

## Examrace

### Life Sciences Glossary: Methods of Birth Control Method Action

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#### Methods of Birth Control Method Action

1. Rhythm method	No intercourse during woman's fertile Period (day 12 - 20) .
2. Withdrawal	Penis is withdrawn before ejaculation.
3. Tubectomy/Tubal Ligation	Woman's Fallopian tubes are cut and tied permanently blocking sperm passage.
4. Vasectomy	Man's vasa deferential are cut and tied Permanently blocking sperm release.
5. Intrauterine	Small plastic or metal device placed in The uterus prevents implantation. Some Contain copper, others release hormones.
6. Oral contraceptive	Synthetic estrogens and progesterone's Prevent normal menstrual cycle, primarily Ovulation.
7. Male condom	thin rubber sheath on erect penis collects Ejaculated semen.
8. Female condom	Plastic pouch inserted into vagina Catches semen.
9. Diaphragm	Soft rubber cup covers entrance to Uterus, prevents sperm from reaching Egg and holds spermicide.
10. Cervical cup	Miniature diaphragm covers cervix Closely, prevents sperm from reaching Egg and holds spermicide.
11. Foeman's, creams, Jellies etc.	Chemical spermicides inserted in vagina Before intercourse, prevents sperm From entering uterus.
12. Implant (Norplant)	Capsules surgically implanted under skin, Slowly release hormone that blocks Ovulation.
13. Injectable Contraceptive (Depo-Provera)	Injection every 3 months of a hormone that is slowly released and prevents ovulation.

*Methods of Birth Control Method Action*

Among various methods of birth control available, birth control pills and surgical sterilization are the most effective. The use of condoms provides the added benefit of protection against sexually transmitted diseases, including AIDS.

## Test Tube Babies

A relatively recent solution to infertility is in vitro fertilization. i.e., fertilization in a laboratory dish. After viewing through a pencil- thin laparoscope, a ripe egg is removed from a woman's ovary. The egg is kept in laboratory culture dish and mixed with sperm from husband or future father. The fertilized egg undergoes cleavage in the laboratory dish, and when it reaches the eight – cell stage, it is transferred into the mother's uterus for implantation. A normal baby can be born to such a mother. Such a baby is called a test tube baby. In very rare cases, a surrogate mother may have to be used to bring up the in vitro fertilized ovum to maturity. In one recent case, a woman served as a surrogate mother for her daughter's and son- in- law's embryo, and thus gave birth to her own grandchild. The first test tube baby, Louise Brown, was born in Oldham General Hospital, Lancashire, England on July 25,1978. In India, first test tube babies were born in 1987 in Kolkata and Mumbai.

## Amniocentesis

Amniocentesis is the most widely used method for prenatal detection of many genetic disorders. The position of the fetus is first determined by ultrasound during fourth month of pregnancy. A sterile hypodermic needle is inserted through the abdominal and uterine wall, and a small sample of the amniotic fluid bathing the foetus is removed. Contained within the fluid are fetal cells derived from the fetus; once removed, these cells can be grown in cultures in the laboratory for cytogenetic and biochemical analysis.

Amniocentesis is a technique used to determine any hereditary disease in the embryo and also for determining the sex of the fetus.

## Human Diseases

### Introduction and Concept of Disease

Disease is defined as a condition of the body or a part of it in which functions are disturbed or deranged.

### Classification of Human Diseases

**Diseases can be broadly classified into three types:**

- Communicable diseases; and
- Non- communicable diseases

### Communicable Diseases

Communicable diseases are caused by pathogens which include bacteria, viruses, protozoans and Helminthes. These diseases can be transmitted from one person to another.

## Koch's Postulates

The first direct demonstration of the role of bacteria in causing disease came from the study of anthrax by the German physician Robert Koch (1843 - 1910) . His criteria for proving the causal relationship between a micro-organism and a specific disease are known as Koch's postulates and can be summarized as follows:

- The micro-organism must be present in every case of the disease but absent from healthy organisms.
- The suspected micro- organism must be isolated and grown in a pure culture on artificial media.
- The same disease must result when the isolated micro- organism is inoculated into a healthy host.
- The same micro- organism must be isolated again from the diseased host.

The leprosy bacillus, *Mycobacterium leprae*, cannot be cultured on artificial media; so, it is not possible to apply Koch's postulates to leprosy. Koch's postulates are also not applicable to viral diseases as they cannot be cultured in vitro.

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