

Endocrine Worksheet

- What is the endocrine system?
- What are the processes of the endocrine system?
- What is the structure of an endocrine gland, in general?
- What is the difference between endocrine and exocrine gland?
- What are the primary organs of the endocrine system?
- What are the secondary organs of the endocrine system (those not specifically endocrine organs)?
- What are the types of endocrine cells?
- What are the two basic types of hormones produced by endocrine organs? What is their basic structure?
- How do hormones exert their actions?
- How do the different types of hormones travel in the body and blood?
- What is a target cell? How is a target cell a target cell?
- What cell effects does a hormone have INSIDE the cell?
- How are hormone actions accomplished in lipid-soluble and water soluble hormones?
- What is the difference between up-regulation and down-regulation?
- What is the difference in positive and negative feedback systems and how does this relate to endocrinology?
- What is the difference between humoral, neural and hormonal stimuli and how does each control hormone release?
- How long can hormones remain in the body and how is regulated?
- How to interactions with other hormones affect action of hormones at the target cells?
- What is the structure of the hypothalamus?
- What is the structure of the pituitary gland including the adenohypophysis and the neurohypophysis?
- What is the relationship between the hypothalamus and the different parts of the pituitary gland?
- How are signals from the hypothalamus sent to the adenohypophysis and neurohypophysis?
- What are the hormones produced by the hypothalamus?
- How/Why/Where is oxytocin produced?
- Where is oxytocin released, how is it transported in the blood and what are the target cells?
- What effect does oxytocin have on the target cells?
- How is oxytocin regulated?
- What are disorders of excess and insufficient oxytocin?
- How/why/where is antidiuretic hormone (ADH) produced?
- Where is it released, transported in the blood and what are the target cells?
- What effect does ADH have on the target cells?
- How is ADH regulated?
- What are disorders of excess and insufficient ADH?
- How/why/where is growth hormone-releasing hormone (GHRH) and growth hormone-inhibiting hormone (GHIH) produced?
- Where are they released, transported in the blood and what are the target cells?
- What effect does GHRH and GHIH have on the target cells?
- How/why/where is human growth hormone (hGH or GH) produced?
- Where is hGH released, how is it transported in the body and what are the target cells?
- How are GHRH, GHIH and hGH regulated?
- What are disorders of excess and insufficient GHRH, GHIH and hGH?
- How/why/where is prolactin-releasing hormone (PRH) and prolactin-inhibiting hormone (PIH or dopamine) produced?
- Where are they released, transported in the blood and what are the target cells?
- What effect does PRH and PIH have on the target cells?
- How/why/where is prolactin (PRL) produced?

- Where is PRL released, how is it transported in the body and what are the target cells?
- How are PRH, PIH and PRL regulated?
- What are disorders of excess and insufficient PRH, PIH and PRL?
- How/why/where is thyrotropin-releasing hormone (TRH) produced?
- Where is it released, transported in the blood and what are the target cells?
- What effect does TRH have on the target cells?
- What is the structure and location of the thyroid gland?
- How is thyroglobulin made and when?
- How is thyroglobulin modified and secreted?
- What are the two main types of thyroglobulins, how are they released?
- What are the target cells of thyroid hormones and how are they modified by the target cells?
- What effects does thyroid hormone have on the target cells? The body as a whole?
- How are TRH, TSH, and TH regulated?
- What are disorders of excess and insufficient TRH, TSH and TH?
- How/ why/where is calcitonin produced and released?
- How is calcitonin transported in the blood and what are the target cells?
- What role does/can calcitonin play in calcium homeostasis?
- What is the structure and location of the parathyroid glands?
- How/when/where is parathyroid hormones (PTH) produced?
- How is PTH released, transported in the blood and what are the target cells?
- What effect does PTH have on the target cells?
- How is calcium and PTH regulated?
- What are disorders of excesses and insufficient of calcitonin and parathyroid hormone?
- How/why/where is corticotropin-releasing hormone (CRH) produced?
- Where is it released, transported in the blood and what are the target cells?
- What effect does CRH have on the target cells?
- How/why/where is adrenocorticotrophic hormone (ACTH) produced?
- Where is ACTH released, how is it transported in the body and what are the target cells?
- What is the location and structure of the adrenal (suprarenal) gland?
- How/why/where is glucocorticoids produced?
- Where is it released, transported in the blood and what are the target cells?
- What are the effects of glucocorticoids on target cells and the body as a whole?
- How is CRH, ACTH and glucocorticoids regulated?
- What are the disorders of excess and insufficient CRH, ACTH and glucocorticoids?
- How/where/when is mineralocorticoids produced?
- How/when is mineralocorticoids released, transported in the body and what are the target cells?
- What is the effect of aldosterone in target cells and in the body as a whole?
- How is aldosterone regulated?
- What are the disorders of excess and insufficient aldosterone?
- How/where/when is androgens produced?
- How/when is androgens released, transported in the body and what are the target cells?
- What is the effect of adrenal androgens in target cells and in the body as a whole?
- How are adrenal androgens regulated?
- What are the disorders of excess and insufficient androgens?
- How/where/when is norepinephrine (NOR) and epinephrine produced?
- Are norepinephrine and epinephrine hormones or neurotransmitters?
- What effects does norepinephrine and epinephrine have on the body and other hormones?
- What are disorders of excess and insufficient norepinephrine and epinephrine?
- How/why/where is gonadotropin-releasing hormone (GnRH) produced?

- Where are they released, transported in the blood and what are the target cells?
- What effect does GnRH have on the target cells?
- How/why/where is follicle-stimulating hormone (FSH) and luteinizing hormone (LH) produced?
- When is FSH and LH released, transported in the blood and what are the target cells in: males? females?
- What effect does FSH and LH have on the target cell in: males? females?
- What is the effect of estrogens, progesterone and testosterone in: males? females?
- How is GnRH, FSH, LH, estrogens, progesterone and testosterone regulated?
- What is the structure and location of the pineal gland?
- How/why/where is melatonin produced?
- What effect does melatonin have?
- What is the structure and location of the pancreas?
- What are the endocrine cells of the pancreas and where are they located?
- How/why/where is glucagon and insulin produced?
- How are they released, transported in the blood and what are their target cells?
- What are the effects of insulin and glucagon release on target cells?
- How are insulin, glucagon and blood sugar regulated?
- What role does glucose transporters have in blood-sugar regulation and use?
- What are disorders of excess and insufficient insulin and glucagon?
- Where does leptin come from and what does it do?
- What hormones are released by enteroendocrine cells, what do they do and where are enteroendocrine cells located?
- What function does atrial natriuretic peptide play in mineral homeostasis and what cells release it and why?
- How is active vitamin D produced, where is it used and what is its function?
- What is the job of erythropoietin and where does it come from?
- What job does osteocalcin perform and where does it come from?
- What role does thymus hormones play in the activation of T lymphocytes?
- How does age affect the development and function of hormones and the organs that produce them?