

Contraception

Birth control, also known as **contraception** and **fertility control**, is a method or device used to prevent **pregnancy**. Birth control has been used since ancient times, but effective and safe methods of birth control only became available in the 20th century. Some cultures limit or discourage access to birth control because they consider it to be morally, religiously, or politically undesirable. Contraceptive is either non- hormonal or hormonal type

Non – hormonal contraception:

1. *The different types of Barrier methods* include male condoms, female condoms, diaphragms, and cervical caps.

- **Male condoms** are made from latex rubber, vinyl . This prevents sperm from reaching the female reproductive tract, and also stops microorganisms from passing from one person to the other .
- **Female condoms** line the vagina and are inserted before intercourse. They are thin, soft pouches made of polyurethane plastic .
- **Diaphragms and cervical caps do not protect against STIs, including HIV.** The diaphragm is a shallow, dome-shaped latex cup, while cervical caps are smaller and thimble-shaped. They fit over the cervix in the vagina, blocking the opening to the uterus.
- **Contraceptive sponges:** contain spermicide. A sponge is placed at the cervix where the spermicide kills any sperm attempting to enter. The sponge provides 12-hour protection. Some women find it difficult to remove the sponge and some may be allergic to the spermicide. Some women complain of recurrent yeast infections when using the contraceptive sponge.

2. *Spermicides* are chemicals that inactivate or kill sperm. They're available as creams, gels, aerosols, dissolvable films,

and vaginal suppositories or tablets. Some condoms are spermicide-coated for extra protection.

3. *Natural birth control methods:* one technique – known as *coitus interruptus* – requires withdraw before ejaculation. This is an unreliable method of birth control, since some sperm can be released before ejaculation.

4. *Rhythm methods:* require a woman to abstain from having sex during the most fertile part of the menstrual cycle. A woman can identify when she's ovulating using 1 of 4 techniques: the calendar rhythm, temperature, mucus, and symptothermal methods. The calendar rhythm method is the least accurate of the four. The other methods depend on measurements of body temperature (which slightly falls before and rises after an egg is released) and larger amounts of watery mucus observed before ovulation.

5. *Intrauterine devices (IUD):*



Copper T shaped IUD with removal strings

The current intrauterine devices are small devices, often 'T'-shaped, containing either non hormonal(copper IUDs) or hormonal levonorgestrel (mirena), which are inserted into the uterus. They are one form of long-acting reversible contraception (LARC) which are the most effective types of reversible birth control. Failure rates with the copper IUD is about 0.8% while the levonorgestrel IUD has a failure rates of 0.2% in the first year of use .

Copper IUDs advantages :

- do not affect breast feeding and can be inserted immediately after delivery by 4-6 weeks. They may also be used immediately after an abortion by 2-3 weeks.
- Once removed, even after long term use, fertility returns to normal immediately

Mechanism of action of IUDs :they work by damaging sperm and disrupting their motility(spermicidal) so that they are not able to join an egg. Specifically, **copper acts as a spermicide within the uterus** by increasing levels of copper ions, prostaglandins, and white blood cells within the uterine and tubal fluids. The increased copper ions in the cervical mucus inhibit the sperm's motility and viability, preventing sperm from traveling through the cervical mucus, or destroying it as it passes through. **Copper can also alter the endometrial lining**, but studies show that while this alteration can prevent implantation of a fertilized egg ("blastocyst"), it cannot disrupt one that has already been implanted.

Complications of IUDs :

- While copper IUDs may **increase menstrual bleeding** and result in more **painful cramps**, hormonal IUDs may reduce menstrual bleeding or stop menstruation altogether .
- Cramping can be treated with painkillers like non-steroidal anti-inflammatory drugs.
- Other potential complications include **expulsion** (2–5%)
- **Perforation** of the uterus (less than 0.7)
- Increased risk of **pelvic inflammatory disease**(PID).

6 .Sterilization

Surgical sterilization is available in the form of **tubal ligation** for women and **vasectomy** for men , complications occur in 1 to 2 percent of procedures with serious complications usually due to the anesthesia. Neither method offers protection from sexually transmitted infections.

Although sterilization is considered a permanent procedure, it is possible to attempt a tubal reversal to reconnect the fallopian tubes or a vasectomy reversal to reconnect the vasa deferentia. Pregnancy success rates after tubal reversal are between 30 - 70% percent, with complications including an increased risk of ectopic pregnancy. Sterilization is an option for women and men. For women, this involves abdominal or laproscopical surgery for tubal ligation, a procedure in which a woman's fallopian tubes are cut and tied, or blocked using clips or rings to clamp them. This cuts off the sperm's access to the egg, preventing fertilization .

The reliability of contraception varies greatly among methods; Failure rate is the percentages of women who get pregnant during the first year of using a particular form of contraception , and they are as follow :

- male condom :3% -4%
- female condoms: 5% to 21%
- male condom plus contraceptive sponge: 2%
- diaphragm with spermicide: 6% to 18%
- cervical caps with spermicide: 11.5% to 18%
- oral estrogen-progestin pills: 0.3% to 3%
- oral progestin-only pills: 0.5% to 3%
- estrogen-progestin patch: 0.3% to 3%
- estrogen-progestin ring: 0.3% to 3%
- injectable progestin: 0.3%
- progestin implants: less than 0.1%
- intrauterine devices: 0.6% to 2%
- rhythm method (natural contraception): 20%
- tubal ligation: 2% (in a 10-year period)
- withdrawal: 20%
- vasectomy: less than 1%

Lactation:

The ***lactational amenorrhea method*** involves the use of a woman's natural postpartum infertility which occurs after delivery and may be extended by **breastfeeding**.. The World Health Organization states that if breastfeeding the infant's was the only source of nutrition, the failure rate is 2% in the six months following delivery.

Emergency contraception – sometimes called the "morning-after pill" – is used in some cases to prevent pregnancy after unprotected sex. They should be taken within 72 hours of unprotected intercourse. Approximately 99% of unplanned pregnancies can be avoided using this method. They work primarily by preventing ovulation or fertilization. They are unlikely to affect implantation.

Inserting an IUD is sometimes used as an alternative form of emergency contraception, especially if more than 72 hours has elapsed since unprotected sex. IUDs can be inserted up to five days after intercourse and prevent about 99% of pregnancies after an episode of unprotected sex (pregnancy rate of 0.1 to 0.2%). This makes them the most effective form of emergency contraceptive.

Birth control pills (combined oral contraception) can be taken in split doses 12 hours apart, or progesterone only pills as levonorgestrel pill taken either as a single tablet or as a split dose of two tablets taken 12 hours apart.

Good luck