

FSH and LH are used as 'fertility drugs' to help someone become pregnant in the normal way

Hormones are used in Assisted Reproductive Technology (ART) to treat infertility

In Vitro Fertilisation (IVF) treatment.

Involves giving a mother FSH and LH to stimulate the maturation of several eggs (clomifene therapy)

The eggs are collected from the mother and fertilised by sperm from the father in a laboratory.

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The fertilised eggs develop into embryos.

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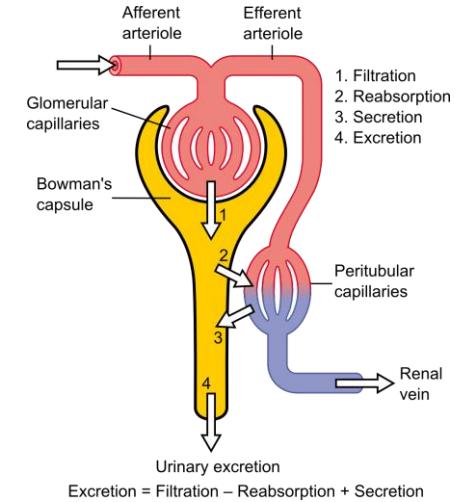
At the stage when they are tiny balls of cells, one or two embryos are inserted into the mother's uterus (womb).

The use of hormone to treat infertility (HT only)

EDEXCEL GCSE BIOLOGY ANIMAL COORDINATION PART 2

Structure of the urinary system	Renal veins and arteries	Carries blood to and from the kidneys.
	Ureter	Carries urine from kidney to bladder.
	Bladder	Stores urine
	Urethra	Carries urine from bladder to outside of body.
	Kidneys	Remove substances from blood to make urine.

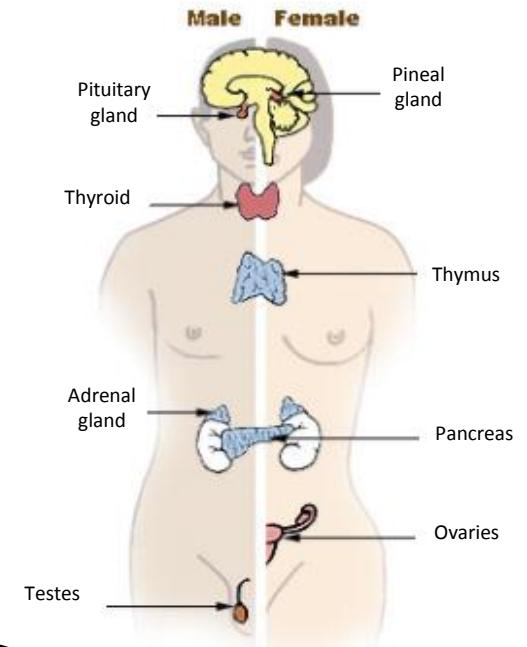
Structure and function of the nephron in kidney	Glomerulus	Filtration of small molecules e.g. water, urea and glucose into the nephron.
	Bowman's capsule	
	Selective reabsorption of glucose	Active transport of useful substances back into the blood e.g. glucose and mineral ions.
	Reabsorption of water	Osmosis moves water back into the blood in the loop of Henle.



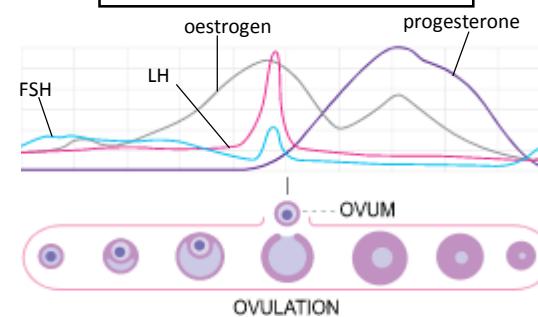
Potential disadvantages of IVF	Emotional and physical stress.
	Success rates are not high.
	Multiple births risk to mother and babies.

Hormones in human reproduction

During puberty reproductive hormones cause secondary sexual characteristics to develop	
Oestrogen (main female reproductive hormone)	Testosterone (main male reproductive hormone)
Produced in the ovaries. At puberty eggs begin to mature releasing one every 28 days – ovulation .	Produced in the testes stimulating sperm production.



(HT only) a graph of hormone levels over time



Menstrual cycle	Follicle stimulating hormone (FSH)	Causes maturation of an egg in the ovary.	(HT) FSH stimulates ovaries to produce oestrogen.
	Luteinising hormone (LH)	Stimulates release of an egg.	(HT) Oestrogen stops FSH production and stimulates LH production in pituitary gland.
	Oestrogen and progesterone	Maintain uterus lining.	

Fertility can be controlled by hormonal and non hormonal methods	Oral contraceptives	Contain hormones to inhibit FSH production so that no eggs mature.
	Injection, implant, skin patch	For slow release of progesterone to inhibit the maturation and release of eggs for months or years.
	Barrier methods	Condoms or diaphragms which prevent sperm reaching the egg.
	Intrauterine devices	Prevent implantation of an embryo or release a hormone.
	Spermicidal agents	Kill or disable sperm.
	Surgery	Male or female sterilisation.

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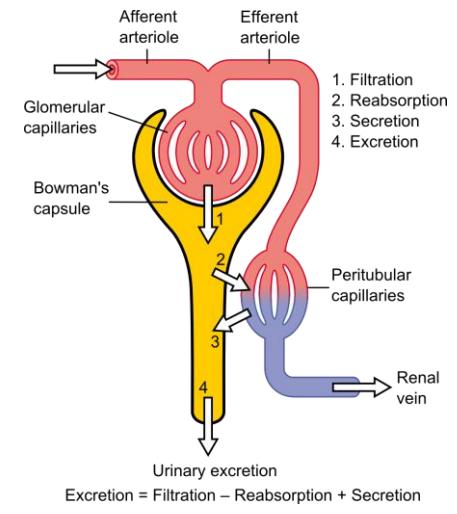
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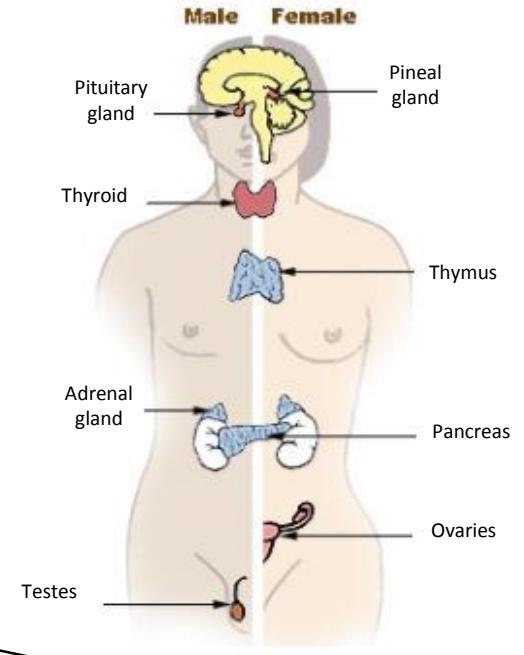


Potential disadvantages of IVF

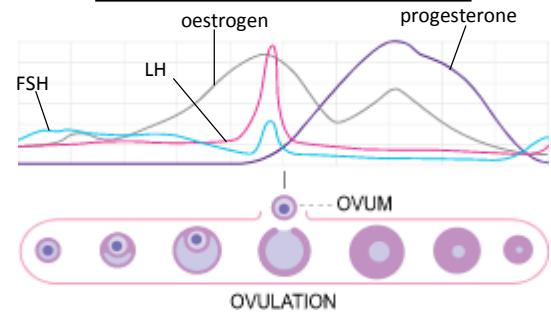
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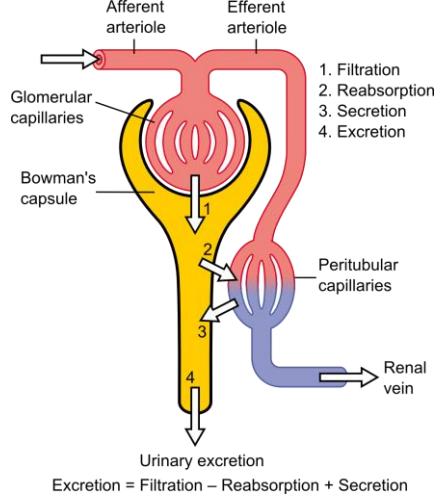
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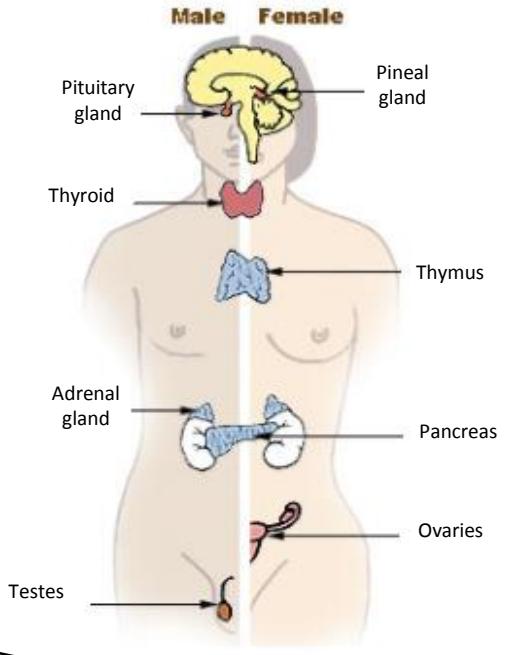


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Hormones in human reproduction

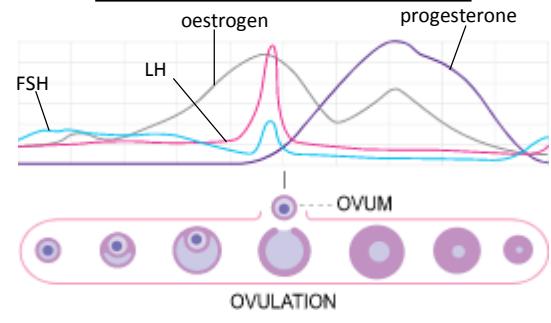
Contraception

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