

— Metabolic & Endocrine Health

The endocrine system is the collection of glands, each of which secretes different types of hormones that regulate metabolism, growth and development, tissue function, sexual function, reproduction, sleep and mood, among other things.

The endocrine system is made of eight major glands, which are groups of cells that produce and secrete chemicals. A gland selects and removes materials from the blood, processes them, and secretes the finished chemical product for use somewhere in the body. Almost every organ and cell in the body is affected by the endocrine system.

A group of glands that signal each other in sequence are usually referred to as an axis. One example is the hypothalamic-pituitary-adrenal axis, which coordinates interactions among the hypothalamus, the pituitary gland and the adrenal, also called "suprarenal" glands, which are small, conical organs on top of the kidneys.

The endocrine system sends signals throughout the body, much like the nervous system, but unlike the immediate responses triggered by the nervous system, the effects can take a few hours or weeks. Hormones released from endocrine tissue into the bloodstream where they travel to target tissue to elicit a response.

Endocrine glands are vascular and generally do not have ducts, using intracellular vacuoles, or granules, to store hormones. They differ from, exocrine glands – salivary glands, sweat glands and glands within the gastrointestinal tract – which have ducts or a hollow lumen.

The endocrine system gets some help from organs such as the kidney, liver, heart and gonads, which have secondary endocrine functions. The kidney, for example, secretes hormones such as erythropoietin and renin.

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Pancrease

The pancreas produces juices that help break down food and hormones that help control blood sugar levels. Problems with the pancreas can lead to many health problems that can include the following: Pancreatitis, or inflammation of the pancreas: This happens when digestive enzymes start digesting the pancreas itself, Pancreatic cancer and Cystic fibrosis, a genetic disorder in which thick, sticky mucus can also block tubes in your pancrea.

The pancreas also plays a role in diabetes. In type 1 diabetes, the beta cells of the pancreas no longer make insulin because the body's immune system has attacked them. In type 2 diabetes, the pancreas loses the ability to secrete enough insulin in response to meals. Pancreatic cancer usually begins in the cells that produce the juices. Some risk factors for developing pancreatic cancer include; smoking, long-term diabetes, chronic pancreatitis and certain hereditary disorders

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