

Oestrogen – Hormone which builds up the uterine lining (Endometrium)

Progesterone – Hormone which maintains the Endometrium

In-Vitro Fertilisation

- 1) Ovarian Stimulation – FSH given to stimulate development of multiple Graafian Follicles
- 2) Ova Retrieval – Graafian Follicles are removed from the ovaries
- 3) Insemination – Sperms obtained by ejaculation separated from semen
- 4) Fertilisation – Motile sperms are placed together with ova and fertilisation takes place
- 5) Embryo Culture – Zygote is placed in incubator for 4-6 days
- 6) Embryo Transfer – Embryo is transferred to uterus

GIFT – Gametes transferred to fallopian tubes (fertilisation takes place in-vivo)

ZIFT – Zygote transferred to fallopian tube (fertilisation takes place in-vitro)

ICSI – Injecting a single sperm directly into an ovum

Artificial Insemination

- 1) IVI (Intravaginal insemination)
- 2) ICI (Intracervical insemination)
- 3) IUI (Intrauterine insemination) – Most commonly used
- 4) ITI (Intratubal insemination) – Fallopian tubes (considered invasive)

Surrogate mother – Pregnancy is carried by the surrogate mother who also donates her ova (has biological relations)

Gestational Carrier – Pregnancy carried by the gestational carrier. Ova is from infertile woman (wife) fertilised with partner's sperm – transferred to gestational carrier's uterus (No biological relations)

Fertilisation and Implantation

Female

- 1) Development of Graafian follicles
- 2) Release of Viable ovum (Ovulation)
- 3) Ovum transported to Fallopian tube
- 4) Sperm and Ovum meet in the Fallopian Tube (Fertilisation occurs)
- 5) Zygote (developing into Embryo) goes down Fallopian tube to the Uterus
- 6) Implantation of Embryo in Endometrium
- 7) Foetal Development and Child Birth

Male

- Production of viable sperms
Sperm transported through Vas

Sperms deposited in Vagina

Infertility – Inability to conceive after 6 months to 1 year of unprotected sexual intercourse

Contraceptives

- Condom – Thin cover that fits snugly over erect penis to prevent fertilisation from

- occurring as sperms cannot enter the vagina
- Diaphragm – Fit snugly over cervix and acts as a barrier to prevent sperms from entering uterus and prevents fertilisation
- Tubal Ligation – Tie / Cut / Seal Fallopian tube which prevents fertilisation from occurring
- IUD – Inserted into uterus and irritates the endometrium, preventing implantation
- Vasectomy – Vas Deferens tied / cut / sealed to prevent fertilisation as sperms cannot leave the man's penis

Travel Route

- Testes – Epididymis – Vas Deferens – Prostate Gland – Urethra – Vagina – Cervix – Uterus – Fallopian Tube

Placenta

- 1) **Oxygen, Glucose, Amino Acids**, fatty acids and glycerol, antibodies diffuse from mother's blood to foetal blood
- 2) **Carbon Dioxide and Urea** diffuse from foetal blood to mother's blood
- 3) Mother's blood never comes into contact with foetal blood except during the delivery

Menstruation Cycle

- 1) Menstruation (day 1-5)
- 2) Follicular Phase (day 6-12)
- 3) Ovulation (day 13-15)
- 4) Luteal Phase (day 16-28)

*Corpus Luteum (day 14) produces progesterone to maintain the endometrium lining

Primary Sexual Characteristic – Sex organs which are directly related to and necessary for sexual reproduction (Penis, Testes etc)

Secondary Sexual Characteristic – Characterizes male and the female in a species but are not directly responsible for reproduction (Menstruation, Voice deepens, pubic and armpit hair etc)