

# Family Welfare Reproductive Technology;

Artificial insemination -  
cryopreservation - IVF

# What is ART?

- ▶ Group of high tech treatment methods to improve infertility.
- ▶ Techniques include
  - In Vitro Fertilization
  - Artificial Insemination
  - Gamete Intra-Fallopian Transfer
  - And many more



# History of ART



- ▶ 1978- first successful birth using In Vitro Fertilization
- ▶ 1984- first successful birth using Gamete Intra Fallopian Transfer
- ▶ 1986- first successful birth using Zygote Intra Fallopian Transfer

# What is Infertility?

- ▶ Inability to conceive a baby after one year of unprotected intercourse.
- ▶ Affects the reproductive organs of both men and women.
- ▶ Infertility affects about 15% of couples in the United States.

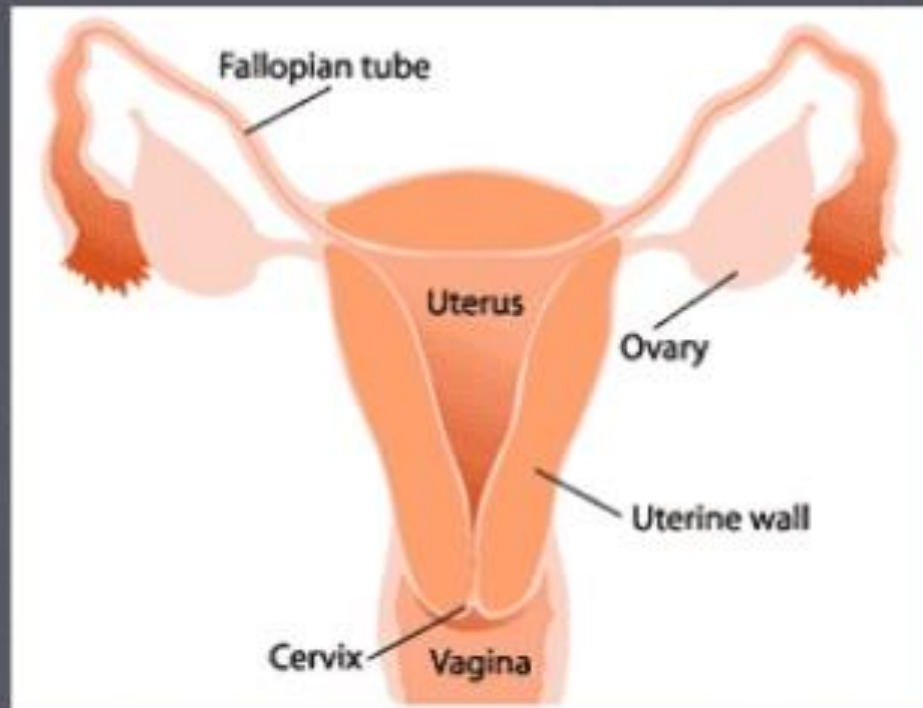


# Factors Affecting Conception



- ▶ Production of healthy sperm
- ▶ Healthy eggs by the woman
- ▶ Unblocked fallopian tubes
- ▶ The ability for the sperm to fertilize the egg
- ▶ The ability for the embryo to implant in the uterus

# Causes of Infertility in Women



- ▶ The older a woman is, the higher her chances of becoming infertile.
- ▶ Ovulation disorder
- ▶ Blocked fallopian tubes caused by a pelvic inflammatory disease or endometriosis (a condition that causes adhesions and cysts).

# Causes of Infertility in Men

- ▶ Azoospermia-lack of sperm production
- ▶ Inability to ejaculate normally
- ▶ Varicocele- veins in the scrotum are enlarged which can heat the inside of the scrotum and can affect sperm production.
- ▶ Teratospermia- increased percentage of abnormal shapes



# Statistics

- ▶ Infertility affects more than 15% of the couples in the United States.
- ▶ About one-third of infertility cases are caused by male factors.
- ▶ In about 20% of infertile couples the cause is unknown.
- ▶ The remaining one-third of infertile cases is caused by a combination of factors in both partners.
- ▶ The chances of becoming pregnant decreases 3-5% per year after the age of 30.



# Most Common Choices of Treatment



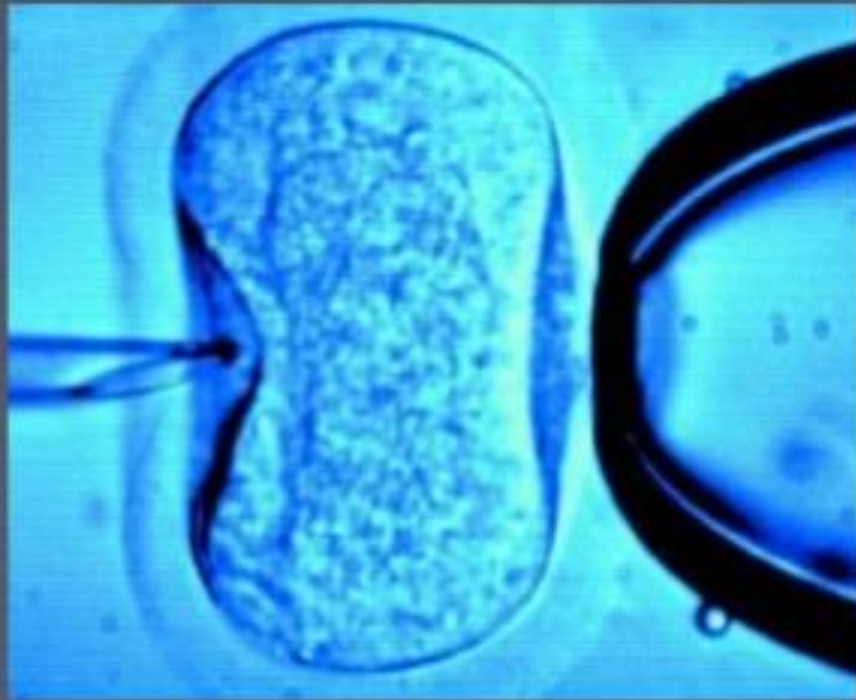
- ▶ In Vitro Fertilization
- ▶ Artificial Insemination
- ▶ Frozen Embryos
- ▶ Gamete Intra Fallopian Transfer
- ▶ Zygote Intra Fallopian Transfer

# Artificial Insemination

- ▶ Sperm is collected and placed into a woman's vagina, cervical canal or in the uterus.
- ▶ Sperm can come from your partner or an anonymous donor.

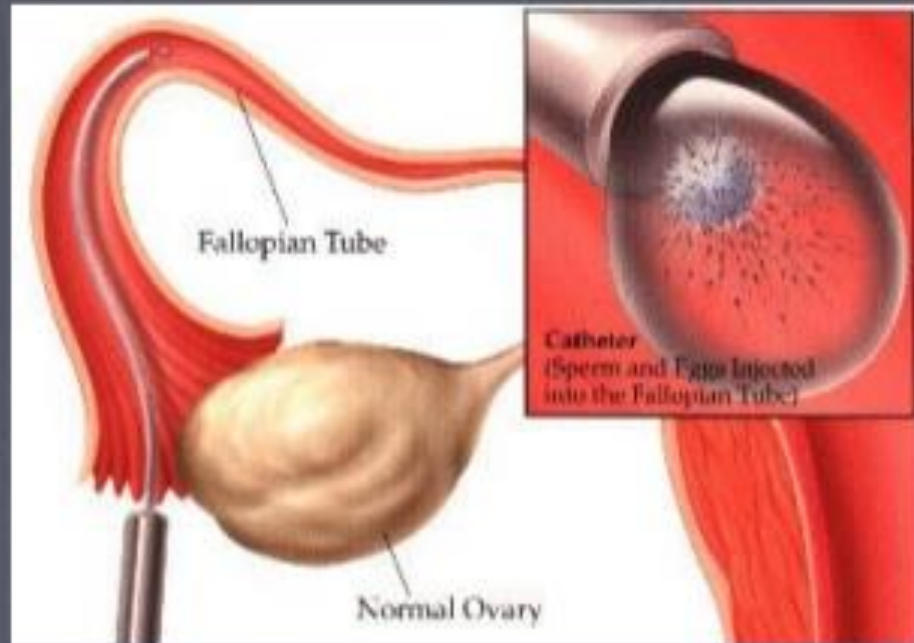


# In-Vitro Fertilization



- ▶ A woman's eggs are removed from the ovary and mixed with sperm in a laboratory. Then once fertilized, the embryos are placed into the woman's uterus.

# Gamete Intra-Fallopian Transfer (GIFT)



- ▶ A mixture of a woman's eggs and sperm are placed into the fallopian tube during a laparoscopy.
- ▶ Once inserted, fertilization is allowed to occur.

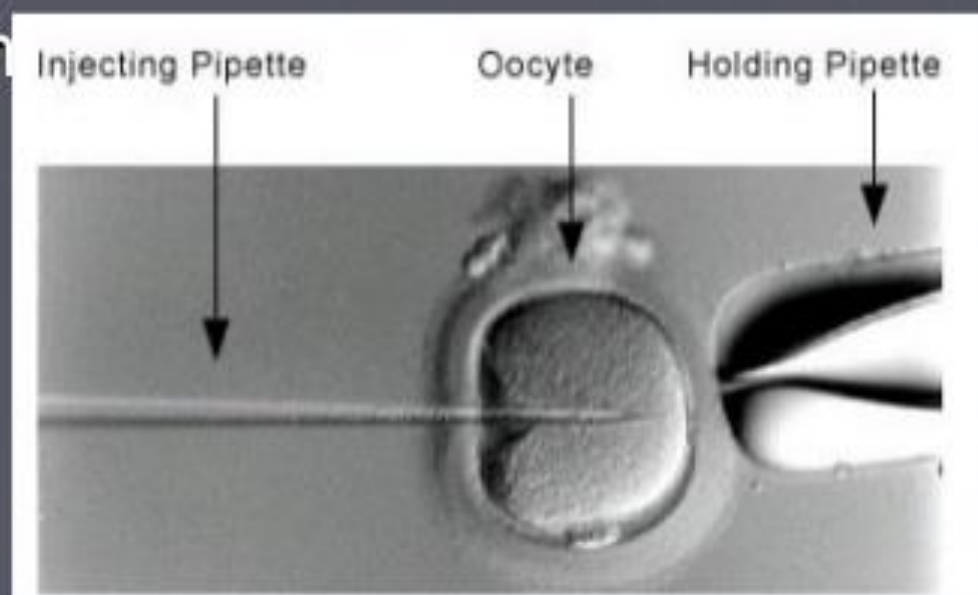
# Zygote Intra-Fallopian Transfer (ZIFT)



- ▶ Mixture of In Vitro Fertilization and Gamete Intra Fallopian Transfer.
- ▶ Fertilization takes place outside the uterus and placed into the fallopian tubes.

# Intra-Cytoplasmic Sperm Injection

- ▶ Sperm is injected directly into the eggs in a laboratory.
- ▶ Used if infertility originates from the male such as:
  - Low numbers of sperm
  - Severe Teratospermia



# Frozen Embryos



- ▶ Embryos may be taken from an individual and stored for later use.
- ▶ Once ready to use, they can be thawed and then placed into the uterus.
- ▶ This allows a higher chance of pregnancy.

# Selecting an ART Program

- ▶ Qualifications and experience of the clinic and its personnel.
- ▶ Support services available
- ▶ Cost
- ▶ Success rates of that specific program