

Contraception

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Contraception

General considerations:

Failure rate estimates apply to groups & not to individual users.
Correct & consistent use protects.

Patients must be provided with consistent information regarding methods to avoid unintentional bias.

Contraceptives are imperfect & can fail even the most perfect user.

Using two methods at once lowers the risk of accidental pregnancy.

Methods that protect for a long time (sterilization, implants, IUCD) tend to be associated with higher efficacy.

Contraceptive Methods

Natural methods:

The Rhythm Method:

- Ovulation occurs on day 14 before the onset of the next period.
- Sperms remain viable for 2-3 days.
- The ovum survives for 24 hours.

Coitus Interruptus:

Widely used. Not reliable.

Contraceptive Methods

Barrier methods:

Condoms:

- Consists of thin, stretchable latex film moulded into a sheath & packed in a foil wrapper. The sheath has a teat end to collect the ejaculate.
- Advantages include: accessible, inexpensive, hygienic, no sperm allergy, portable, protection against infections.
- Disadvantages include: reduced sensitivity, interruption, allergy, breakage.

Contraceptive Methods

Barrier methods:

The Diaphragm:

- Consists of a thin latex rubber dome attached to a metal circular spring. It varies in size from 45-100 mm in diameter.
- It is inserted while the patient is in the dorsal or Kneeling position.
- Should be smeared on both sides with a contraceptive cream.
- Advantages: free of side effects.
- Failure rate.

Contraceptive Methods

Barrier methods:

Cervical Cap:

- A deep, soft rubber cup with a firm round rim & a groove along the inner circumference of the rim to improve the seal to the cervix.
- Spermicide is used to fill the dome 1/3 full prior to insertion.
- Provides continuous protection for 48 hours.

Contraceptive Methods

Barrier methods:

Female Condom:

- A thin (0.05 mm) polyurethane sheath, 7.8 cm in diameter & 17 cm long.
- Has 2 flexible polyurethane rings, one ring lies inside, at the closed end of the sheath & serves as an internal anchor, the other ring remains outside the vagina after insertion.
- The polyurethane is a soft, impermeable & has good heat-transfer characteristics.

Contraceptive Methods

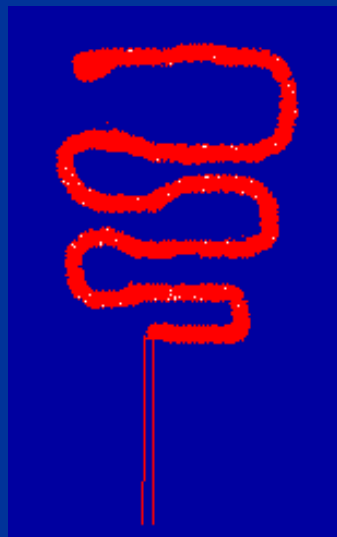
Vaginal Spermicides:

- They are simple , free of systemic side effects, available without prescription, & can be used intermittently with little advance planning required.
- Could be in different forms (film, foam, jelly, cream, tablets & suppositories.
- Active material is Nonoxynol-9.
- Failure rate is relatively high.
- May cause allergic reactions.

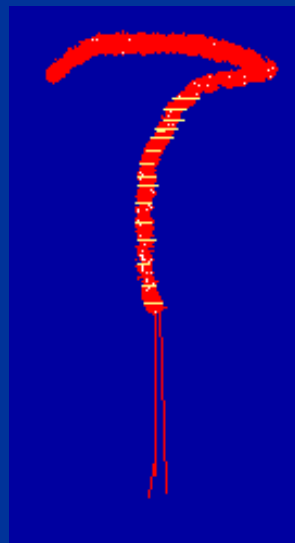
Contraceptive Methods

Intrauterine Devices (IUCDs):

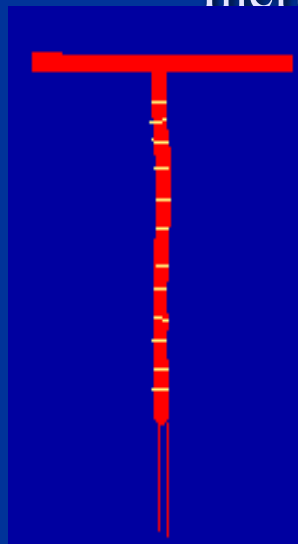
- Have the advantage that, once inserted, they are retained without the need to take other precautions.
- Types:



Lippes loop



Cu 7



Cu T

Inert devices

Copper devices

Hormone devices

Contraceptive Methods

IUCDs:

- Advantages:

Highly effective, safe, long acting, single-decision method.

Less expensive per year.

Requires no effort by the woman.

Can be used when other hormonal methods are contraindicated.

Progestrone releasing IUDs decrease menstrual blood loss.

Are used in the treatment of Asherman's syndrome.

Contraceptive Methods

IUCDs:

- **Disadvantages:**

PID,HIV.

Menstrual problems.

Expulsions.

Failure.

Pregnancy Complications.

Perforation.

Pain.

Contraceptive Methods

IUCDs:

- **Mechanism of action:**

May affect sperm , ova , or the endometrium.

The exact mechanism is not completely understood.

Immobilization of sperms, intervention with migration of sperms.

Speed transport of the ovum through the fallopian tubes.

Enzymatic, biochemical and local effects on the endometrium.

- **Insertion and removal**

Contraceptive Methods

Hormonal Contraception:

- **The combined oral contraceptive pill:**
 - Prevent pregnancy by suppressing ovulation through the combined action of estrogen and progesterone.
 - **Estrogenic effects include:** inhibition of ovulation , alteration of cellular structure of the endometrium , accelerated ovum transport , luteolysis of the corpus luteum.
 - **Progestational effects include:** ovulation inhibition by suppression of LH , interfering with sperm transport by making cervical mucus thick , slowing ovum transport and hampering implantation by production of a decidualized endometrium with exhausted and atrophied glands.

Contraceptive Methods

- **The combined oral contraceptive pill:**
 - Contain estrogen and progestin in a variety of combinations.
 - **The Estrogen** is Estradiol or Mestranol in a dosage between 20-50 $\mu\text{g/day}$.
 - **The progestin** is Norethindrone , Norethindrone acetate , Norgestrel , Levonorgestrel and Gestodene.
 - **Mechanism of action** is by suppression of ovulation.

Contraceptive Methods

- **The combined oral contraceptive pill:**

- Advantages:**

- Effectiveness.
- Safety.
- Reversibility .
- PID protection.
- Prevention of ovarian and endometrial cancer.
- Decreased risk for benign breast disease.
- Ectopic pregnancy prevention.
- Acne improvement.
- Emergency contraception.
- Beneficial menstrual cycle effects.

Contraceptive Methods

- **The combined oral contraceptive pill:**

- Disadvantages:**

- Must be taken daily.
- Menstrual cycle changes.
- Nausea and vomiting.
- Decreased libido.
- Thrombophlebitis , pulmonary embolism and cardiovascular disease in smokers , sedentary , overweight , over 50 years of age , hypertensive , diabetic and patients with elevated cholesterol level or high LDL/HDL ratio.
- Expensive.
- Headaches.
- Depression.

Contraceptive Methods

- The combined oral contraceptive pill:

- Disadvantages:

- Glucose intolerance.
- Gallbladder disease.
- Hepatocellular adenomas.
- Cancer.
- Increased appetite and weight gain.

Contraceptive Methods

- **The combined oral contraceptive pill:**
- **Contraindications:**
 - Thromboembolic disease.
 - Cerebrovascular accident.
 - Ischemic heart disease.
 - Breast cancer.
 - Estrogen-dependant neoplasia.
 - Benign hepatic adenoma or liver cancer.
 - Markedly impaired liver function.
 - Active gallbladder disease.
 - Congenital hyperbilirubinemia (Gilbert's disease).

Contraceptive Methods

- **The combined oral contraceptive pill:**
- **Contraindications:**
 - Pregnancy.
 - Smokers over 35 years of age.
 - Migraine headaches after starting OCPs.
 - Hypertension.
 - Diabetes mellitus.
 - Elective major surgery planned in the next 4 weeks.
 - Undiagnosed abnormal uterine bleeding.
 - Sickle cell disease.
 - Lactation.
 - Over 50 years of age.

Contraceptive Methods

- **The Triphasic Pill:**

- Contain variable dose of progestin and estrogen components.
- Used to reduce side effects of progestins.

- **The Progestin-only Pill:**

- Contain either Norethisterone , Ethynodiol diacetate or Levonorgestrel.
- Must be taken continuously daily.
- Should be taken at the same time everyday because of the low dose.

Contraceptive Methods

- **Injectable Compounds:**
 - **Depo-Provera (DMPA):** The most commonly used.
 - Given in a single injection I.M. every 3 months.
 - **Mechanism of action:** Inhibition of ovulation , thickening and decreasing the amount of cervical mucus , creation of a thin , atrophic endometrium and premature luteolysis.

Contraceptive Methods

- **Implants:**
 - **Norplant:** long-acting progestin capsules.
 - Each capsule contains 36 mg of **Levonorgestrel** , impregnated into a silicone rubber capsules.
 - Norplant is implanted subcutaneously in the arm.
 - The effects of six capsules last for 5 years.
 - Require surgical insertion and removal.

Contraceptive Methods

Sterilization:

- Counseling:

- A permanent method.
- Very low failure rate.

- Techniques:

Female sterilization:

- Laparoscopic.
- Minilaparotomy.

Male sterilization:

- Vasectomy.

Contraceptive Methods

Female sterilization:

- **Failure Rate:** 0.2%
- **Complications:**
 - Operative complications.
 - Tubal recanalization.
 - Ectopic pregnancy.
 - Menstrual irregularity.

Contraceptive Methods

Male sterilization: (Vasectomy)

- Local anaesthesia.
- Two small incisions over spermatic cord.
- 3-4 cm of the vas deferens are excised.
- Sterility is **not** immediate. It takes on average about 14 ejaculates for sperms to disappear.
- Difficult to reverse.
- Men develop sperm immobilizing and agglutinating antibodies.
- Complications include hematoma , infection and painful granuloma.

Contraceptive Methods

Emergency Contraception:

- Methods:

Combined Estrogen and Progestogen:

- Used within 72 hours.
- Dose: 100 µg ethinyl estradiol + 0.5 mg Levonorgestrel every 12 hours for 2 doses.
- Mechanism of action is probably by suppression of ovulation , luteolysis or interference with implantation.

Contraceptive Methods

Emergency Contraception:

- Methods:

Levonorgestrel alone :

- Dose: 0.75 mg every 12 hours.
- Effective.

IUCD Insertion:

- Must be inserted within 5 days.
- Failure rate < 1%.
- More effective than hormonal methods.



