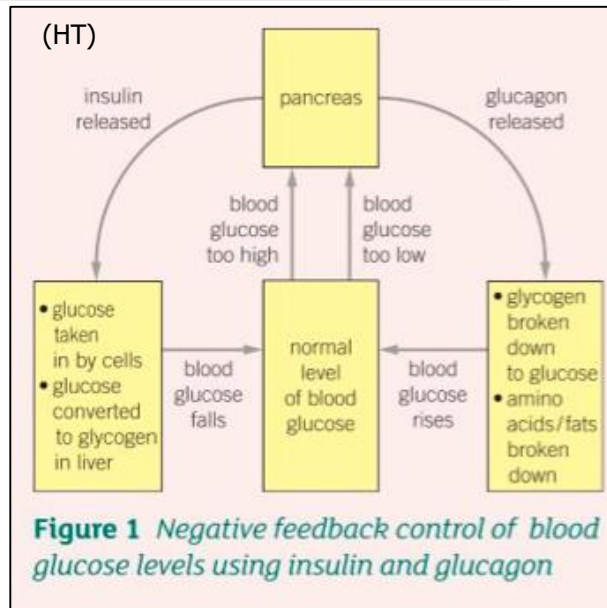
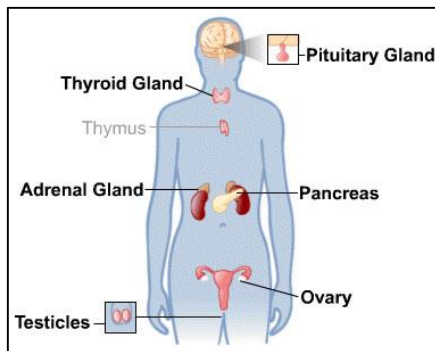


#### Section 1: Hormonal Control Key Terms

Endocrine System	The system of <b>glands</b> that <b>secrete hormones</b> .
Hormone	A <b>chemical secreted by a gland</b> that <b>travels in the blood</b> and has an effect on a <b>target organ</b> . The effects are <b>slower and longer-lasting</b> than responses from the nervous system.
Pituitary Gland	A gland that <b>secretes several hormones</b> into the blood. These hormones in turn act on other glands to stimulate other hormones to be released to bring about effects.
Testosterone	<b>Male hormone</b> produced by <b>testes</b> . <b>Stimulates sperm production</b> .
Adrenaline (HT)	<b>Hormone</b> produced by the <b>adrenal glands</b> in times of <b>fear/ stress</b> . It <b>increases the heart rate</b> and <b>boosts the delivery of oxygen and glucose to the brain and muscles</b> , preparing the body for 'flight or fight'.
Thyroxin (HT)	<b>Hormone</b> produced by the <b>thyroid gland</b> . Thyroxine <b>stimulates the metabolic rate</b> . Important in <b>growth and development</b> .

#### Section 4: Location of Endocrine Glands

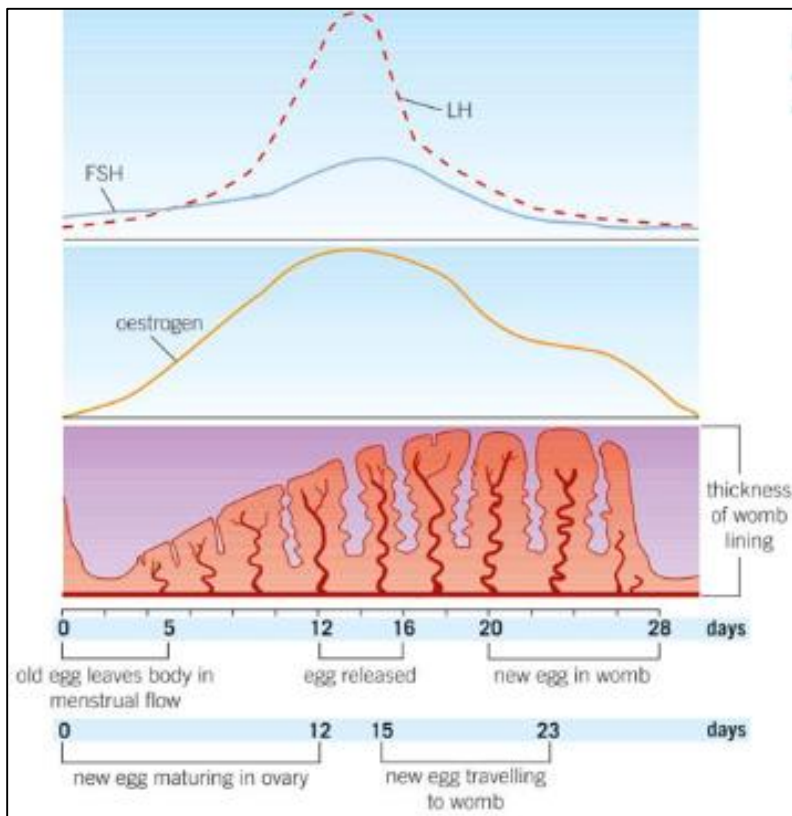


#### Section 5: Blood Glucose Control Key Terms

Pancreas	The gland that <b>monitors and controls blood glucose concentration</b> .
Insulin	A <b>hormone</b> produced when <b>blood glucose concentration is too high</b> . Causes <b>glucose to move from the blood into the cells</b> . In <b>liver and muscle cells excess glucose is converted to glycogen</b> .
Glucagon (HT)	A <b>hormone</b> produced when <b>blood glucose concentration is too low</b> . Causes <b>glycogen to be converted into glucose and released into the blood</b> .
Glycogen	A <b>storage molecule</b> made from many <b>glucose molecules bonded together</b> . Found in <b>liver and muscle cells</b> .
Type I Diabetes	Disorder in which the <b>pancreas fails to produce enough insulin</b> . Causes uncontrolled high blood glucose levels. Treated with <b>insulin injections</b> .
Type II Diabetes	Body cells <b>no longer respond to insulin produced by the pancreas</b> . A <b>carbohydrate controlled diet</b> and <b>exercise</b> are common treatments. <b>Obesity</b> is a <b>risk factor</b> .
Negative Feedback (HT)	Negative feedback ensures that <b>changes are reversed and returned back to the optimum level</b> .

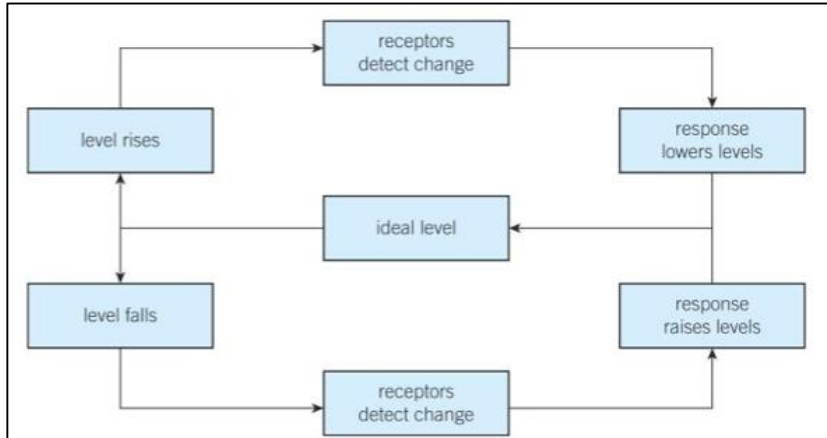
**Section 1: Menstrual Cycle (Some HT)**

Ovulation	The <b>release of an egg cell</b> . Occurs approximately <b>every 28 days</b> .
FSH	Produced by the <b>pituitary gland</b> . A hormone that causes an <b>egg to mature in the ovary</b> . <b>Causes oestrogen to be produced</b> .
Oestrogen	Produced by the <b>ovaries</b> . Causes <b>blood lining of uterus to develop</b> . <b>Stops FSH being produced</b> . <b>Stimulates release of LH</b> .
LH	Produced by the <b>pituitary gland</b> . A hormone that causes <b>ovulation</b> .
Progesterone	Produced by the <b>ovary</b> . <b>Maintains blood lining</b> in uterus. <b>Stops production of LH and FSH</b> .

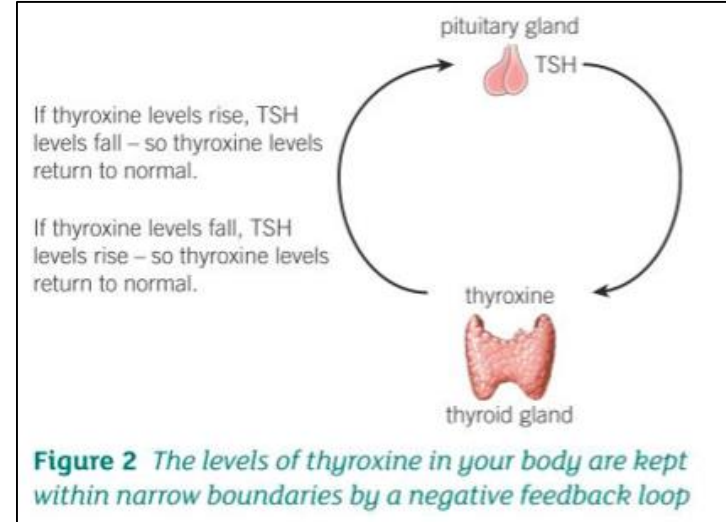


**Section 2: Methods of Contraception**

Method	How it works	Pros (+) and Cons (-)
Oral contraceptives	The contraceptive pill. Contain <b>hormones to inhibit FSH production so eggs do not mature</b> .	+ 99% effective + Reduces risk of some cancers - Can cause side effects e.g. nausea
Progesterone	Injection, implant or skin patch of slow-release progesterone to stop <b>eggs maturing and being released</b> .	+ Fewer side effects than pill. + Doesn't need to be taken daily so less likely to be forgotten - Less effective than pill
Barrier methods	<b>Condom or diaphragm. Prevents sperm reaching the egg.</b>	+ 98% effective (when used correctly) + Prevent STIs - Can break or be used incorrectly
Spermicide	<b>Kills or disables sperm</b> . Used with diaphragms to make them more effective.	+ Increases effectiveness of some barriers - Can't be used on its own
Avoiding intercourse	Avoiding intercourse when an egg might be in an oviduct.	- High risk of becoming pregnant
Sterilisation	<b>Undergoing surgery</b> to stop sperm or eggs being able to fertilise.	+ Permanently stops pregnancy - Risks from surgery - Expensive to reverse and may not work
Intra-uterine device (IUD)	An <b>implant into the uterus that prevent fertilised eggs implanting into the wall of the uterus or release hormones</b> .	+ Long lasting but can be reversed - Small risk of infection or uterus damage when IUD is implanted



**Figure 1** A negative feedback loop means values will vary around a normal level within a limited range

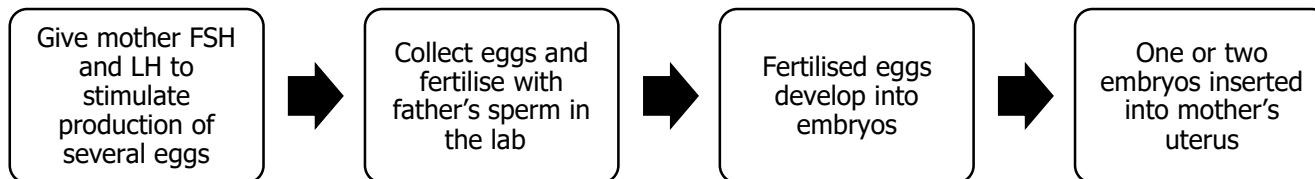


**Figure 2** The levels of thyroxine in your body are kept within narrow boundaries by a negative feedback loop

### Section 1: Thyroxine (HT)

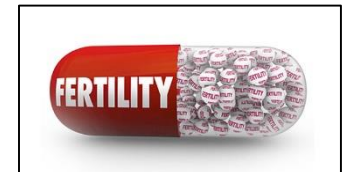
Thyroxin (HT)	<b>Hormone</b> produced by the <b>thyroid gland</b> . Thyroxine <b>stimulates the metabolic rate</b> . Important in <b>growth and development</b> .
Thyroxine is controlled by negative feedback (HT)	If levels of thyroxine in blood fall, sensors in the brain detect this and TSH is released from the pituitary gland. TSH stimulates the production of thyroxine by the thyroid gland. As the level of thyroxine goes up, it is detected by the sensors and the level of TSH released falls.

### Section 2: IVF (HT)



### Section 3: IVF Disadvantages (HT)

- Emotionally and physically stressful.
- Success rates are low.
- Can lead to multiple births which are risky for mother and babies

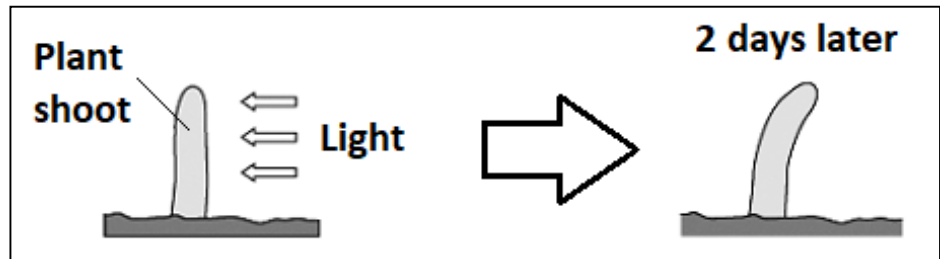


**Section 1: Plant hormones**

Auxin	A plant hormone responsible for cell elongation/plant growth	Uses – killing weeds, growing cuttings with rooting powder, growing cells in tissue culture
Ethene	A plant hormone responsible for ripening	Uses – speed up ripening of fruit
Gibberellin	A plant hormone responsible for seed germination	Uses – controlling seed dormancy and germination, inducing flowering, growing larger fruit
Tropism	A plant's response to a stimulus	
Phototropism	A plant's response to light	
Gravitropism	A plant's response to gravity	

**A plant's response to light**

- Auxin (a plant hormone) redistributes unequally in the shoot
- More auxin gathers on the dark side of the shoot
- Auxin promotes cell elongation in the shoot
- If the plant cells on the dark side have more auxin they will grow more/faster & longer
- This causes the plant to bend towards the light



**A plant's response to gravity**

- Gravity produces unequal distribution of auxin
- Auxin is pulled to the lower side of the roots (by gravity)
- In the root auxin inhibits cell growth
- The cells on top elongate faster
- This causes the root to bend downwards

