

Reproductive Health

Prepared by

Mr. B. John Ebenezer

Indian School Muladha

johnrupi@mail.com

Reproductive Health

- People having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex-related aspects might be called reproductively healthy people.
- According to the World Health Organization (WHO), reproductive health means a total well-being in all aspects of reproduction, i.e., physical, emotional, behavioural and social.



- India was amongst the first countries in the world to initiate ‘family planning’ programmes in 1951 and were periodically assessed over the past decades.
- Improved programmes covering wider reproduction-related areas are currently in operation under the popular name ‘Reproductive and Child Health Care (RCH) programmes’.
- The major tasks of these programmes are:
 - (i) Creating awareness among people about various reproduction related aspects.
 - (ii) Providing facilities and support for building up a reproductively healthy society are the major tasks under these programmes.



Steps to taken by the governmental and non-governmental agencies to create awareness among the people about reproduction related aspects

- Audio-visual and the print-media.
- Awareness through parents, other close relatives, teachers and friends.
- Introduction of sex education in schools to provide right information to the young so as to discourage children from believing in myths and having misconceptions about sex-related aspects.
- Proper information about reproductive organs, adolescence and related changes, safe and hygienic sexual practices, sexually transmitted diseases (STD), AIDS, etc.,



Educating people, especially fertile couples and those in marriageable age group, about the following would address the importance of bringing up socially conscious healthy families of desired size.

- Available birth control options.
- Care of pregnant mothers.
- Post-natal care of the mother and child.
- Importance of breast feeding.
- Equal opportunities for the male and the female child.



- Awareness of problems due to uncontrolled population growth,
- Social evils like sex-abuse and sex-related crimes, etc.,
- Strong infrastructural facilities, professional expertise and material support.
- Providing medical assistance and care to people in reproduction-related problems like pregnancy, delivery, STDs, abortions, contraception, menstrual problems, infertility, etc.
- Implementation of better techniques and new strategies from time to time are also required to provide more efficient care and assistance to people.



Population Growth

World Population

Period	Population
1900	2 billion (2000 million)
2000	6 billions

India's Population

Period	Population
At the time of Independence	350 million
2000	Close to billion
May 2000	Crossed 1 billion



The Causes of Population Explosion

- A rapid decline in death rate.
- Decline in **maternal mortality rate (MMR)**
- Decline in **infant mortality rate (IMR)**
- Increase in number of people in reproducible age group.

- According to the 2001 census report, the population growth rate was still around 1.7 per cent, i.e., 17/1000/year, a rate at which our population could double in 33 years.

- Such an alarming growth rate could lead to an absolute scarcity of even the basic requirements, i.e., food, shelter and clothing.



Steps to control Population

- The most important step to control population is to motivate smaller families by using various contraceptive methods.
- Adopting 'one child norm'.
- Statutory raising of marriageable age of the female to 18 years and that of males to 21 years.
- Providing incentives to couples with small families.



Contraception

Contraception

- The various methods by which conception is avoided is called contraception.

Contraceptive Methods

- Natural methods
- Barriers
- IUD
- Oral contraceptives
- Injectables
- Implants
- Surgical Methods



Contraceptive Methods

Natural Methods

Barrier Methods

Intra Uterine Devices

Oral Contraceptives

Injectables

Implants

Surgical Methods



Features of an ideal contraceptive

- An Ideal contraceptive should be user-friendly.
- It should be easily available.
- It should be effective and reversible with no or least side-effects.
- It should not interfere the sexual drive, desire or the sexual act of the user.



Natural Methods

Natural Methods

Periodic Abstinence

Coitus Interruptus

Lactational Amenorrhea



Natural Methods

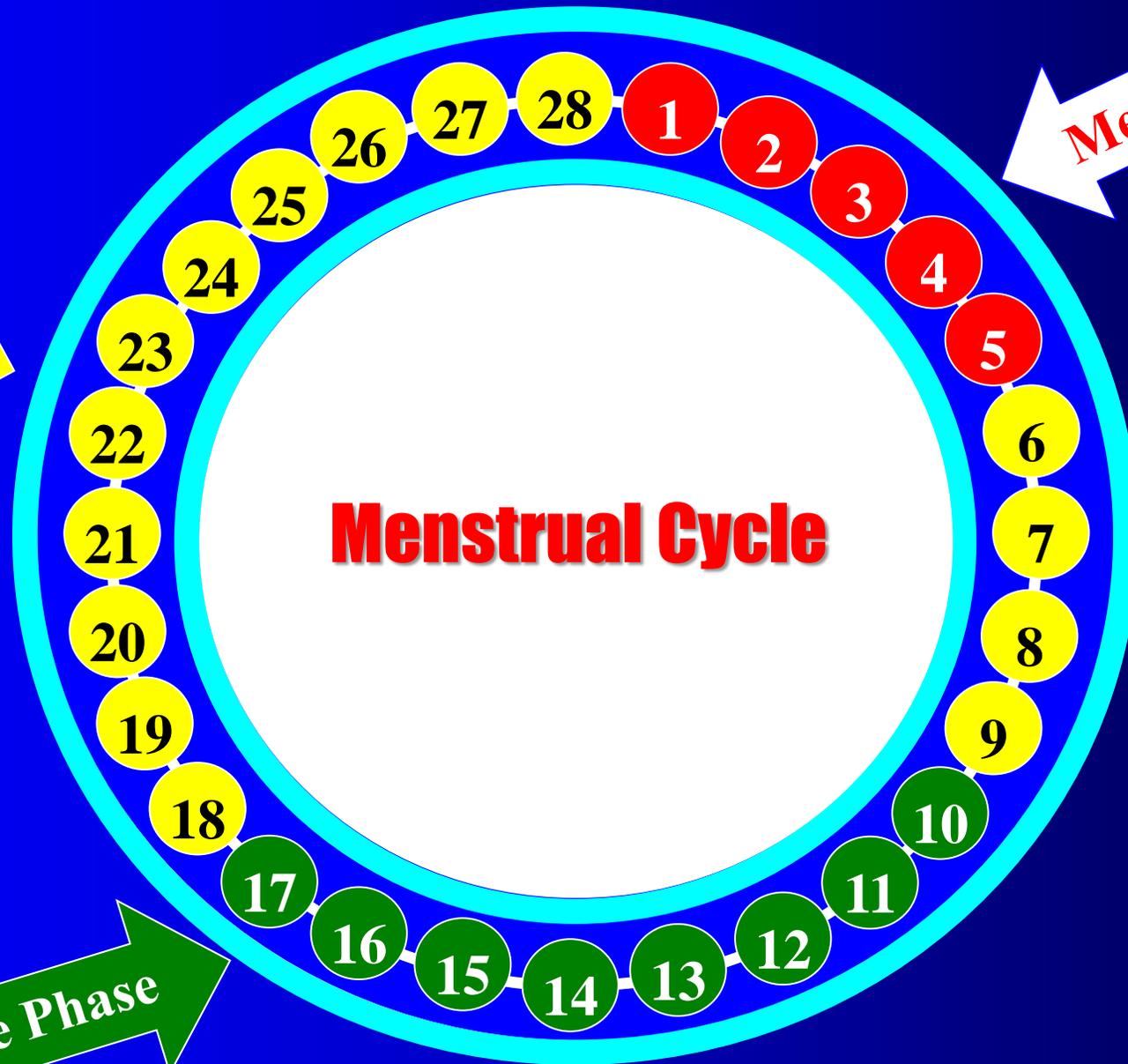
Natural methods work on the principle of avoiding the meeting of ovum and sperms.

1. Periodic Abstinence:

- **Periodic abstinence** is a method in which the couples avoid or abstain from sexual intercourse from **day 10 to 17** of the menstrual cycle when ovulation could be expected.
- As chances of fertilization are very high during this period, it is called the fertile period.
- Conception could be prevented by abstaining from coitus during this period.



Infertile Phase



Menstrual Phase

1-5 Menstrual Phase

6-9 Infertile Phase

10-17 Fertile Phase

18-28 Infertile Phase

Fertile Phase



2. Withdrawal Method or Coitus Interruptus:

- The withdrawal of penis from the vagina by the male partner just before ejaculation so as to avoid insemination is called withdrawal method or coitus interruptus.



3. Lactational Amenorrhea:

- **Lactational amenorrhea** (absence of menstruation) is a period of intense lactation following parturition.
- No ovulation and menstruation occur as long as the mother breast-feeds the child.
- The chances of conception are almost nil during this period.
- But this is effective only up to a maximum period of six months after parturition.
- As sexual intercourse during this period does not lead to conception, this is considered as a method of contraception.



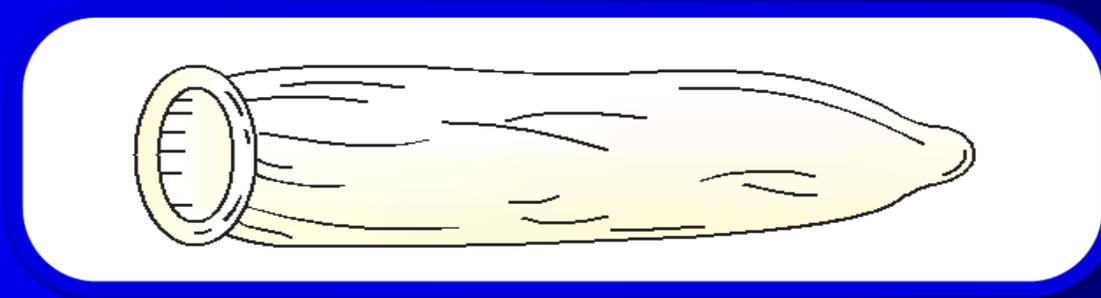
Barrier Methods

Barrier Methods

- The meeting of sperms and ovum are prevented physically with the help of barriers. Such methods are available for both males and females.

Condoms

- **Condoms** are barriers made of thin rubber or latex sheath that are used to cover the penis in the male or vagina and cervix in the female, just before coitus so that the ejaculated semen would not enter into the vagina.
- ‘Nirodh’ is a popular brand of condom for the male. Condoms protect the user from STDs and AIDS.



Barrier Methods

- Both the male and the female condoms are disposable, can be self-inserted and thereby gives privacy to the user.



Diaphragms, Cervical caps and Vaults

- **Diaphragms, cervical caps and vaults** are also barriers made of rubber that are inserted into the vagina to cover the cervix during coitus.
- They prevent conception by blocking the entry of sperms through the cervix.
- They are reusable.
- Spermicidal creams, jellies and foams are usually used along with the barriers to increase their contraceptive efficiency.





Condoms



Diaphragm



Cervical/Vault Cap



Intra Uterine Devices

IUDs

Intra Uterine Devices

- **Intra Uterine Devices (IUDs)** are inserted by doctors or expert nurses in the uterus through vagina.

Types of IUDs

- Non-medicated IUDs (Lippes loop)
- Copper releasing IUDs (CuT, Cu7, Multiload 375)
- Hormone releasing IUDs (Progestasert, LNG-20)





Lippes Loop

Non-Medicated IUD



Copper T



Multiload 375

Copper Releasing IUDs



Progestasert



LNG-20

Hormone Releasing IUDs



Mode of Action of IUDs

- IUDs increase phagocytosis of sperms within the uterus
- The Cu ions released **suppress sperm motility** and the **fertilising capacity of sperms.**
- The hormone releasing IUDs make the uterus unsuitable for implantation and the cervix hostile to the sperms.

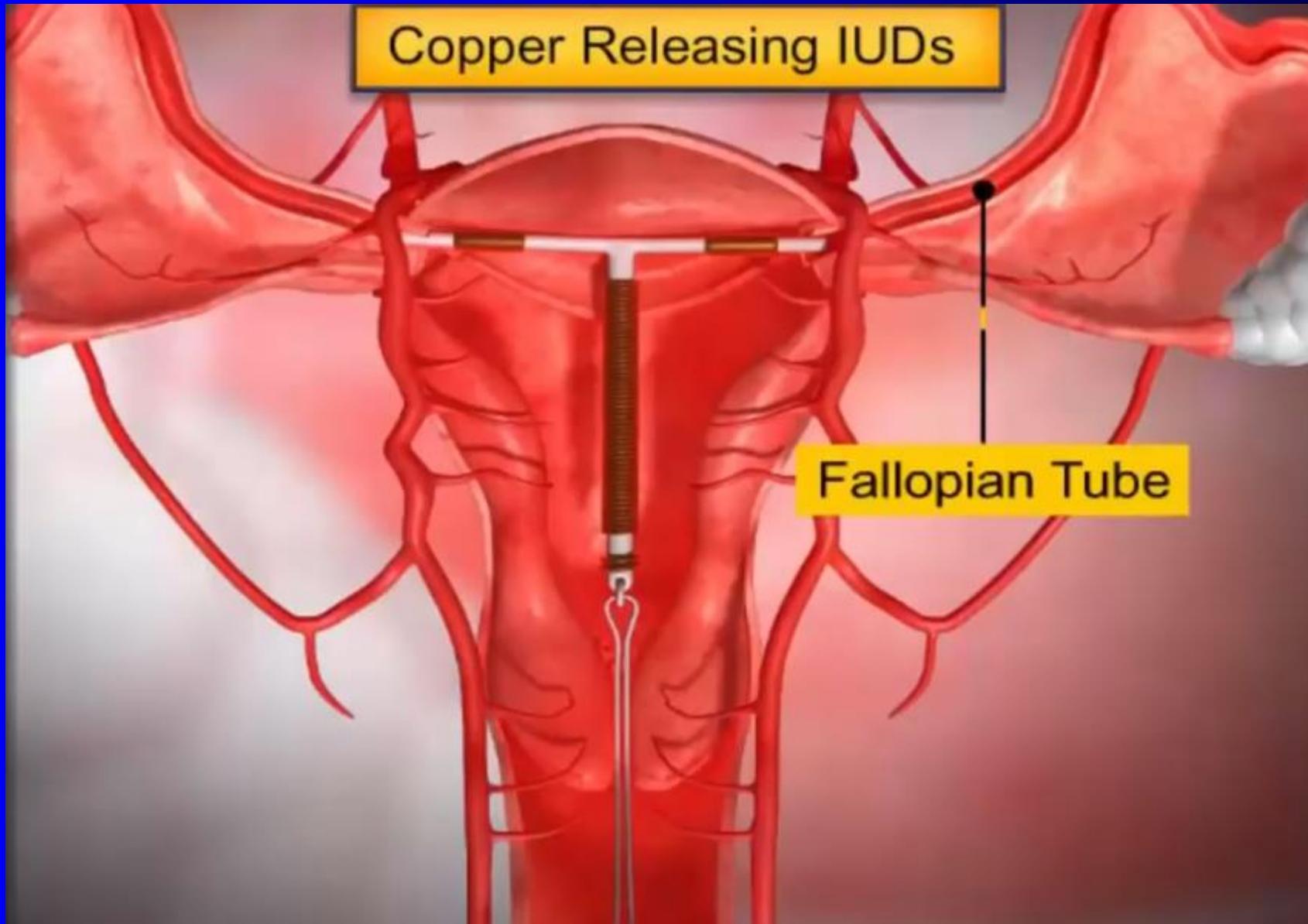
Significance of IUDs

- IUDs are ideal contraceptives for the females who want to delay pregnancy and spacing children.
- It is one of the most widely accepted methods of contraception in India.



Copper-T





Pills

OR

Oral Contraceptives

Pills or Oral Contraceptives

- Oral contraceptives are either progestogen or progestogen-estrogen combinations used by the females.
- As they are used in the form of tablets they are called the **pills**.
- Pills have to be taken daily for a period of 21 days starting within the first five days of menstrual cycle.
- After a gap of 7 days (during which menstruation occurs) it has to be repeated in the same pattern till the female desires to prevent conception.



Mode of Action of Pills



- They inhibit ovulation and implantation.
- They alter the quality of cervical mucus to prevent or retard the entry of sperms.
- Pills are very effective with lesser side effects.
- They are well accepted by the females.



Saheli Oral Contraceptive



- *Saheli* - the new oral contraceptive for the females contains a **non-steroidal preparation**.
- It is a '**once a week**' pill with very few side effects and high contraceptive value.



Injections and Implants

Injections and Implants



- Progestogen alone or in combination with estrogen can also be used by females as injections or implants under the skin.
- Their mode of action is similar to that of pills but their effective periods are much longer than pills.



Emergency Contraceptives

Emergency Contraceptives

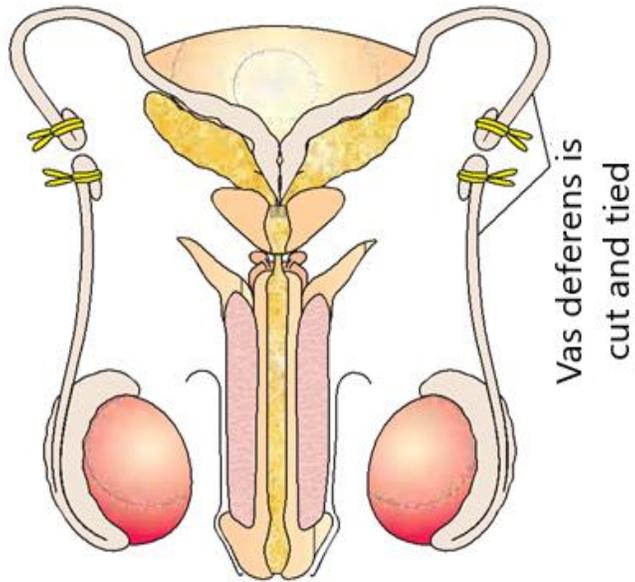


- Administration of progestogens or progestogen-estrogen combinations or IUDs within 72 hours of coitus is very effective as emergency contraceptives.
- They are used to avoid possible pregnancy due to rape or casual unprotected intercourse.



Surgical Methods

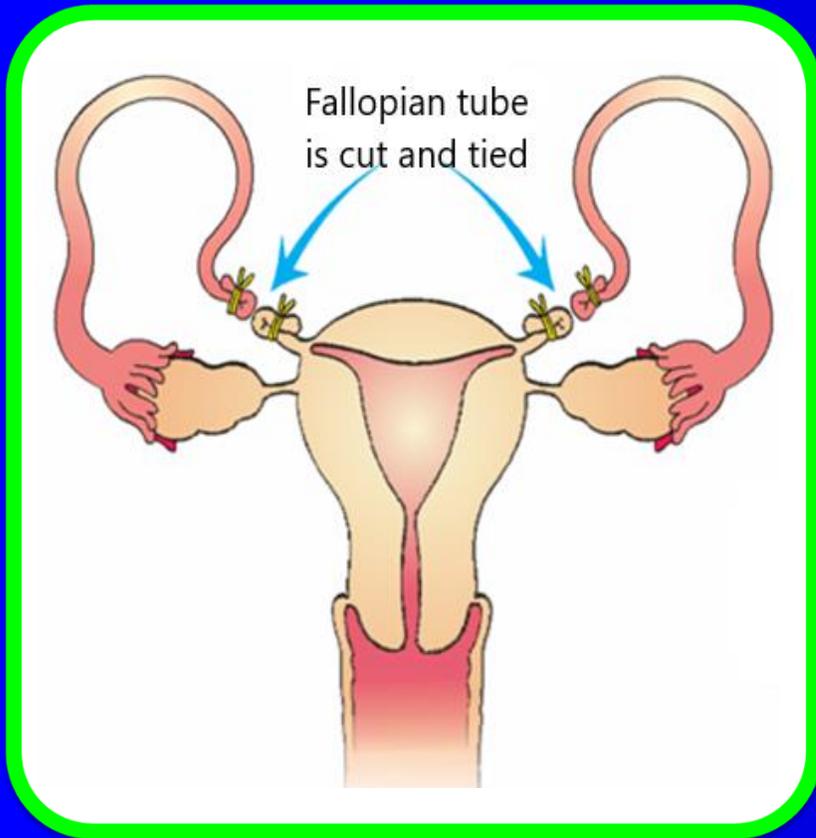
Vasectomy



- The surgical blocking of vas deferens in males is called vasectomy.
- As the vas deferens in the males are cut and tied, **transfer of sperms** is prevented.
- Hence fertilisation could not occur and pregnancy is avoided.



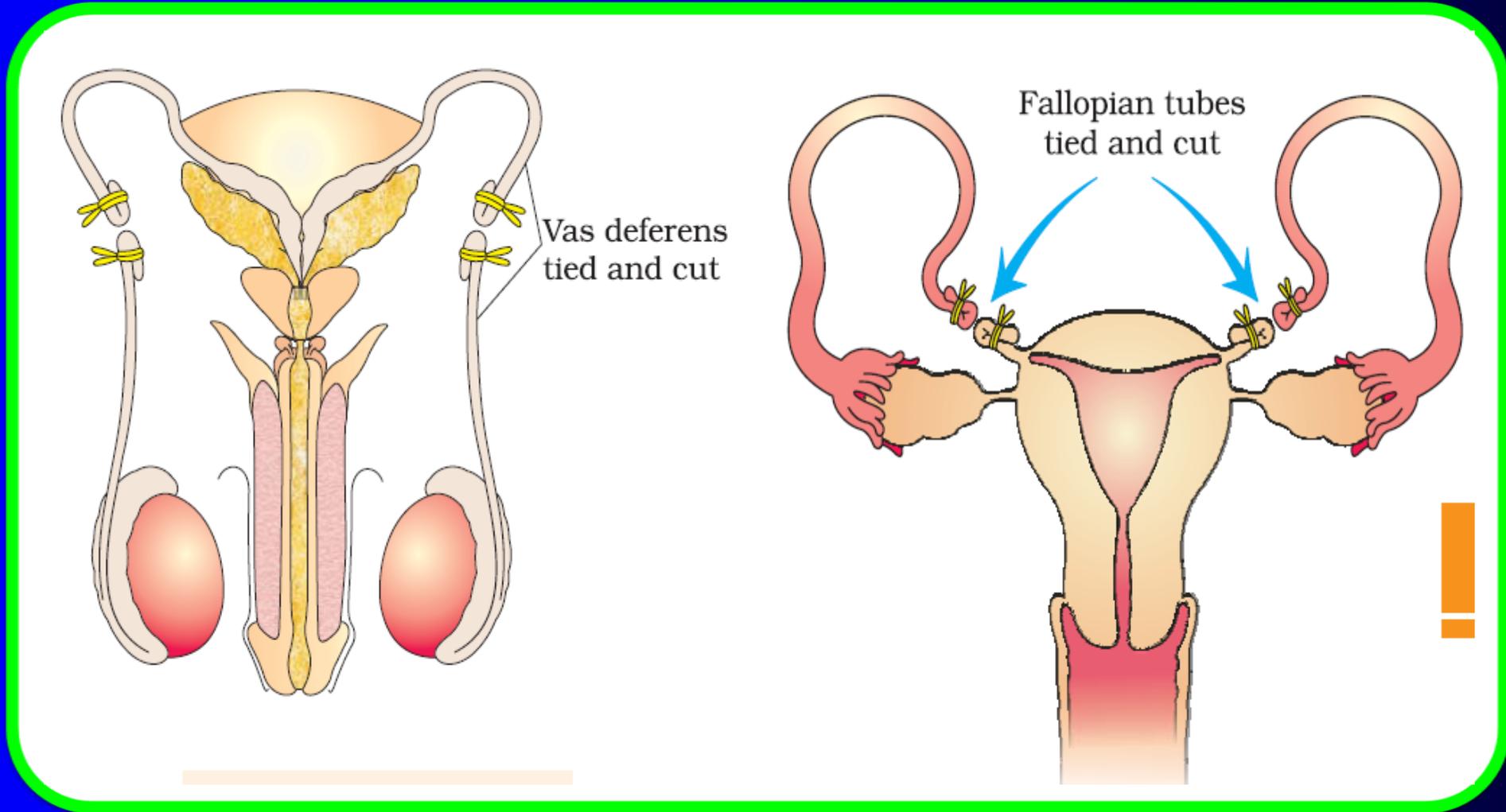
Tubectomy



- The surgical blocking of fallopian tubes in females is called tubectomy.
- As the fallopian tubes in the females are cut and tied, transfer of ovum is prevented.
- Hence fertilization could not occur and pregnancy is avoided.



Vasectomy and Tubectomy



- In vasectomy, a small part of the vas deferens is removed or tied up through a small incision on the scrotum.
- In tubectomy, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina.
- These techniques are highly effective but their reversibility is very poor.
- The selection of a suitable contraceptive method and its use should always be undertaken in consultation with qualified medical professionals.



Advantage of Contraceptive Methods

- The widespread use of these methods have a significant role in checking uncontrolled growth of population.

Disadvantages of Contraceptive Methods

- Nausea
- Abdominal pain
- Breakthrough bleeding
- Irregular menstrual bleeding
- Breast cancer



Medical Termination of Pregnancy

MTP

Medical Termination Of Pregnancy

- Intentional or voluntary termination of pregnancy before full term is called **medical termination of pregnancy (MTP)** or induced abortion.
- Nearly 45 to 50 million MTPs are performed in a year all over the world which accounts to 1/5th of the total number of conceived pregnancies in a year.
- MTP has a significant role in decreasing the population though it is not meant for that purpose.



Medical Termination Of Pregnancy

- Government of India legalised MTP in 1971 with some strict conditions to avoid its misuse.
- Such restrictions are more important to check indiscriminate and illegal female foeticides which are reported to be high in India.

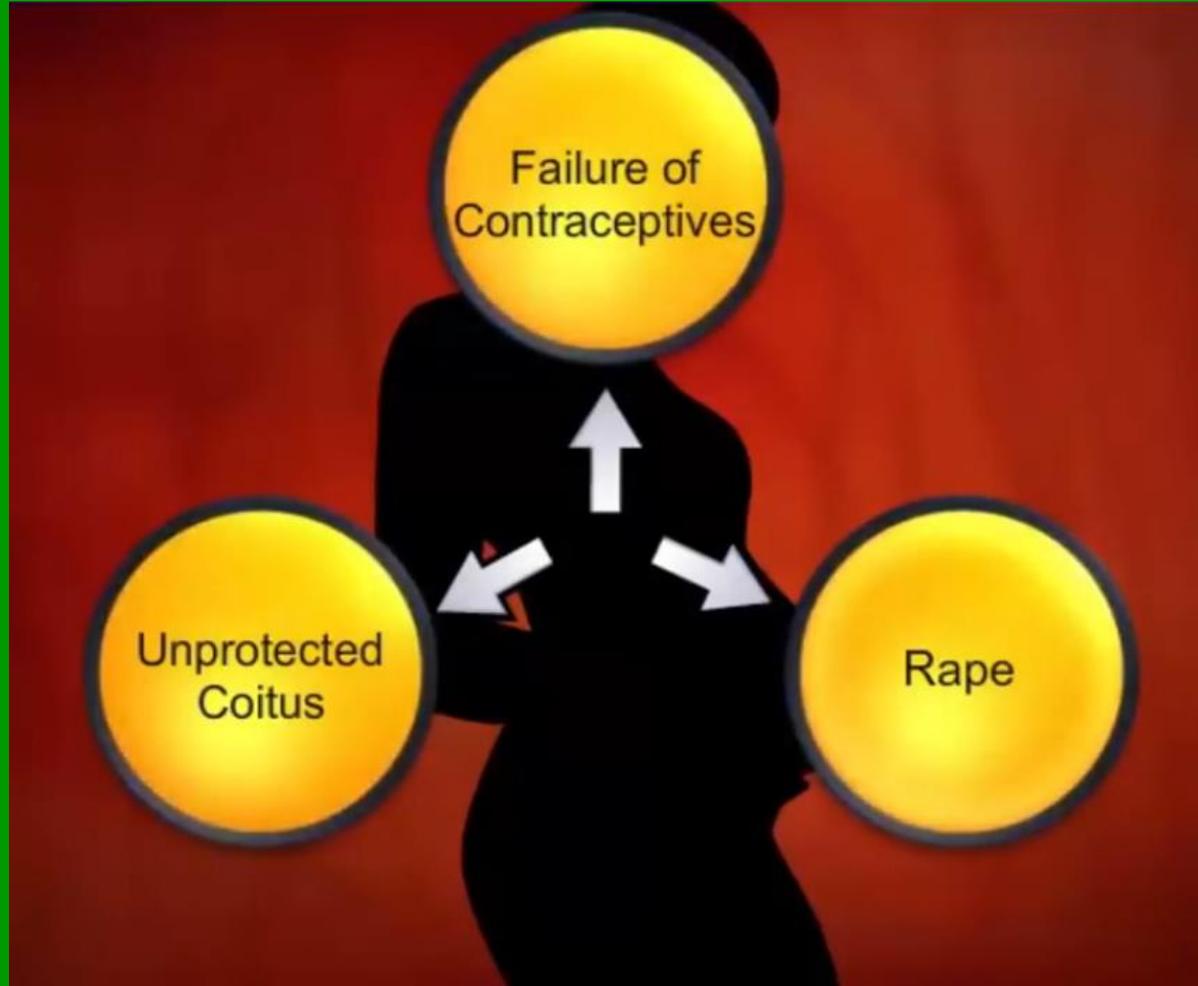


Need for MTP

- MTP is to get rid of unwanted pregnancies either due to casual unprotected intercourse or failure of the contraceptive used during coitus or rapes.
- MTPs are also essential, where continuation of the pregnancy could be harmful or even fatal either to the mother or to the foetus or both.
- MTPs are considered **safe during the first trimester**, i.e., upto 12 weeks of pregnancy. **Second trimester abortions are much more riskier.**



Medical Termination of Pregnancy is advised in the following circumstances



MTP is safe only during 12 weeks of pregnancy



Disturbing or Dangerous or Unhealthy trend of MTP

- A majority of the MTPs are performed illegally by unqualified quacks which are not only unsafe but could be fatal too.
- The misuse of amniocentesis to determine the sex of the unborn child. If the foetus is found to be female, it is followed by MTP- this is totally against what is legal.
- Such practices should be avoided because these are dangerous both for the young mother and the foetus.



How to prevent the unhealthy trend of MTP?

- Effective counseling on the need to avoid unprotected coitus.
- The risk factors involved in illegal abortions.
- Providing more health care facilities.



Sexually Transmitted Diseases

STDs

Diseases or infections which are transmitted through sexual intercourse are collectively called

- Sexually Transmitted Diseases (STD)

or

- Venereal Diseases (VD)

or

- Reproductive Tract Infections (RTI)



Sexually Transmitted Diseases

Disease	Causal Organism	Type of Organism
Syphilis	Treponema palladium	Bacterium
Gonorrhoea	Neisseria gonorrhoeae	Bacterium
Chlamydiasis	Chlamydia trachomatis	Bacterium
Trichomoniasis	Trichomonas vaginalis	Protozoan
AIDS	HIV	Virus
Hepatitis-B	Hepatitis Virus	Virus
Genital warts	Human papilloma virus	Virus
Genital herpes	Herpes simplex virus	Virus



Sexually Transmitted Diseases

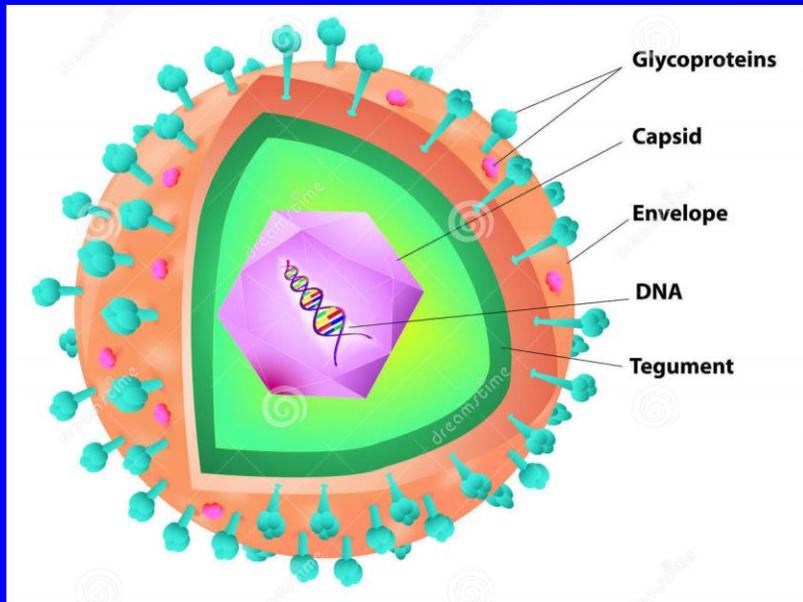
Hepatitis-B, Genital Herpes and HIV infections are incurable.

Except hepatitis-B, genital herpes and HIV infections, other diseases are completely curable if detected early and treated properly.



Genital Herpes

Herpes simplex virus



Causal Organism:

Herpes simplex virus (HSV)

Mode of Infection:

Genital herpes is a sexually transmitted disease (STD), transmitted through skin-to-skin contact.

Organ of Infection:

It can affect various areas of the body but is most commonly found on the genital organs.

Symptoms:

Appearance of blisters on genital organs.

Pain during urination.

Burning around the genitals

Unusual vaginal discharge in women.



Hepatitis-B

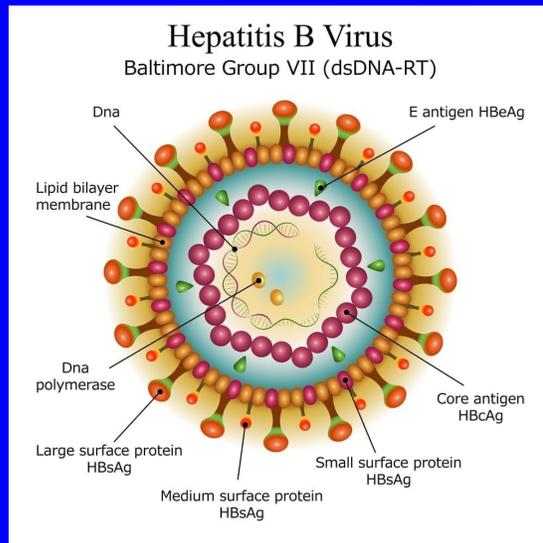
Causal Organism:

Hepatitis-B virus

Mode of Infection:

Hepatitis B is spread through blood, semen and body fluids. This can happen through

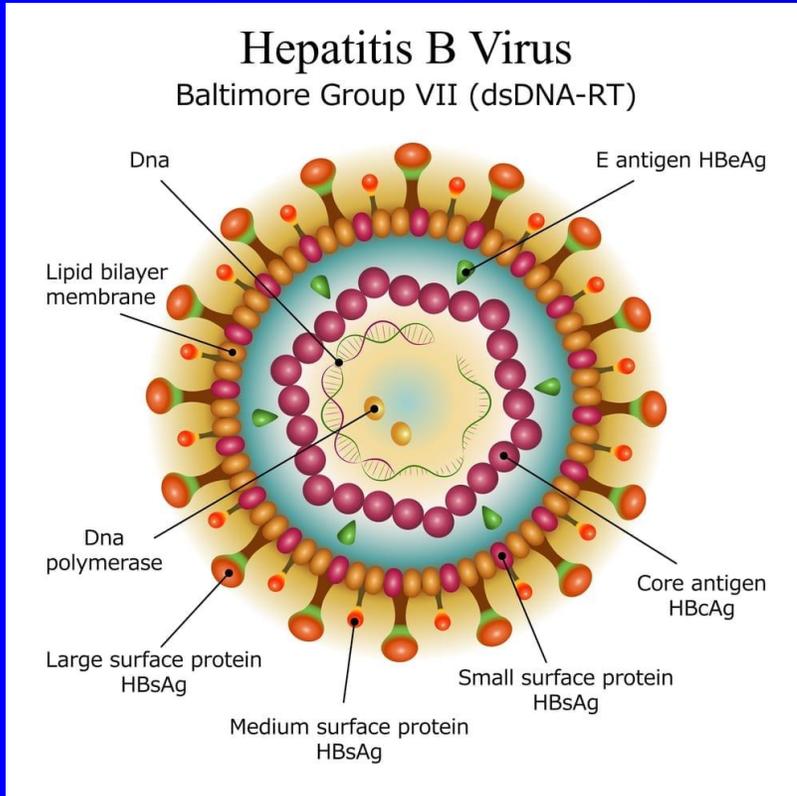
- Sexual intercourse
- From infected mother to the foetus during pregnancy
- From infected mother to the baby during breast feeding
- Sharing of needles and syringes
- Sharing of surgical instruments
- Blood transfusion



Hepatitis-B

Symptoms:

- Abdominal pain
- Dark urine
- Fever
- Joint pain
- Loss of appetite
- Nausea and vomiting
- Weakness and fatigue
- Yellowing of skin and eyes (jaundice)

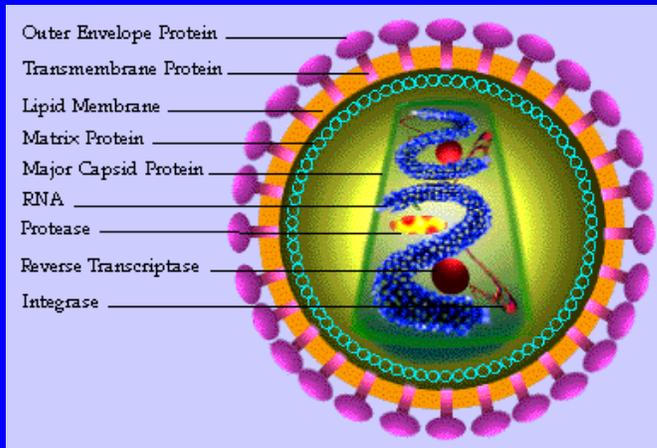


Acquired Immunodeficiency Syndrome (AIDS)

Causal Organism:

Human Immunodeficiency Virus (HIV)

Modes of Transmission:

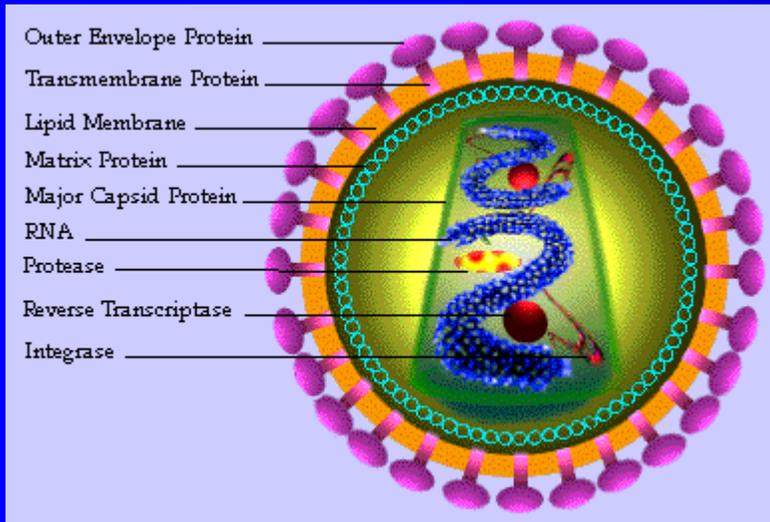


- Sexual intercourse
- From infected mother to the foetus during pregnancy
- From infected mother to the baby during breast feeding
- Sharing of needles and syringes
- Sharing of surgical instruments
- Blood transfusion



Symptoms of AIDS

- Sudden weight loss
- Chronic diarrhoea
- Night sweats
- Fever
- Headache
- Muscle ache and joint pain
- Sore throat and painful mouth sores
- Swollen lymph glands, mainly on the neck



Human Immunodeficiency Virus (HIV)

Outer Envelope Protein _____

Transmembrane Protein _____

Lipid Membrane _____

Matrix Protein _____

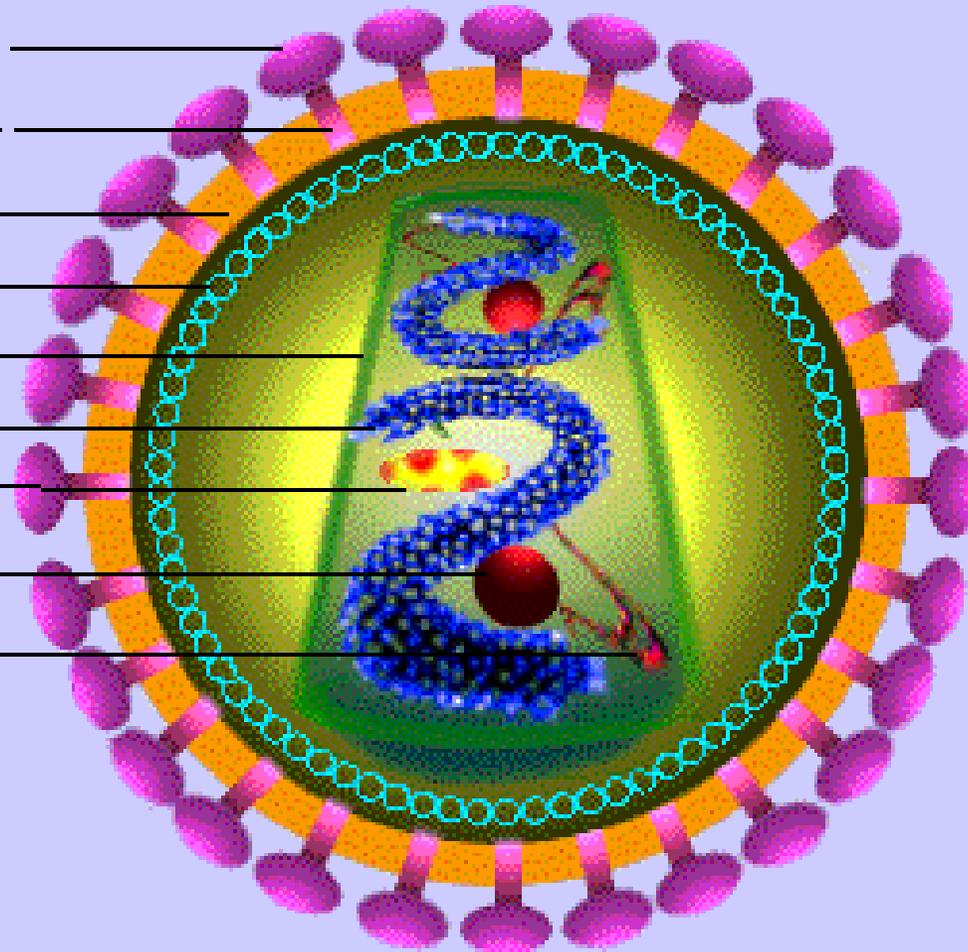
Major Capsid Protein _____

RNA _____

Protease _____

Reverse Transcriptase _____

Integrase _____



Early symptoms of STDs

Early symptoms of most of the STDs are minor and include the following in the genital region.

- Itching
- Fluid discharge
- Slight pain
- Swellings

Infected females may often be asymptomatic and hence, may remain undetected for long.



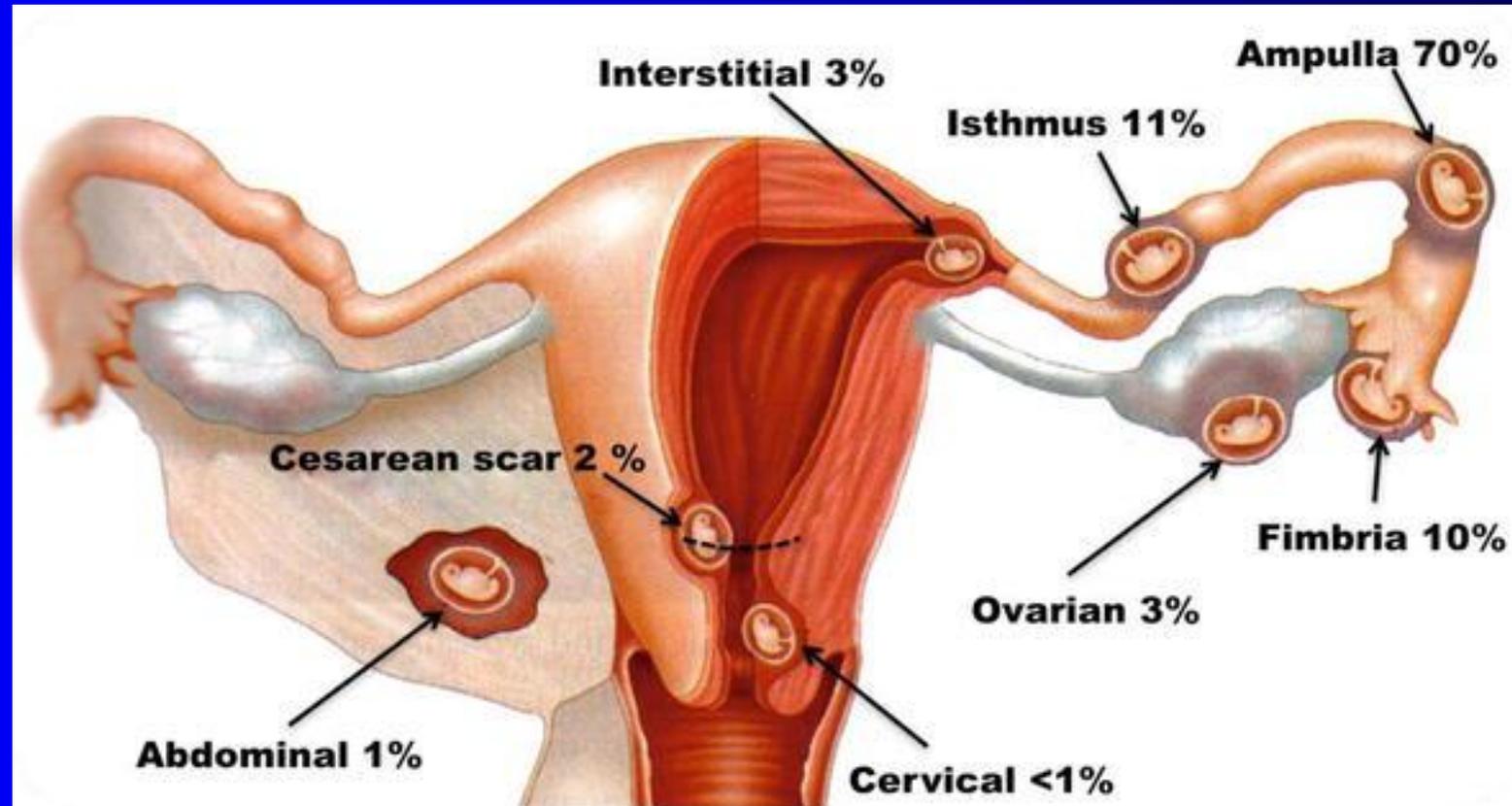
Complications of STDs

- Pelvic inflammatory diseases (PID)
- Abortions
- Still births (Death of a foetus after 20 weeks of pregnancy)
- Ectopic pregnancies (Implantation of zygote outside the uterus)
- Infertility
- Cancer of the reproductive tract

Though all persons are vulnerable to the STD, their incidences are reported to be very high among persons in the age group of 15-24 years.



Ectopic Pregnancy



Medical Terms

Miscarriage:

Death of a foetus before 20 weeks of pregnancy.

Still birth:

Death of a foetus after 20 weeks of pregnancy.

Ectopic Pregnancy:

Implantation of zygote outside the uterus, usually in the fallopian tubes. Sometimes it occurs in the ovary, abdominal cavity or in cervix.

Ectopic Pregnancy in fallopian tube is called **tubal pregnancy**.



Preventions of STDs

- Avoid sex with unknown partners or multiple partners.
- Always use condoms during coitus.
- In case of doubt, consult a qualified doctor for early detection and get complete treatment if diagnosed with disease.



Infertility

Infertility

A large number of couples all over the world including India are infertile, i.e., they are unable to produce children inspite of unprotected sexual co-habitation.

In India, often the female is blamed for the couple being childless, but more often than not, the problem lies in the male partner.

Reasons for Infertility

- Physical
- Congenital
- Diseases

- Drugs
- Immunological
- Psychological.

Infertility clinics could help in diagnosis and corrective treatment of these disorders enable the infertile couples to have children.



Assisted Reproductive Technology (ART)

ARTs are special techniques used for infertile couples to have children.

They are

IVF In Vitro Fertilisation (Outside the body)

ET Embryo Transfer

ZIFT Zygote Intra Fallopian Transfer

IUT Intra Uterine Transfer

GIFT Gamete Intra Fallopian Transfer

ICSI Intra Cytoplasmic Sperm Injection

AI Artificial Insemination

IUI Intra-Uterine Insemination



Assisted Reproductive Technology

ART

Test tube baby programme

In-vitro fertilization

IVF

In Vitro Fertilization (IVF)

- In this method, fertilization occurs outside the body in almost similar conditions as that in the body, followed by **embryo transfer (ET)**.
- This method is popularly known as **test tube baby** programme, during which ova from the wife or female donor and sperms from the husband or male donor are collected and are induced to form zygote under simulated conditions in the laboratory.
- The zygote or early embryos (with upto 8 blastomeres) could then be transferred into the fallopian tube



IVF



Fertilised Egg

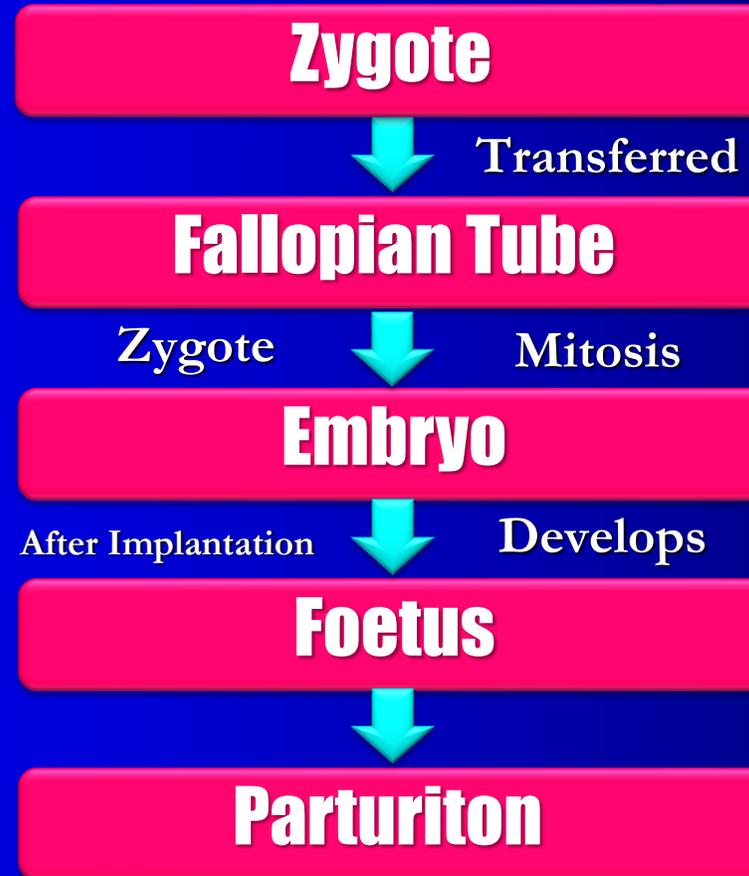
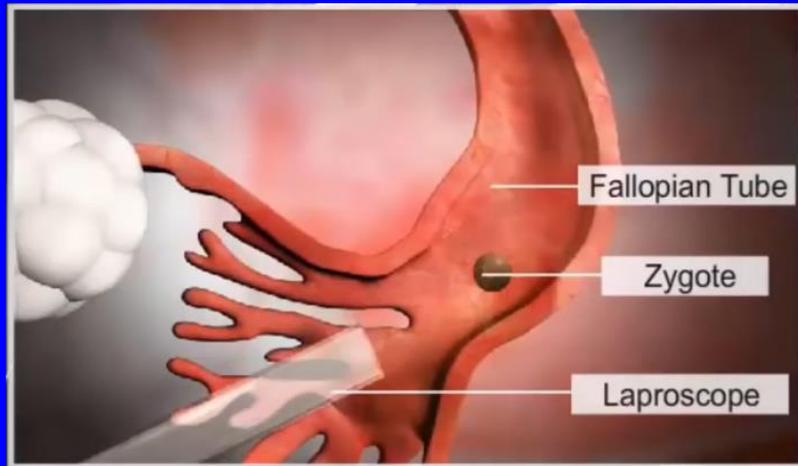
IVF is also called test tube baby programme.



ZIFT

Zygote Intra Fallopian Transfer

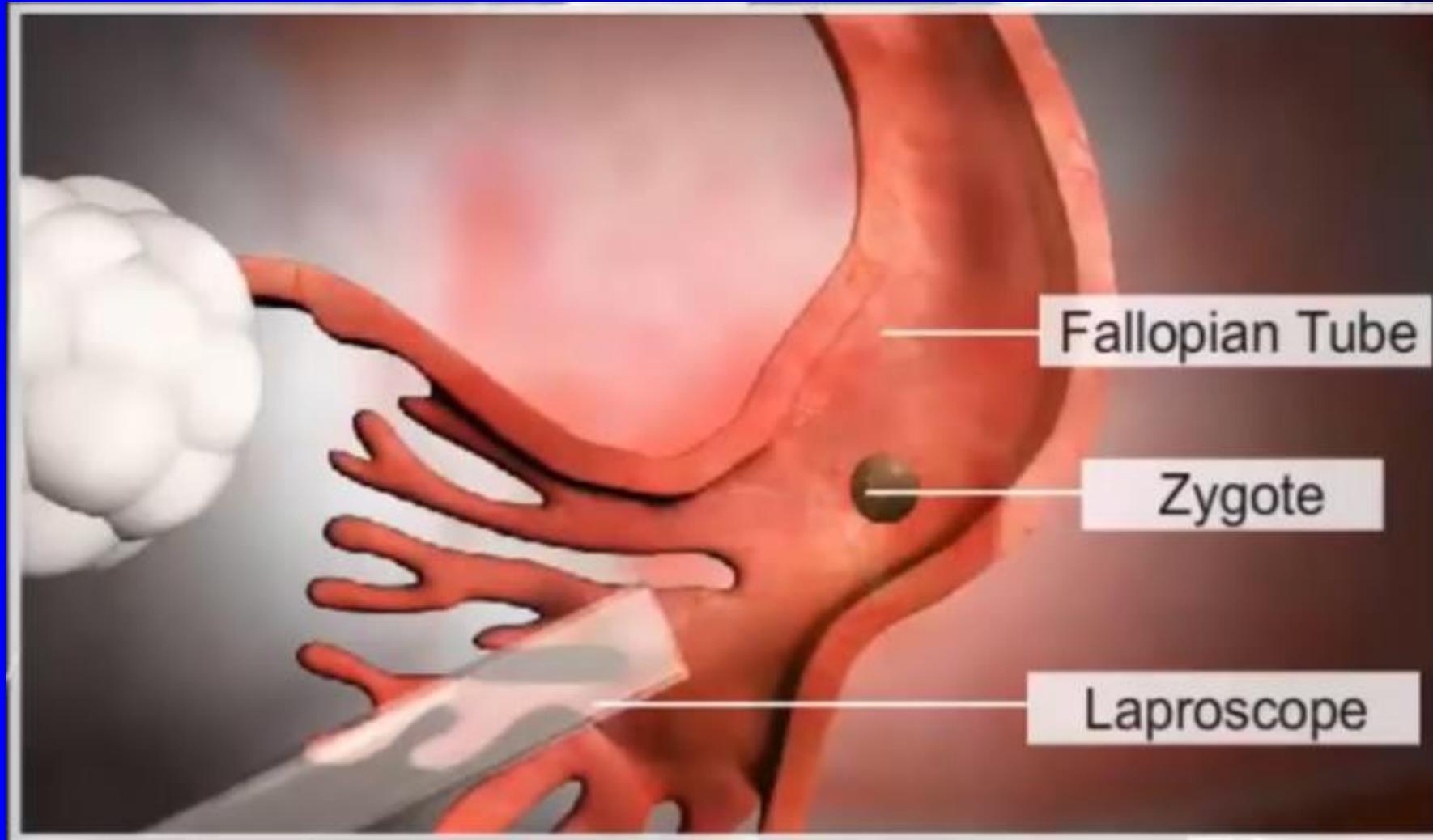
ZIFT – Zygote Intra Fallopian Transfer



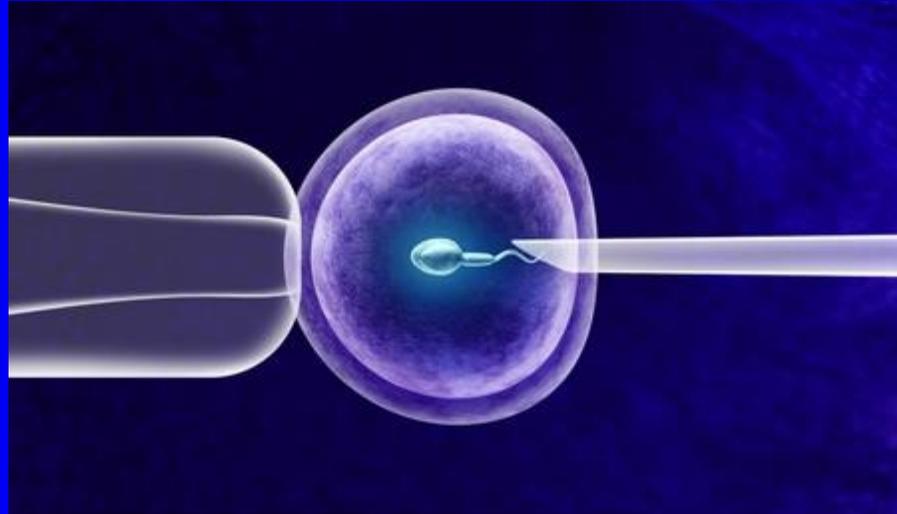
Transfer of zygote up to 8 blastomeres into the fallopian tube is called Zygote Intra Fallopian Transfer.



ZIFT – Zygote Intra Fallopian Transfer



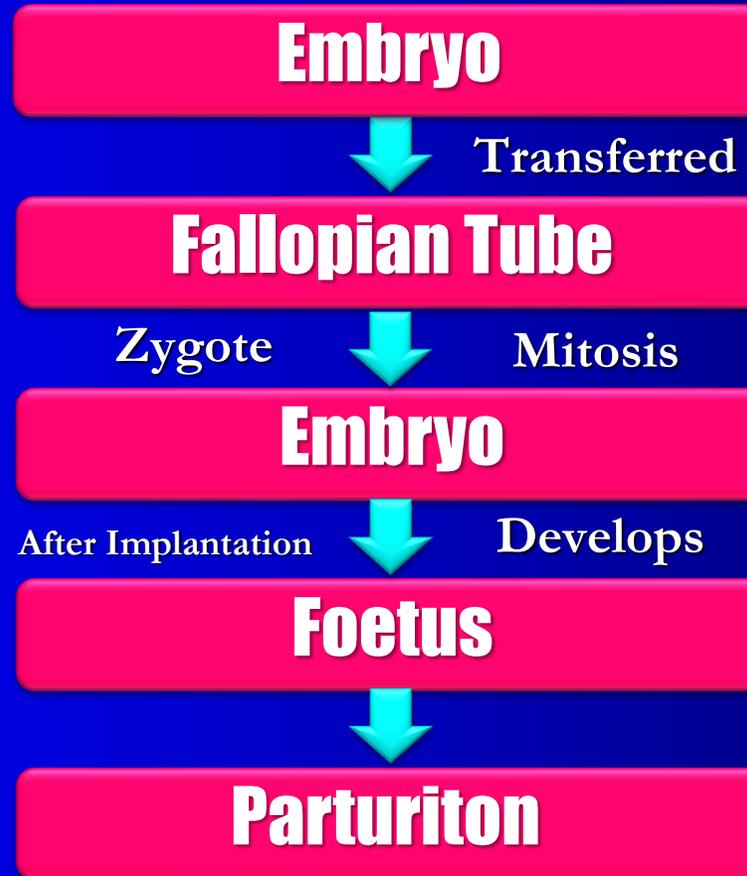
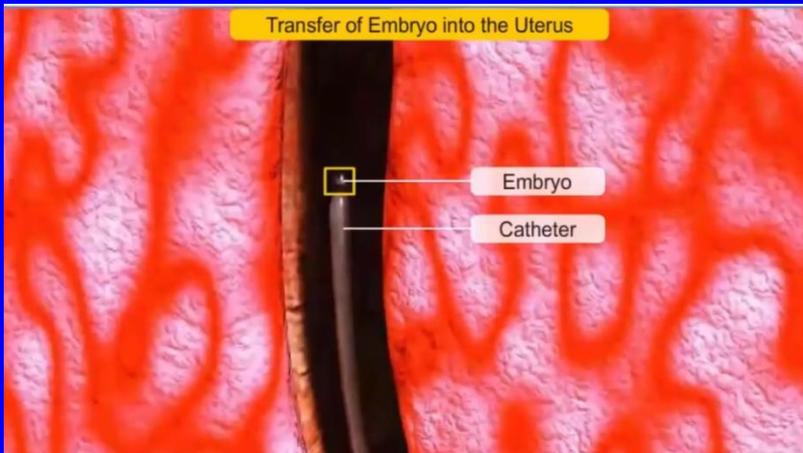
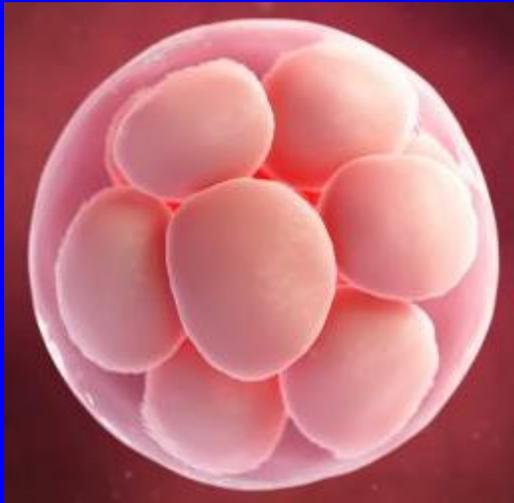
ZIFT – Zygote Intra Fallopian Transfer



IUT

Intra Uterine Transfer

IUT – Intra Uterine Transfer

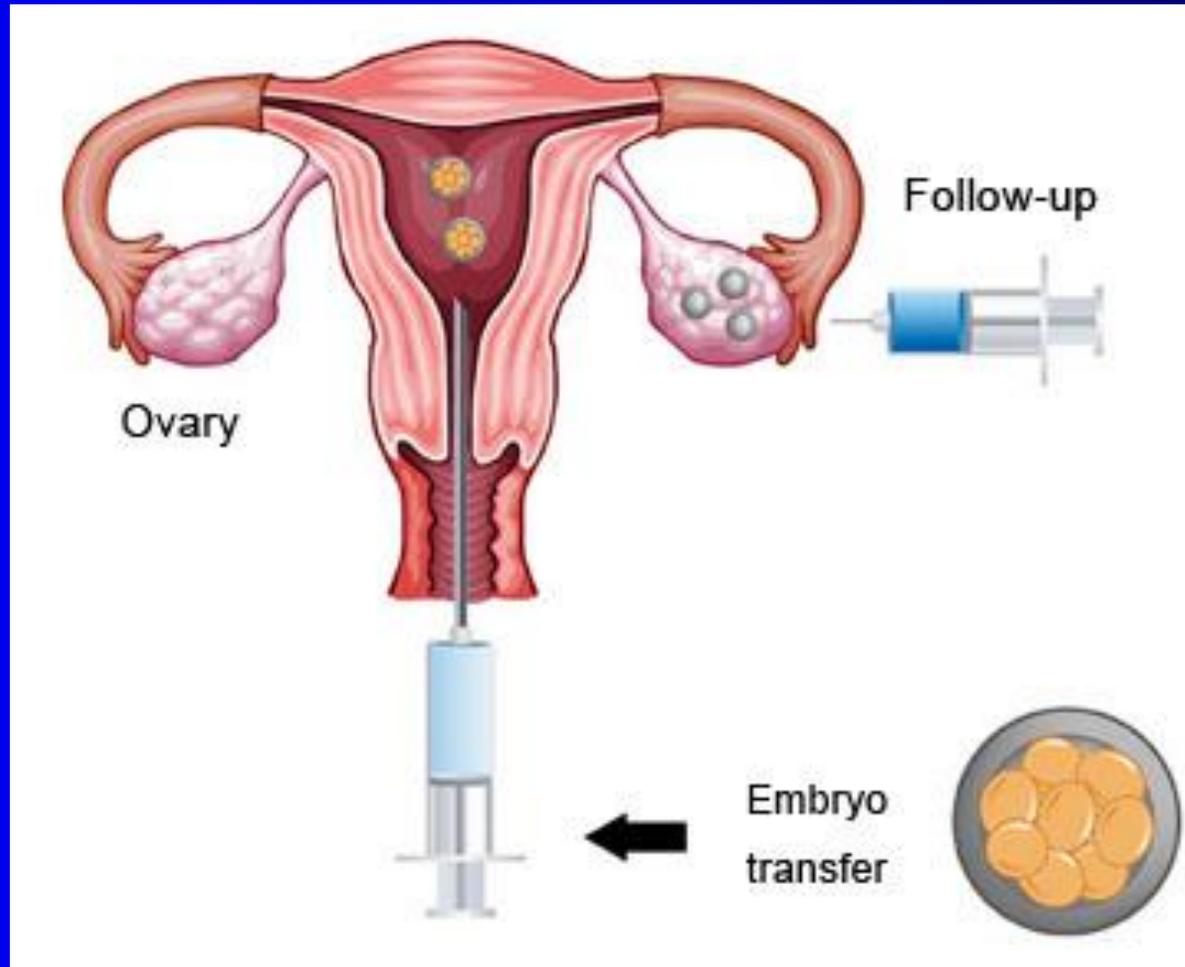


Transfer of embryos with more than 8 blastomeres, into the **uterus** is called Intra Uterine Transfer.

Embryos formed by **in-vivo fertilization** (fusion of gametes within the female) also could be used for such transfer to assist those females who cannot conceive.



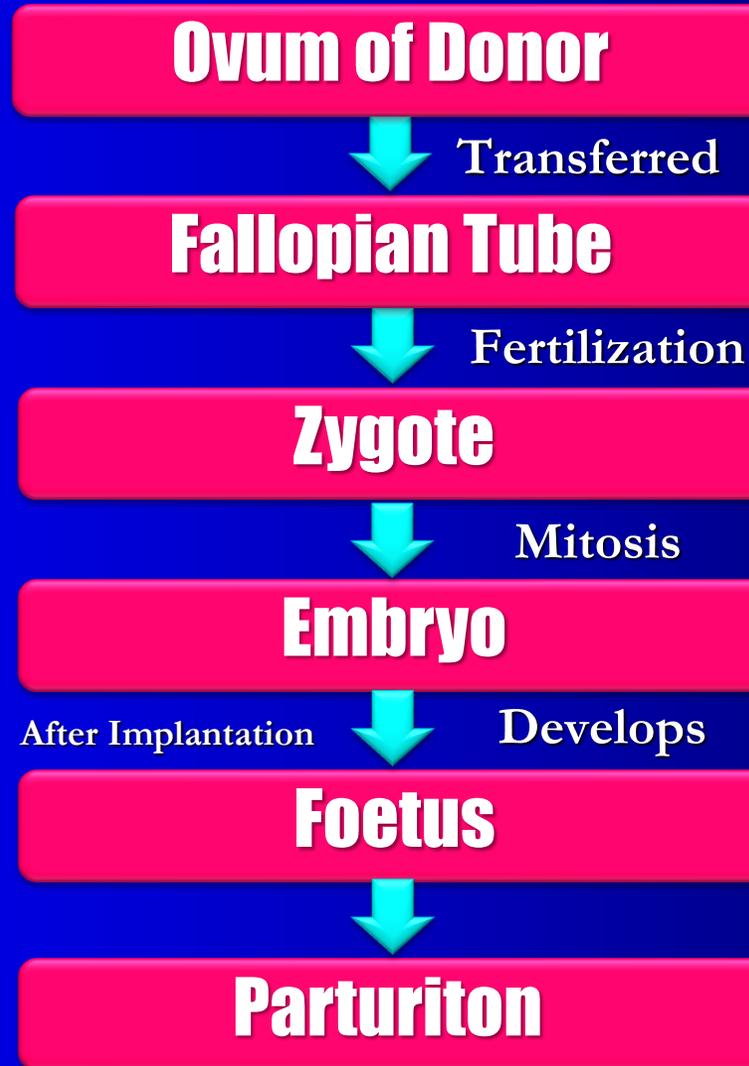
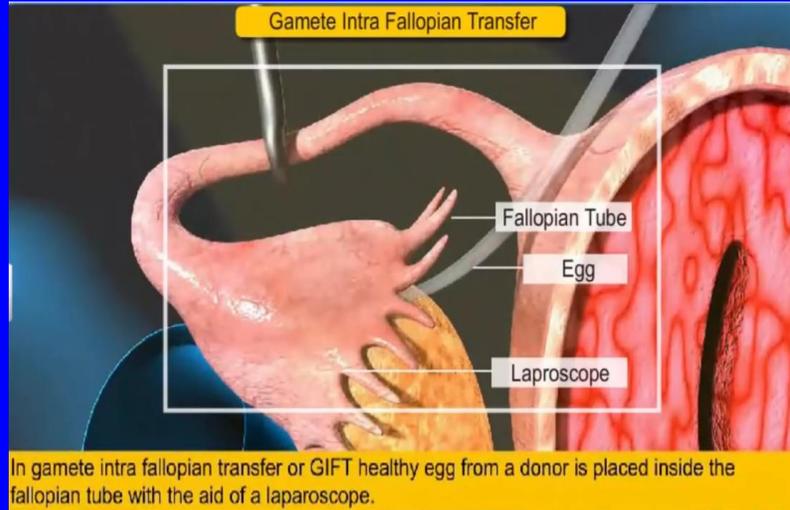
IUT - Intra Uterine Transfer



GIFT

Gamete Intra Fallopian Transfer

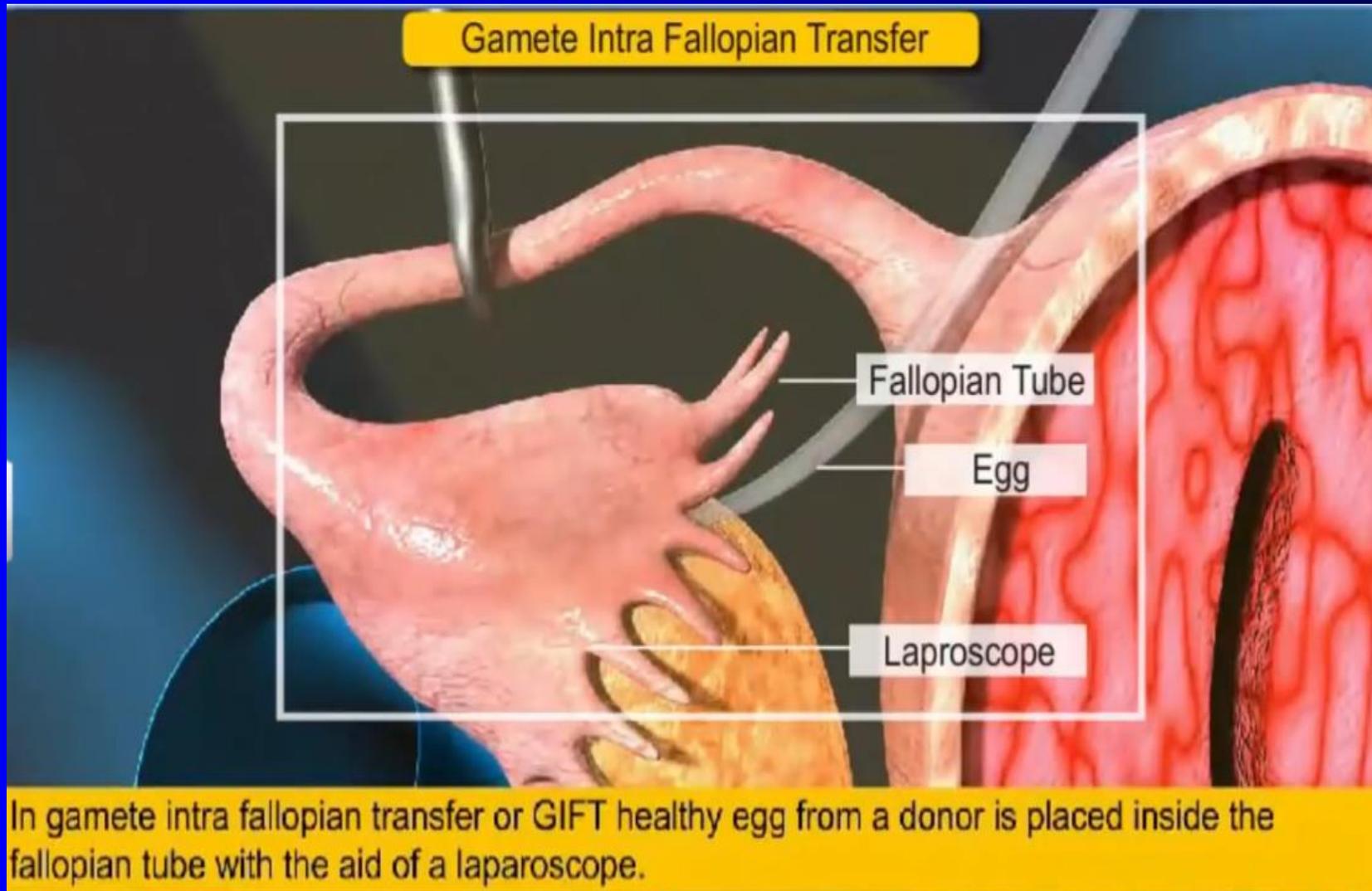
GIFT – Gamete Intra Fallopian Transfer



The ovum collected from a female donor is transferred into the fallopian tube of another female who cannot produce ova but can provide a suitable environment for fertilisation and further development of the foetus up to parturition is called gamete intra fallopian transfer (GIFT).



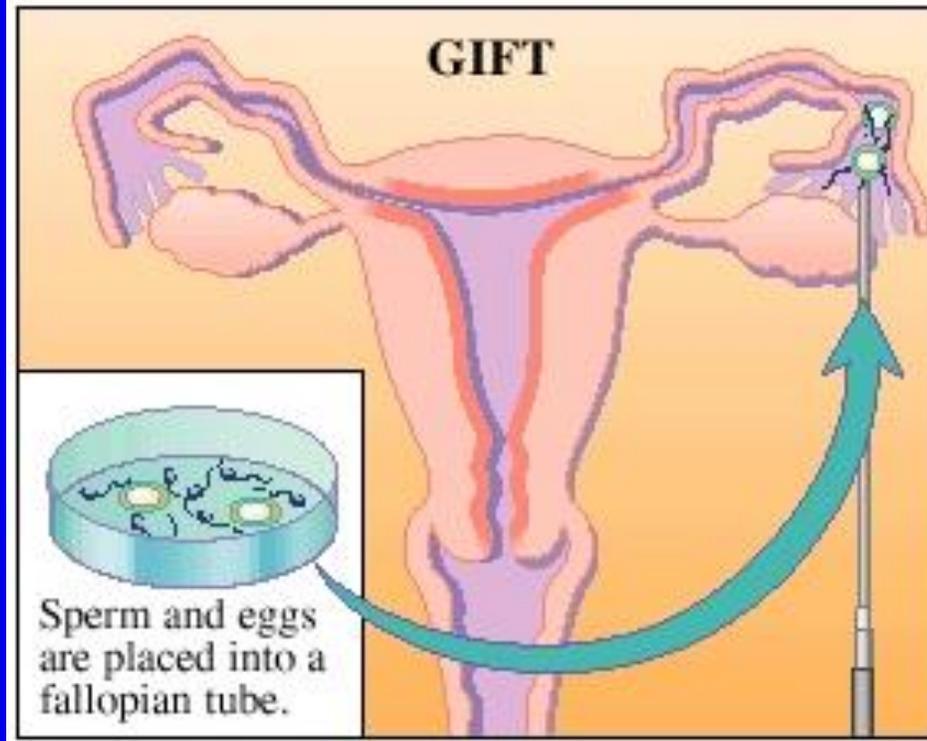
GIFT – Gamete Intra Fallopian Transfer



GIFT – Gamete Intra Fallopian Transfer

GIFT

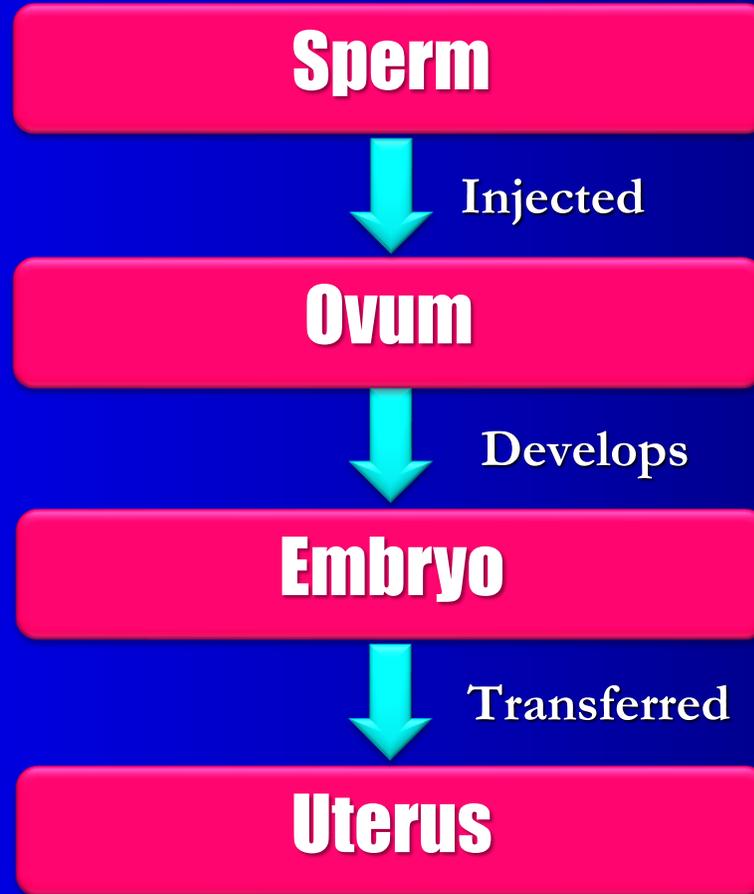
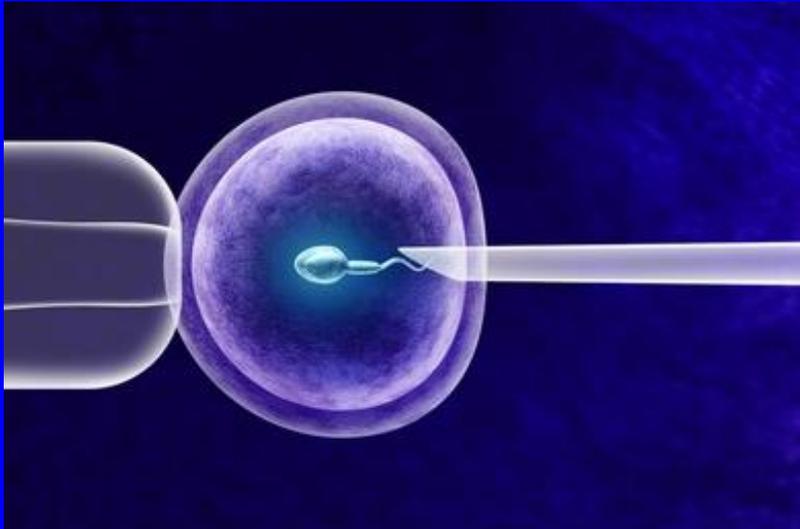
With GIFT, sperm and eggs are placed in a fallopian tube to allow fertilization in the natural site. The woman must have at least one normal, open fallopian tube.



ICSI

Intra Cytoplasmic Sperm Injection

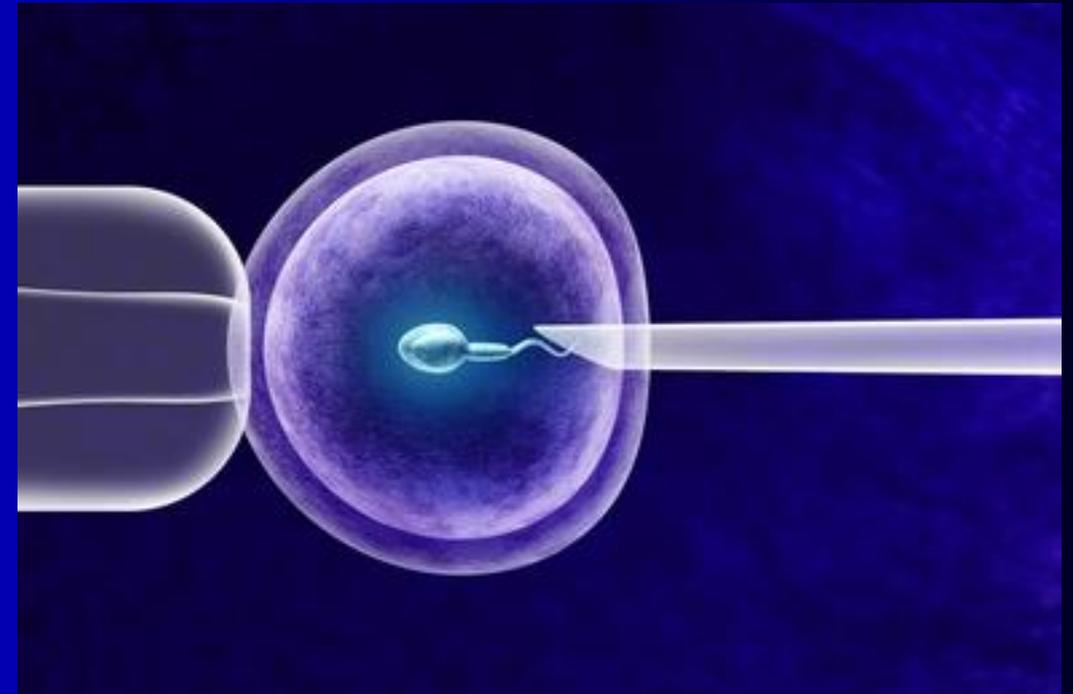
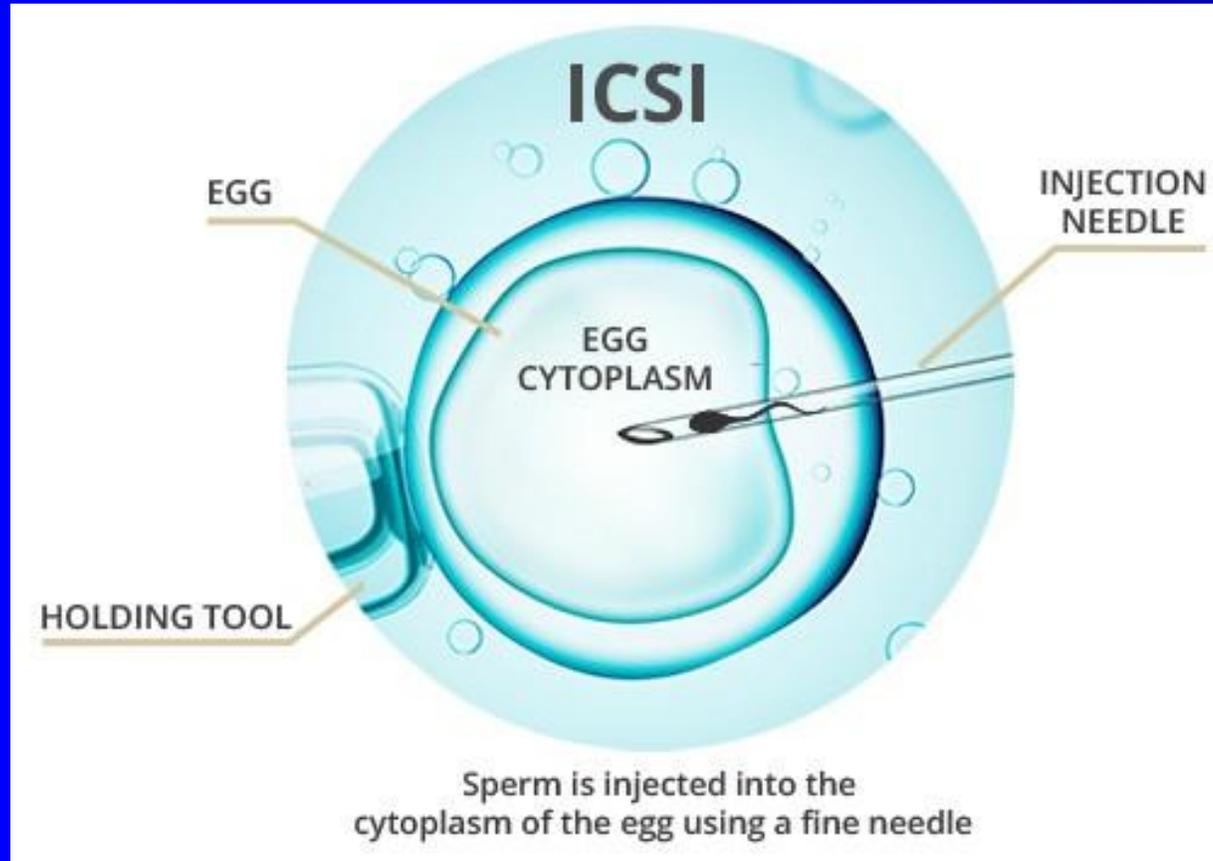
ICSI – Intra Cytoplasmic Sperm Injection



The sperm is directly injected into the ovum to form an embryo in the laboratory and then embryo transfer is carried out.



ICSI – Intra Cytoplasmic Sperm Injection



AI

Artificial Insemination

Artificial Insemination – AI or Intra Uterine Insemination - IUI

The semen collected from the husband

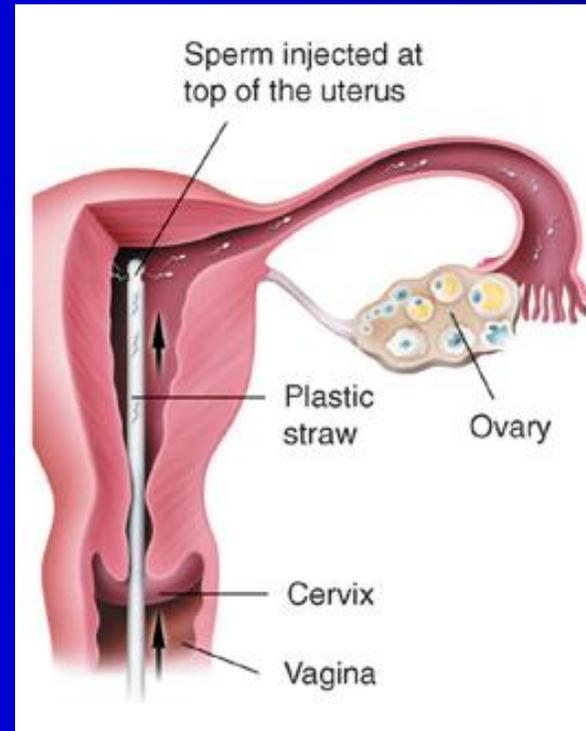
or

a healthy donor artificially introduced either into the vagina or into the uterus of the female is called Artificial Insemination (AI).

Semen of Donor

Artificially Introduced

Vagina or Uterus



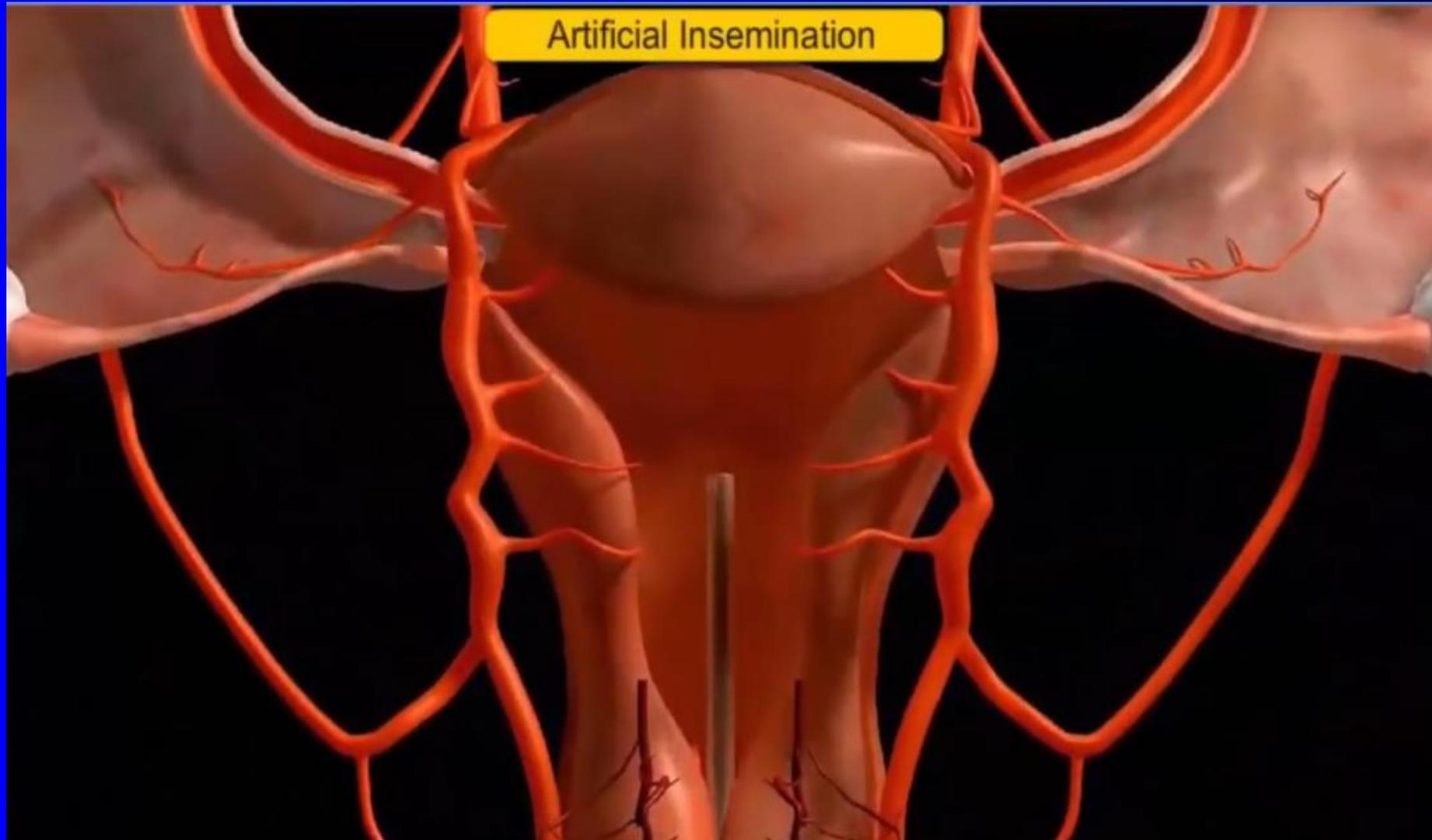
Infertility caused due to the following can be treated by Artificial Insemination.

Inability of the male partner to **inseminate** the female.

Very low sperm count in the ejaculate.

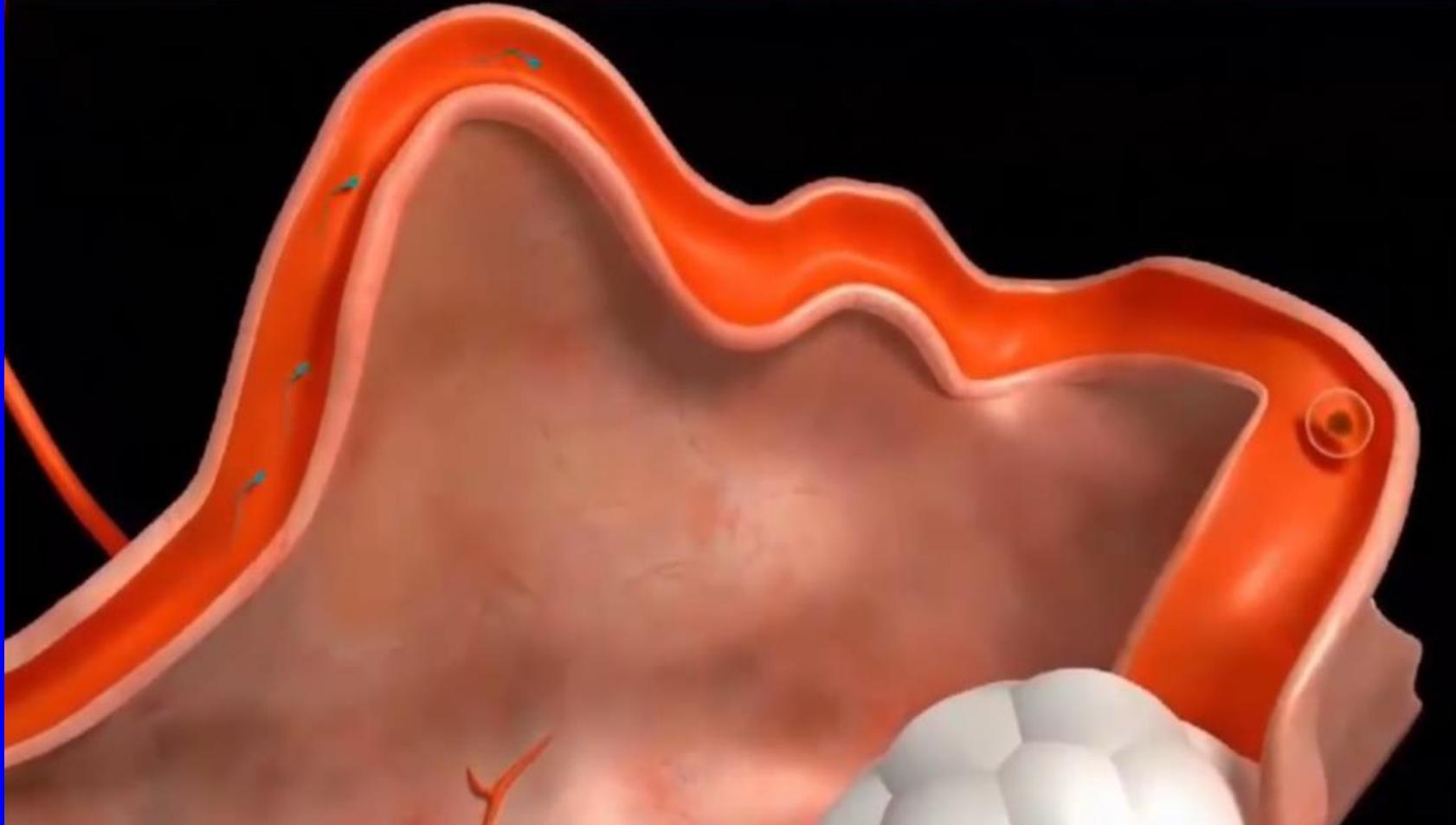


Artificial Insemination or Intra Uterine Insemination - IUI



Artificial Insemination or Intra Uterine Insemination - IUI

Artificial insemination is also called – intra-uterine insemination or IUI.



Artificial Reproductive Technologies - ART

All these techniques require extremely high precision by specialised professionals and expensive instrumentation.

Therefore, these facilities are available only in very few centres in the country.

Their benefits are affordable only to a limited number of people.

Emotional, religious and social factors are also deterrents (discourages) in the adoption of these methods.



Artificial Reproductive Technologies - ART

Since the ultimate aim of all these procedures is to have children, legal adoption of orphaned and destitute children is one of the best methods for couples looking for parenthood.

Our laws permit legal adoption of such children.

In India we have so many orphaned and destitute children, who would probably not survive till maturity, unless taken care of.



Amniocentesis

Amniocentesis

It is a prenatal diagnostic technique in which a sample of amniotic fluid from the womb of pregnant mother is taken during early stages of foetal development and the cells are cultured and analysed.

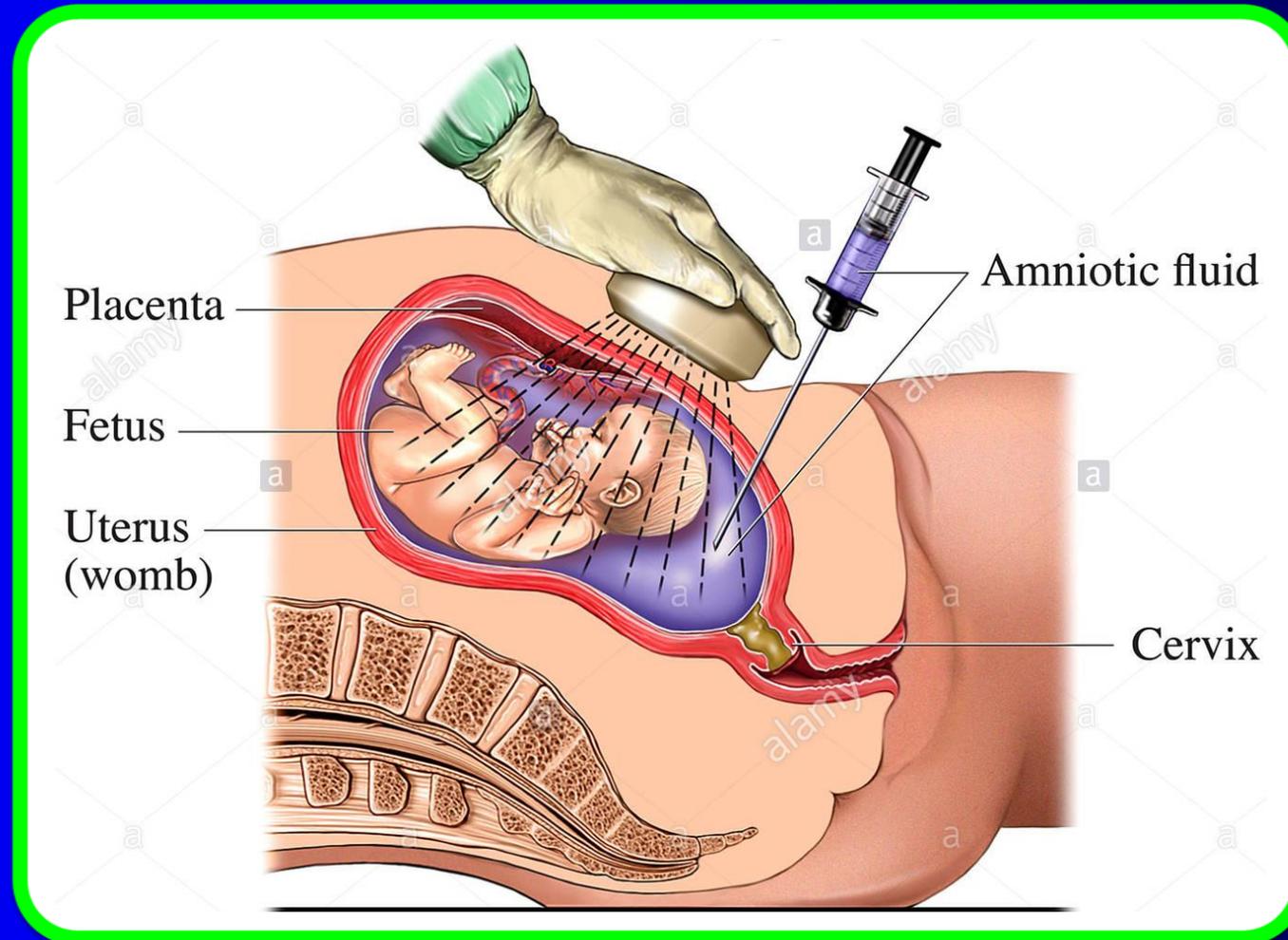
By this method the chromosomal abnormalities, the developmental disorders and sex of the foetus could be detected.

It is misused for detecting female foetus and aborting female foetus. (Female foeticide)

Hence there is a statutory ban on **amniocentesis** to legally check increasing female foeticides.



Amniocentesis



God Bless You