to stretch a distance before breaking.

5. Breast feeding: Lactational amenorrhea method

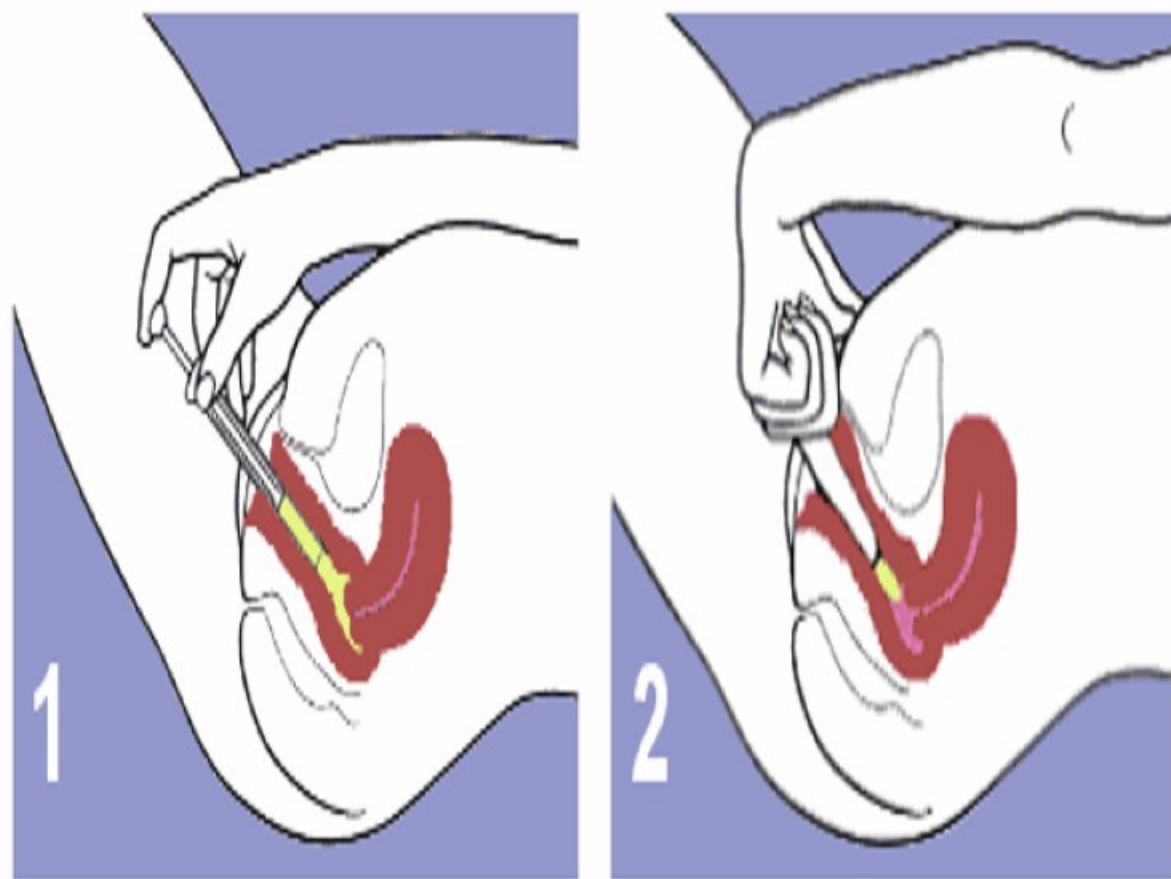
- When the infant suckles at the mother's breast, a surge of prolactin hormone is released, which inhibits estrogen production and suppresses ovulation and the return of menses.
- LAM works best if the mother is exclusively or almost exclusively breastfeeding. Frequent feedings at intervals of less than 4 hours during the day and no more than 6 hours.

Barrier methods

- **Spermicides**

- Works by reducing the sperm's mobility, the chemicals attack the sperm flagella and body, thereby preventing the sperm from reaching the cervical os.
- Some spermicides should be inserted at least 15 minutes before, but no longer than 1 hour before, sexual intercourse.
- Spermicides needs to be reapplied for each additional act of intercourse.
- Nonoxynol-9 (N-9), the most commonly used spermicidal chemical in the United States, is a surfactant that destroys the sperm cell membrane.
- Failure rate for spermicide **use alone** is 29%.
- Spermicide should be inserted high into the vagina so that it makes contact with the cervix.

Foams, tablets, suppositories, creams, films, and gels



- **Condoms**

1. Male condom is a thin, stretchable sheath that covers the penis before contact and is removed after the penis is withdrawn from the partner's orifice after ejaculation.

Advantages

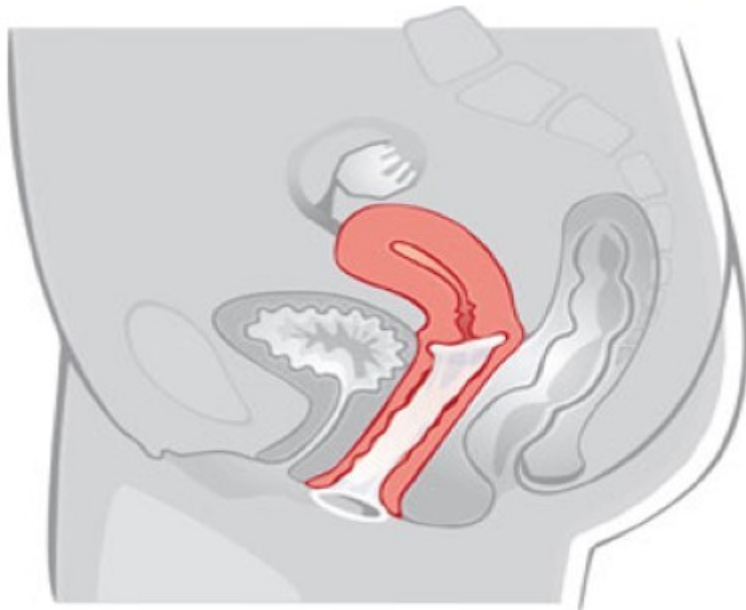
- Provide physical barrier for sperm.
- Condoms are made of latex rubber provide a barrier for STIs particularly gonorrhea, chlamydia, and trichomonas) and HIV.
- Condoms lubricated with N-9 are not recommended for prevention STIs, HIV.
- Typical failure rate in the first year of male condom use is 15%.

Condoms are made of latex rubber, polyurethane (strong, thin plastic), lamb cecum (natural skin condoms).



2. Female condom is a lubricated vaginal sheath made of polyurethane and has flexible rings at both ends. The closed end of the pouch is inserted into the vagina and is anchored around the cervix, and the open ring covers the labia.

- It is available in one size, intended for single use only.
- Individuals should not use male condoms with the female condom, because the friction from both sheaths can increase the chance for tear.
- Failure rate in the first year of female condom use is 21%.



- **Diaphragms**

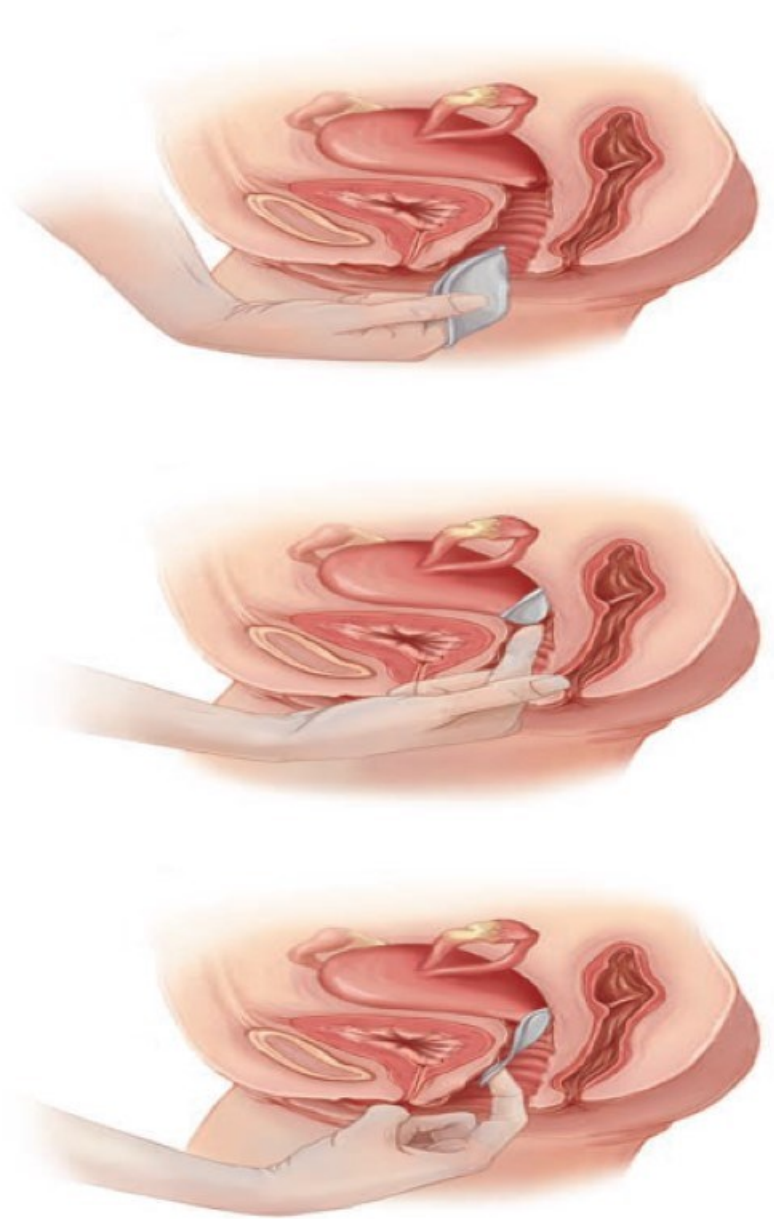
- Is a shallow, dome-shaped latex or silicone device with a flexible rim that covers the cervix.



**Diaphragm -
(used with gel or
cream)**



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



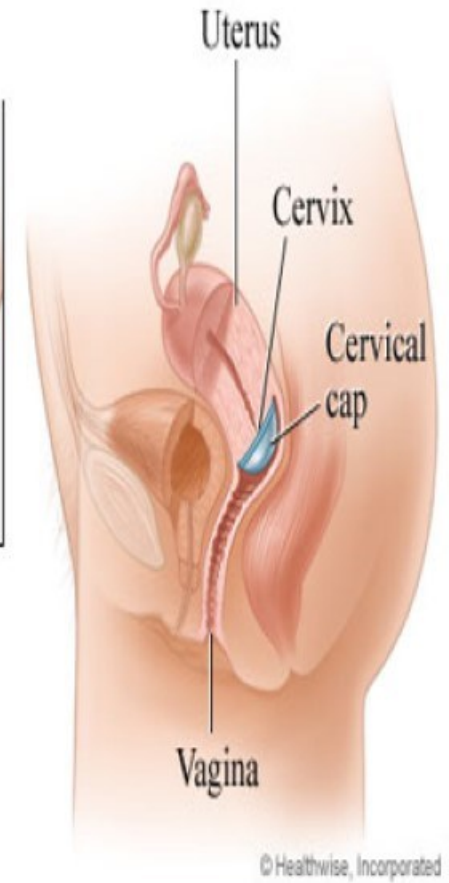
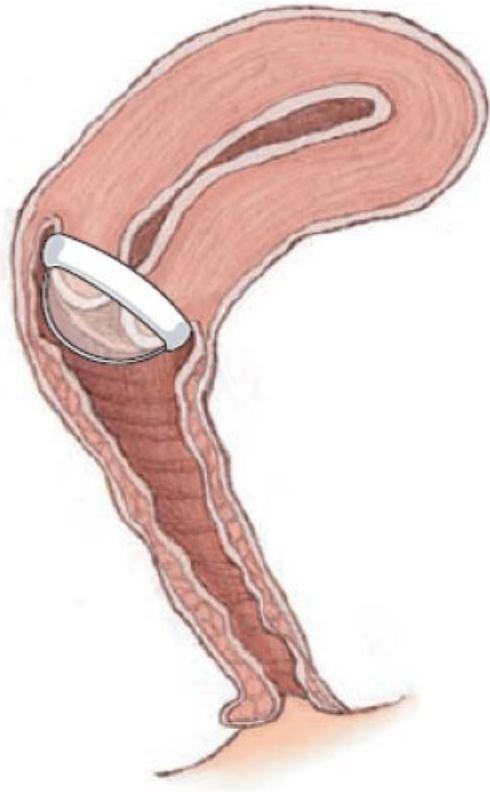
Diaphragms are available in a range of sizes and styles.

- Effectiveness of the diaphragm is less when used without spermicide.
- Available in many sizes, the diaphragm should be the largest size the woman can wear without her being aware of its presence.
- Failure rate of the diaphragm combined with spermicide is 16% in the first year of use.
- Not good option for women with poor vaginal muscle tone or recurrent urinary tract infections.
- Diaphragms are contraindicated for women with pelvic relaxation (uterine prolapse).
- Toxic shock syndrome (TSS), reported in very small numbers, can occur in association with the use of contraceptive diaphragm and cervical caps.
- To reduce risk for TTS removal of the diaphragm 6 to 8 hours after intercourse, not using during menses.

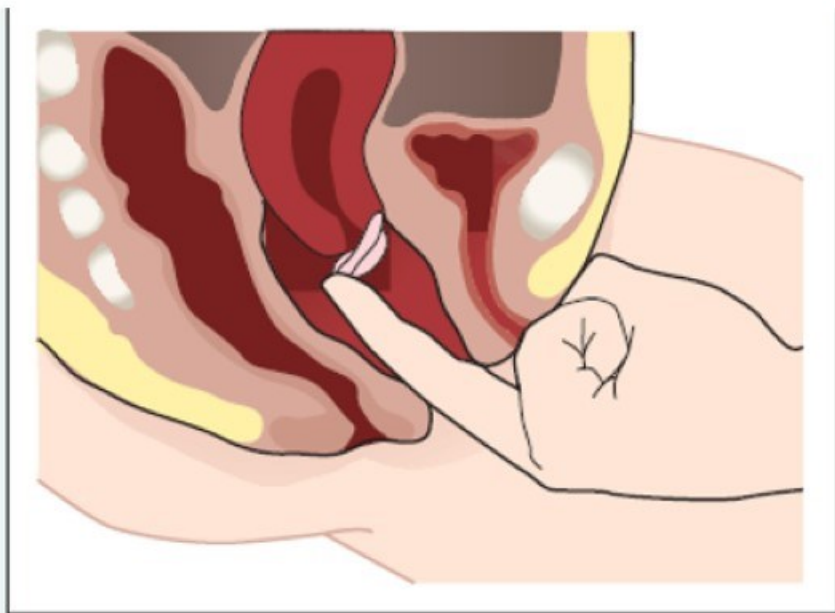
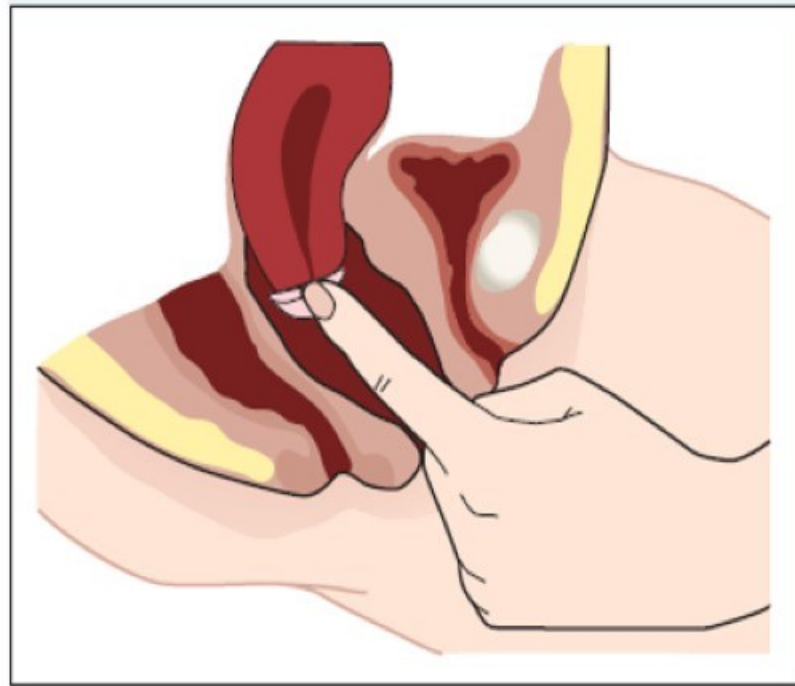
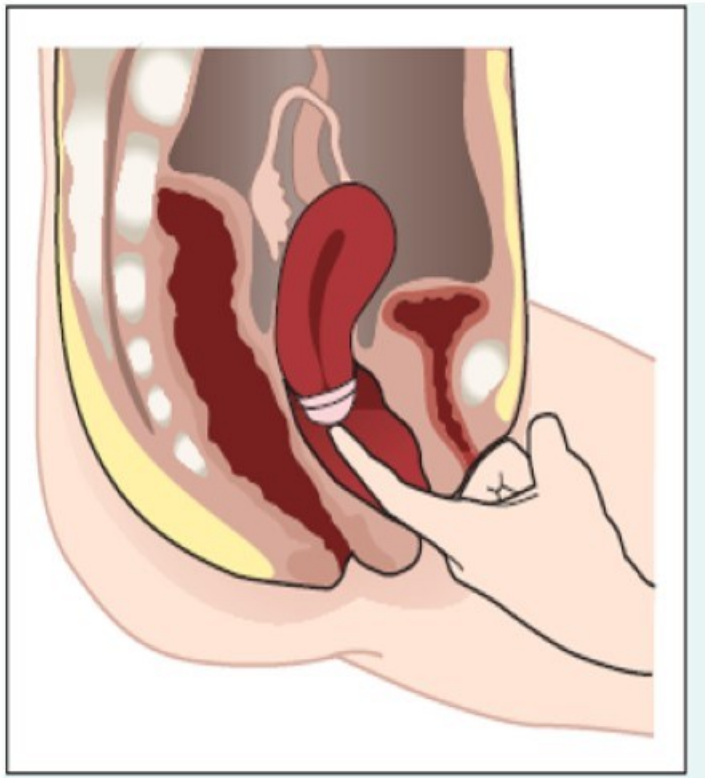
- Diaphragm may be inserted up to 4 hours before intercourse but must be left in place for at least 6 hours afterwards.
- Women may need to be refitted with a different-sized diaphragm after pregnancy, abdominal or pelvic surgery, or weight loss or gain of 10 pounds or more.

- **Cervical caps**

- Made of rubber or latex- free silicone and have soft domes and firm brims.
- The cap fits snugly around the base of the cervix close to the junction of the cervix and vaginal fornices.
- The cap should remain in place no less than 6 hours and not more than 48 hours at time. It is left in place at least 6 hours after the last act of intercourse.
- The seal provides a physical barrier to sperm, spermicide inside the cap adds a chemical barrier.
- Not good option for women with a history of TSS, vaginal or cervical infections, those who experience allergic to the latex.

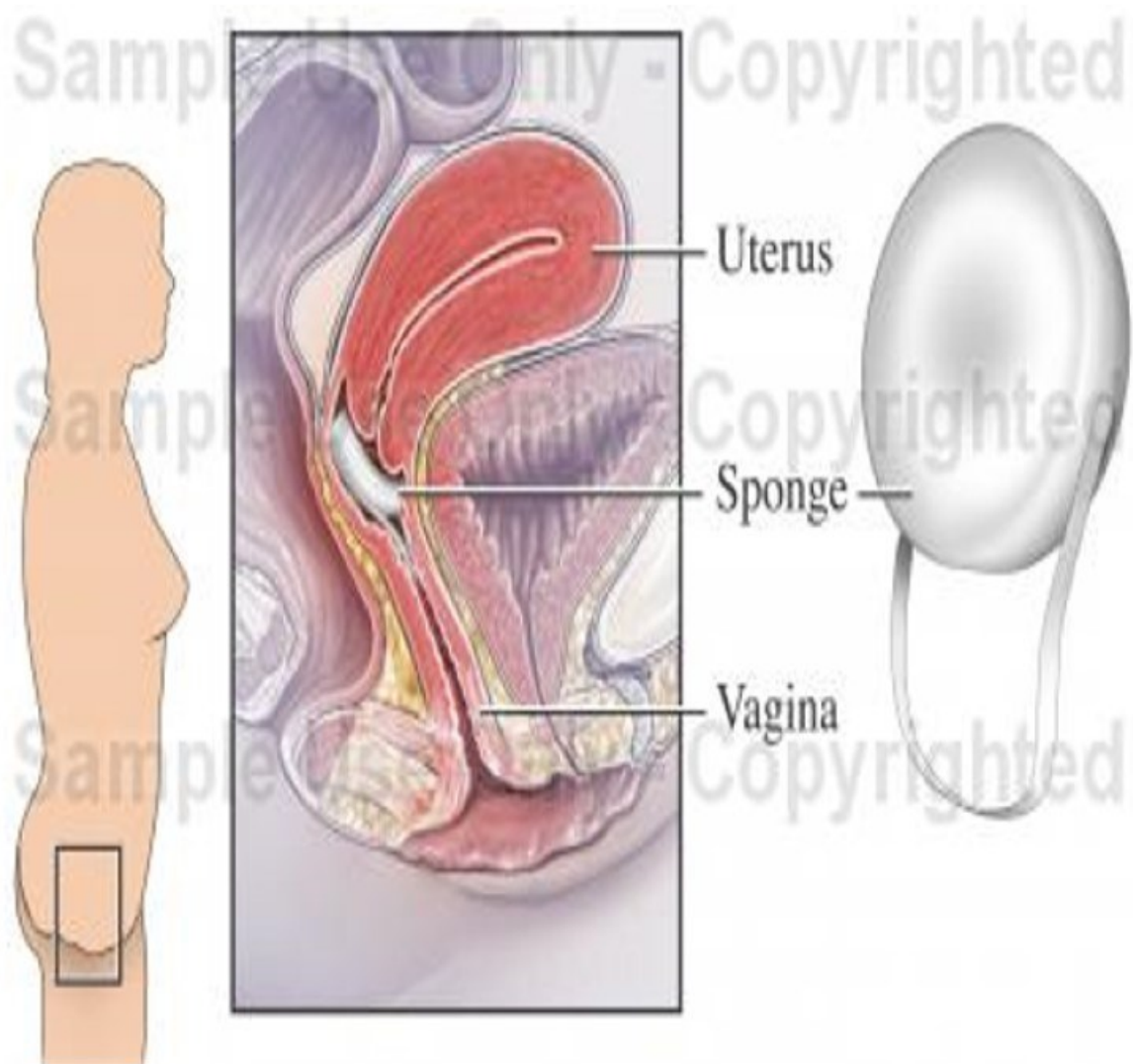


A cervical cap is placed over the cervix and used with a spermicidal jelly, the same as a diaphragm.



- **Contraceptive sponge**

- The vaginal sponge is a small, round, polyurethane sponge that contains nonoxynol-9 Spermicide.
- It is designed to fit over the cervix (one size fits all) the side that is placed next to the cervix is concave for better fit. It provides protection for up to 24hours and for repeated instances of sexual intercourse.
- The sponge must be moistened with water before it is inserted.
- Wearing longer than 24 to 30 hours may put the woman at risk for TSS.
- Failure rates for these barriers in the first year of use are 16% in nulliparas and 32% in multiparous women.



Hormonal Methods

- These methods of contraception work by altering the hormones within a woman's body.
- They rely on estrogen and progestin or progestin alone to prevent ovulation.
- When used consistently, these methods are a most reliable way to prevent pregnancy.
- Hormonal methods include oral contraceptives, injectables, implants, vaginal rings, and transdermal patches.

Combined estrogen-progestin contraceptives

1. Oral contraceptive. Regular ingestion of combined oral contraceptive pills (COCs) suppresses the action of the hypothalamus and anterior pituitary that inhibits production of FSH and LH, therefore follicles do not mature, suppressing ovulation.

Advantages

The noncontraceptive health benefits of COCs include:

- Decreased menstrual blood loss
- Decreased iron – deficiency anemia
- Regulation of menorrhagia and irregular cycles
- Reduce incidence of dysmenorrhea and PMS
- Provide protection against endometrial cancer and ovarian cancer.
- Reduce the incidence of benign breast disease

- Improve acne
- Decrease the risk of ectopic pregnancy.
- Safe option for nonsmoking women until menopause.
- Women taking COCs are examined before the medication is prescribed and yearly thereafter (weight, blood pressure, general physical and pelvic examination).



Contraindications

- History or presence of thromboembolic disorders
- Cerebrovascular or coronary artery disease
- Valvular heart disease
- Breast cancer
- Impaired liver function
- Liver tumor
- Women older than 35 years of age who smoke (more than 15 cigarettes per day)
- Severe hypertension
- Surgery with prolonged immobilization or any surgery on the legs and D/M (of more than 20 years' duration) with vascular disease.

Side effects of COCs are attributable to estrogen, progestin, or both.

- Stroke, MI, thromboembolism, hypertension, gallbladder disease, liver tumors.

Common side effects of estrogen excess include nausea, breast tenderness, fluid retention, and chloasma.

Side effects of progestin excess include increased appetite, tiredness, depression, breast tenderness, vaginal yeast infection, oily skin and scalp, hirsutism, and postpill amenorrhea.

Medications can reduce the effectiveness of oral contraceptives includes:

- anticonvulsants: barbiturates, phenytoin, Phenobarbital
- Systemic antifungal
- Antituberculosis drugs: rifampicin and rifabutin.
- Anti-HIV protease inhibitors

Alert the woman to stop taking the pill and to report any of the following symptoms to the health care provider immediately.

The word *ACHES* helps in retention of this list:

A -Abdominal pain may indicate a problem with the liver or gallbladder.

C- Chest pain or shortness of breath may indicate possible clot problem within lungs or heart.

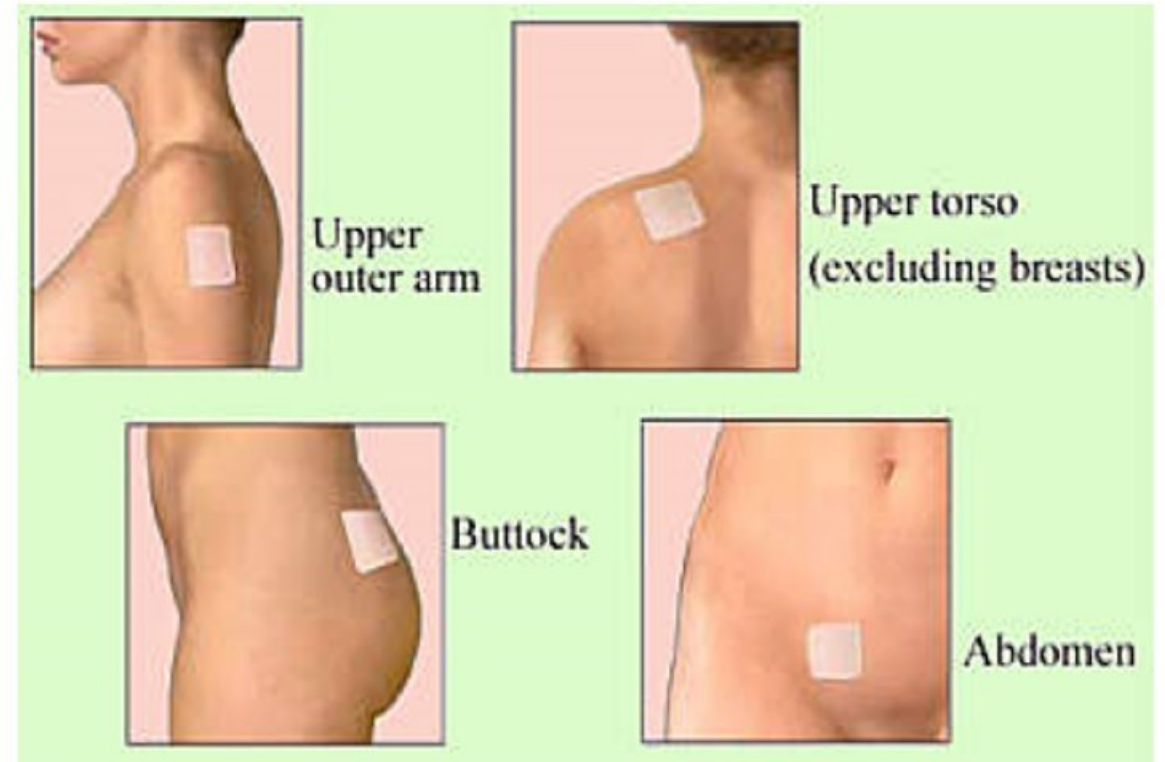
H- Headaches (sudden or persistent) may be caused by cardiovascular accident or hypertension.

E- Eye problems may indicate vascular accident or hypertension.

S-Severe leg pain may indicate a thromboembolic process.

2. Transdermal contraceptive system

Transdermal patch delivers continuous levels of progesterone and ethinyl estradiol.



- Application is on the same day once a week for 3 weeks followed by a week without the patch. Withdrawal bleeding occurs during the “no patch” week.
- Possible increased risk of venous thrombophlebotic conditions because total serum estrogen levels may be higher than with COCs.
- Typical failure rate during the first year of use is 8%.

3. Vaginal contraceptive ring

- It is a flexible ring worn in the vagina to deliver continuous levels of progesterone and ethinyl estradiol.
- The woman wears the vaginal ring for 3 weeks followed by a week without the ring. Withdrawal bleeding occurs during the “no ring” week.
- Typical failure rate of the vaginal contraceptive ring is 8% during the first year of use.



Progestin – only contraception

Progestin - only methods impair fertility by inhibiting ovulation, thickening and decreasing the amount of cervical mucus, thinning the endometrium, and altering cilia in the uterine tubes.

1. Oral progestins (Minipill)

- Users often complain of irregular vaginal bleeding.
- Minipill is quite effective: in lactating women and women over 40.
- Failure rate of progestin-only pills (POPs) for typical users is approx. 8% in the first year of use.
- If the pill is taken more than 3 hours late a backup contraceptive method must be used.

2. Injectable progestin

Depot medroxyprogesterone acetate (DMPA or Depo-Provera).

- Given IM in the deltoid or gluteus maximus muscle.
- DMPA is initiated during the first 5 days of the menstrual cycle and administered every 12 weeks or 3 months.
- Side effects at the end of year include decreased bone mineral density, weight gain, lipid changes, irregular vaginal bleeding, increased risk of venous thrombosis and thromboembolism.
- Typical failure rate is 3% in the first year of use.



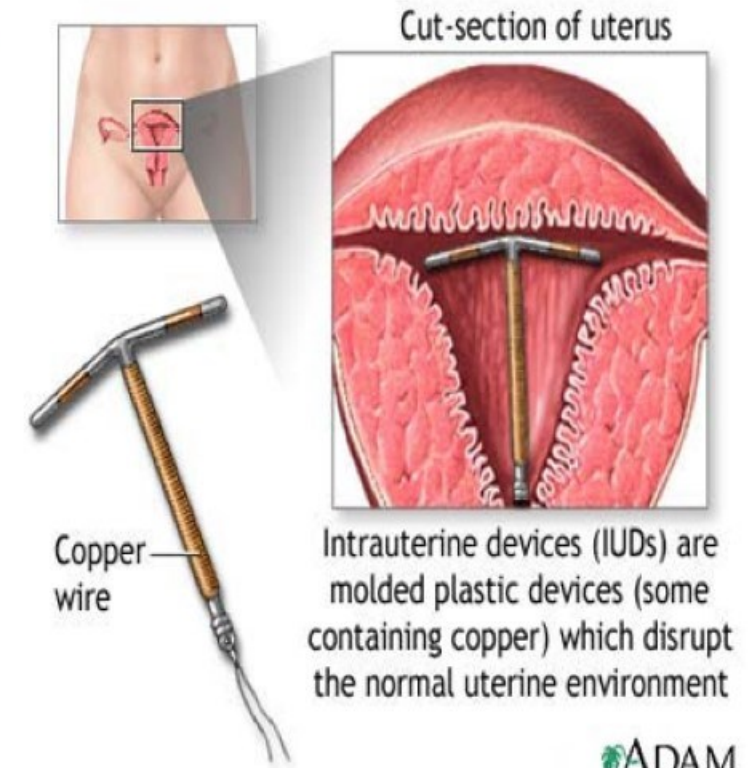
3. Implantable progestin

- These implants contain a progestin hormone and are effective for contraception for at least 3 years.
- They must be removed at the end of the recommended time.
- Insertion and removal of the capsule are minor surgical procedures involving a local anesthetic, a small incision, and no sutures.
- Irregular menstrual bleeding is the most common side effects. Less common side effects include headaches, nervousness, nausea, skin changes, and vertigo.
- Typical failure rates for the first year of use are 0.05%

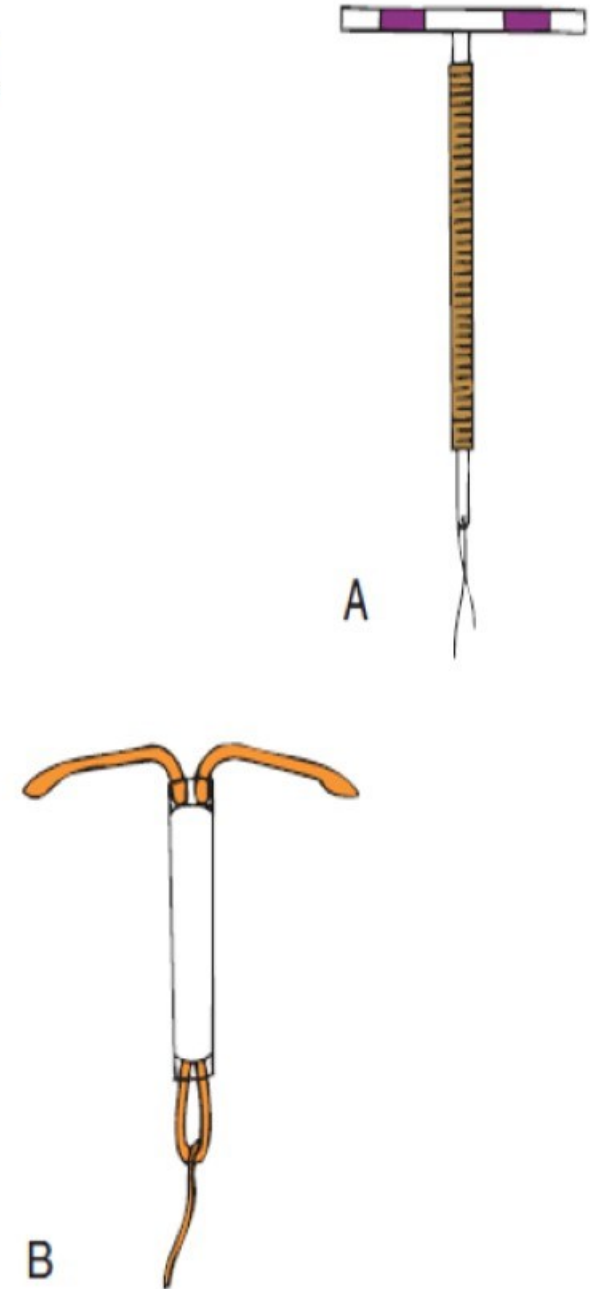


Intrauterine devices

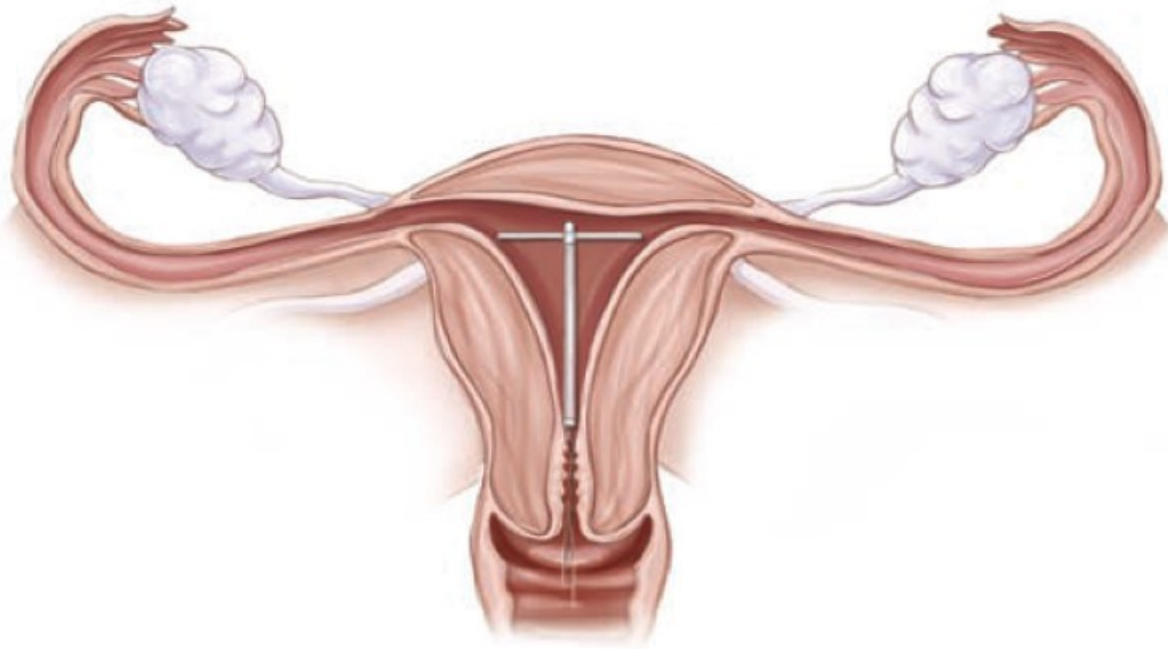
- An IUD is a small, T- shaped device with bendable arms for insertion through the cervix.
- The woman should have had a negative pregnancy test, cervical cultures to rule out STIs, and a consent form.
- IUD prevent pregnancy by making the endometrium of the uterus hostile to implantation of a fertilized ovum by causing a nonspecific inflammatory reaction.



- The copper T380 primarily serves as a spermicide and inflames the endometrium, preventing fertilization.
- The typical failure rate in the first year of use of the copper IUD is 0.8%.
- levonorgestrel intrauterine system (IUS) (Mirena) releases levonorgestrel from its vertical reservoir.
- Effective for up to 5 years, it impairs sperm motility, irritates the lining of the uterus, and has some anovulatory effects.
- The typical failure rate in the first year of use is 0.2%



Disadvantages include increased risk for PID, infection, possible uterine perforation, unintentional expulsion of the device. IUDs offer no protection against HIV or STIs.

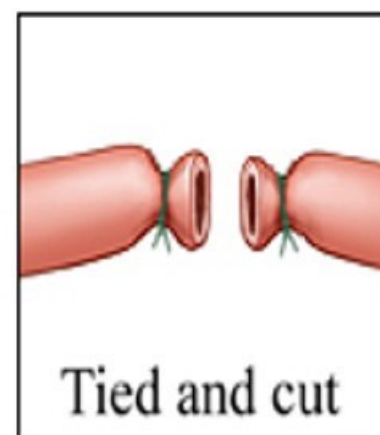
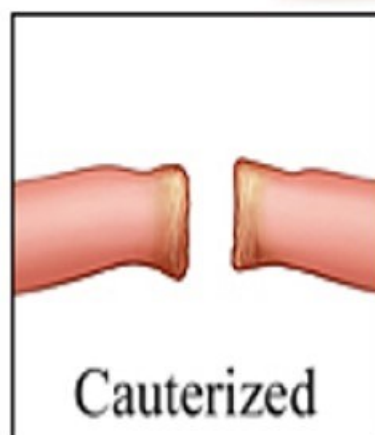
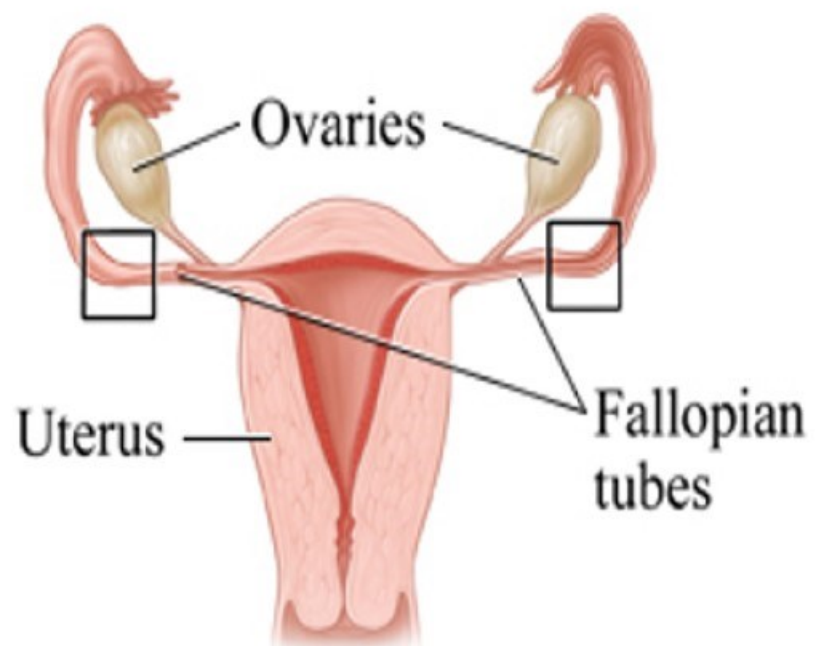
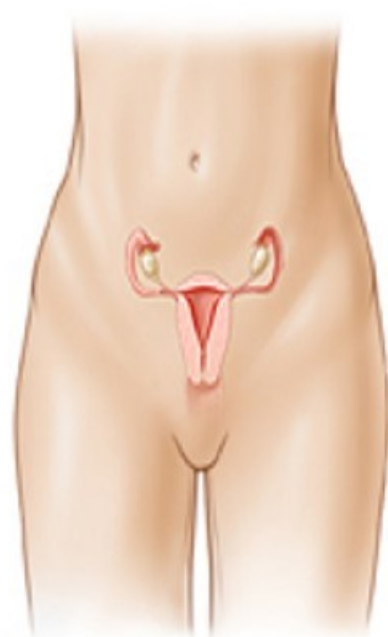


Sterilization

- Refers to surgical procedures intended to render a person infertile.
- For the woman, the uterine tubes are occluded
- For the man, both of the vas deferens are occluded.

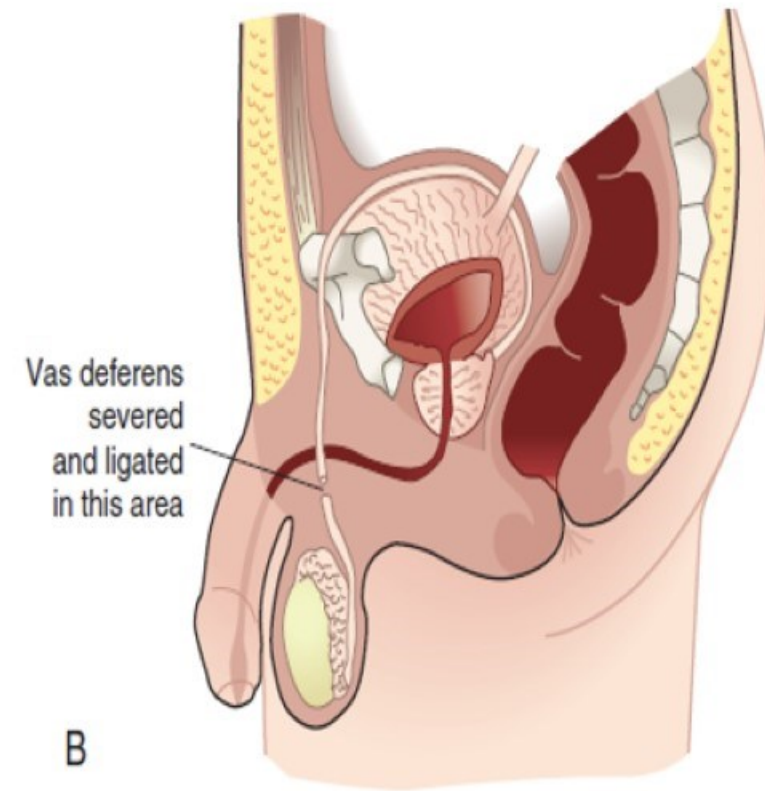
Female Sterilization

- Bilateral tubal ligation is usually performed immediately after childbirth.
- Tubal reconstruction. Sterilization reversal, is costly, difficult, and uncertain.
- Risk of ectopic pregnancy after tubal reanastomosis ranges from 1% to 7 %.



Male Vasectomy

- Is the sealing, tying, or cutting of a man's vas deferens so the sperm cannot travel from the testes to the penis.
- Vasectomy reversal. Microsurgery to reanastomosis (restore tubal continuity) the sperm ducts can be accomplished successfully in 75% to 100% of cases.



Thanks