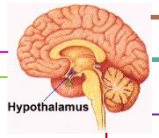
Hormone	Stimulus	Pathway	Response	Feedback
Thyroxine	Decreased metabolic rate Decreased body temperature	Detected by hypothalamus → TRH release →anterior pituitary →TSH release →thyroid →Thyroxine release	Increased rate of cell metabolism Increased body temp Body-wide effects on metabolism and growth	Rising thyroxine level inhibits release of TSH and TRH from pituitary and hypothalamus (negative feedback)
Cortisol	Long term stress Injury and Inflammation	Detected by hypothalamus →CRH release →anterior pituitary →ACTH release →adrenal cortex→Cortisol release	Immune suppression Mobilisation of glucose Tissue repair	Rising cortisol level inhibits release of CRH from hypothalamus and ACTH from pituitary (negative feedback
Aldosterone	Increased Potassium/decreased sodium Decrease in Blood pressure	Detected by nephrons →chemical messaging →adrenal cortex→Aldosterone release (major pathway) Detected by hypothalamus → CRH release →anterior pituitary →ACTH release →adrenal cortex →Aldosterone release (minor pathway)	Increased sodium and water reabsorption from kidneys Increased blood volume and pressure	Increased blood pressure and sodium concentration inhibits further release of angiotensin from nephrons. (-)
Growth Hormone	Naturally secreted during childhood and adolescence – interacts with sex hormones Also secreted in response to vigorous exercise, fasting.	Hypothalamus stimulated → GHRF release →anterior pituitary → Growth Hormone release	Muscle and Bone development Tissue growth Increases blood glucose by decreasing liver uptake of glucose and increasing gluconeogenesis Lipolysis (fat breakdown and release into blood)	Changing hormone levels after puberty decrease growth hormone release Rising blood sugar and lipids negative feedback to hypothalamus and pituitary (-)
ADH (Anti Diuretic Hormone)	Water concentration of blood decreases (salt concentration increases)	Detected by osmoreceptors in hypothalamus → ADH travels down nerves → posterior pituitary →ADH release	Increased Permeability of distal convoluted tubule and collecting duct → increased water reabsorption into blood → water balance in blood is restored	Increasing water concentration of blood (decreasing salt concentration) inhibits further ADH release. (-)
Oxytocin	Onset of labour Infant suckling Sexual stimulation	Detected by hypothalamus →Oxytocin travels down nerves → posterior pituitary → Oxytocin release	Uterine contractions during labour Milk release during lactation Psychological bonding response	Positive feedback during labour – contractions stimulate further oxytocin release (+)
Insulin	Rising blood glucose levels Parasympathetic NS stimulation of pancreas	Detected by beta cells in pancreas →beta cells release insulin → insulin travels in blood to all body tissues	Lowering of blood glucose due to: Uptake of glucose by body cells Increased glycogenesis in liver	Falling blood glucose levels inhibit insulin release (-)
Glucagon	Falling blood glucose levels Sympathetic NS stimulation of pancreas	Detected by alpha cells in pancreas →alpha cells release glucagon → glucagon in bloodstream	Raising of blood glucose due to: Breakdown of glycogen and fat in the liver Breakdown of fat in other tissues	Rising blood glucose levels inhibit glucagon release (-)
Thymosin	Released by Thymus gland during childhood and adolescence		Activates and creates T-lymphocytes involved in cell mediated immunity	
Adrenalin	Released in response to fear, anger and acute stress	Detected by senses → processed by cerebral cortex →nerve impulses sent via hypothalamus and sympathetic nerve fibres →adrenal medulla →adrenalin release→adrenalin travels in blood to body tissues	HR increase, BP increase Bronchioles dilate Liver converts glycogen to glucose and releases glucose into blood Blood directed to muscles, away from gut/kidneys Decreased digestion, decreased urine output Increased metabolic rate	Rising adrenaline levels have no feedback effect. Once stimulus has gone, process stops and no further adrenaline is released from adrenal medulla.



GnRH
Gonadotrophin Releasing Hormone

GHRH
Growth Hormone Releasing Hormone

TRH
Thyrotropin Releasing Hormone

CRH
Corticotropin Releasing Hormone

ADH
Antidiuretic Hormone (Vasopressin) Travels down nerves from hypothalamus

Oxytocin
Travels down nerves from hypothalamus

Anterior Pituitary

Posterior Pituitary

FSH
Follicle Stimulating Hormone

LH
Luteinising Hormone

Growth Hormone

TSH
Thyroid Stimulating Hormone

Prolactin

ACTH
AdrenoCorticoTropic Hormone

ADH
Antidiuretic Hormone (Vasopressin)

Oxytocin

Gonads (ovaries and testes)

- FSH: development of ovarian follicles, sperm.
- LH: ovulation, CL formation, testosterone production

Thyroid Gland

Thyroid Gland

Thyro-calcitonin released in response to rising blood calcium levels

Thymus

Parathyroid Glands

- Hormone released in response to falling blood calcium levels

Adrenal Cortex

Adrenal Cortex

Aldosterone released via signalling from renal tubules

Pancreas

Adrenal Medulla

Oestrogen

Progesterone

Testosterone

Thyroxine

Thyrocalcitonin

Thymosin

Parathyroid Hormone

Cortisol

Aldosterone

Insulin

Glucagon

Epinephrine

Norepinephrine

Body Tissues

Regulation of menstrual cycle. Breast development. Development of "female" body shape.	Regulation of menstrual cycle Maintains CL in early pregnancy. Balances effects of oestrogen	Growth and development of male reproductive system. Increases muscle, bone and hair growth: increased anabolism	Muscle and bone development. Tissue growth. Effects on metabolism.	Body-wide metabolic effects on fat deposition, temperature regulation, growth and development	Lowers blood calcium levels by depositing Ca in bone, increasing removal in urine and decreasing uptake from intestines.	Stimulates milk production in the mammary glands.	Stimulates development and maturation of T-Lymphocytes, involved in specific immunity	Raises blood calcium levels by reabsorbing Ca from bone, increasing uptake from intestines, decreasing removal in urine.	Involved in normal metabolism, responses to stress, repair of damaged tissues	Involved in sodium balance. Retention of sodium.	Reabsorption of water from renal tubules, to maintain water and sodium homeostasis.	Contraction of uterus during childbirth Release of milk during lactation	Stimulates uptake of glucose by body cells, lowers blood glucose levels	Stimulates breakdown of glycogen and fat in the liver and some other fatty tissues, increases blood glucose level	Involved in Autonomic Nervous System: HR regulation, blood vessel constriction/dilation, fight or flight responses

Created by Robin Byrne
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