

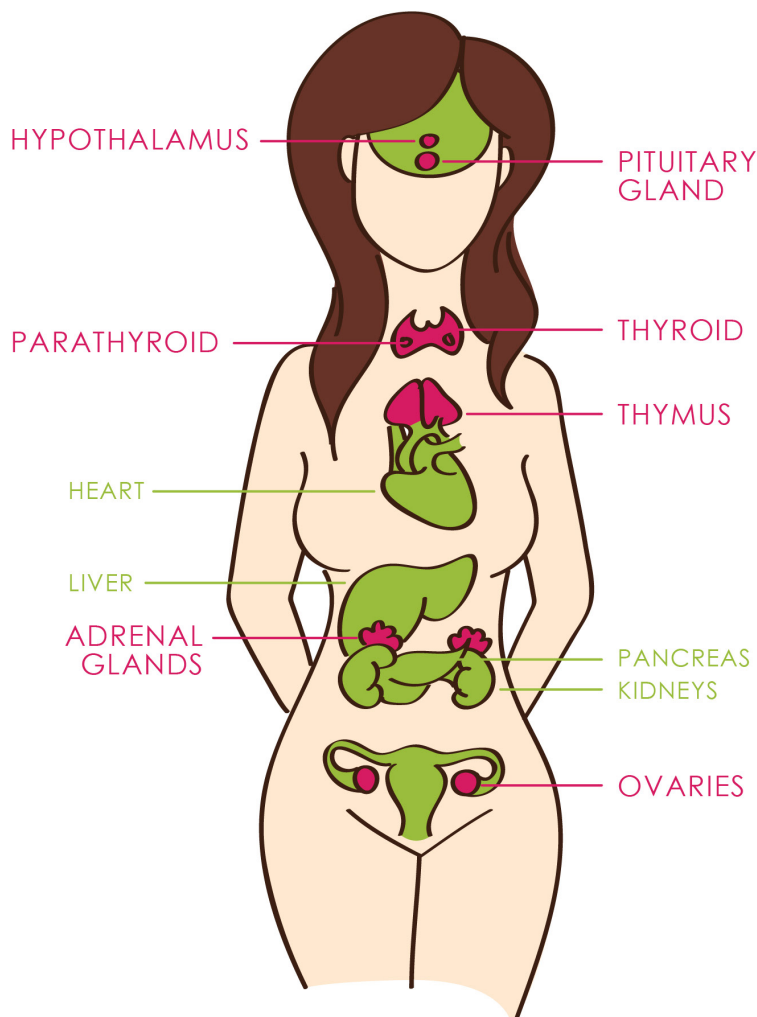
YOUR ENDOCRINE SYSTEM

The Brain/Body Connection

The endocrine system is made up of glands that produce and secrete hormones directly into the bloodstream. It is one of the most sensitive communication networks in your body. The major glands that make up the endocrine system are the hypothalamus, pituitary, thyroid, parathyroid, adrenal glands, pancreas, pineal gland, and the ovaries.

These glands and the hormones they release influence almost every cell, organ, and function of our bodies. The endocrine system is instrumental in regulating mood, growth and development, digestion, thyroid and metabolism, as well as sexual function and reproductive processes. These glands are all interconnected – when one gland isn't functioning well another one will help it out!

ENDOCRINE GLANDS & THEIR RELATED ORGANS



So what exactly are hormones? Hormones are the body's chemical messengers; they transfer information and instructions from one set of cells to another. Whether you feel the need to sleep, warm up, cool down, eat a candy bar, grab a coffee, or have a quickie, your desires and actions can be traced back to your hormonal activity. Hormone levels can be influenced by many factors such as sporadic episodes of poor diet, high stress, emotional trauma, illness, or strenuous physical exercise. Sometimes something as simple as a family holiday or a week with the in-laws will play havoc with our hormones!

ENDOCRINE GLANDS AND THEIR RELATED ORGANS

CONTROL

Hypothalamus & Pituitary Glands: The hypothalamus gives instructions to the pituitary gland, which then produces hormones to stimulate endocrine glands. It sends follicle-stimulating hormone and luteinizing hormone to the ovaries to stimulate ovulation each month.

Pineal Gland: A small gland in the brain that produces melatonin which is responsible for the sleep and wake cycle, also known as our circadian rhythm.

BALANCE

Thyroid: Helps maintain overall balance in the body. It produces thyroxine (T4), which is converted into T3. The thyroid's main function is storage and usage of energy. In addition, it affects body temperature, the menstrual cycle, skin hydration, brain development and cholesterol levels.

Pancreas: Produces insulin to keep your blood sugar balanced.

Adrenal Glands: They produce adrenaline and cortisol, which support you during times of acute or chronic stress. They also produce Pregnenolone & DHEA, which are precursors to many of your major sex hormones.

Parathyroid: Four tiny endocrine glands located behind the thyroid that regulate calcium levels in the blood and bones.

MOVEMENT

Liver: Is the powerhouse of detoxification in your body. It breaks down dietary fats and removes toxins and excess hormones like estrogen and cortisol.

Heart: Pumps blood, which carries vital nutrients to organs and helps remove waste products from your body.

Kidneys: Are your body's disposal and recycling system. They filter out toxins and wastes from your blood, which are then processed into urine and excreted. The kidneys work in conjunction with a number of endocrine glands to maintain hormonal balance.

MENSTRUAL

Ovaries: Produce eggs and release one each month as well as produce estrogen and progesterone.

Uterus: Is responsible for many functions including menstruation, egg implantation, gestation and birth. It is highly responsive to hormones and this allows it to adapt to each phase of your menstrual cycle and the different stages of your reproductive life.

A STEP-BY-STEP BREAKDOWN OF THE ENDOCRINE SYSTEM'S HORMONAL FUNCTIONS

1. The signaling for the release of hormones originates in an area of the brain called the hypothalamus.
2. It constantly scans your body's hormone levels and based on its findings, it tells the pituitary gland to release hormones known as stimulating hormones.
3. The pituitary's stimulating hormones act on the adrenal glands, thyroid gland and the ovaries.
4. Each of these glands then responds to the stimulation from the pituitary by secreting hormones specific to their unique function in the body.
5. The adrenal glands secrete cortisol, the thyroid gland secretes thyroid hormones and the ovaries secrete estrogen and progesterone.
6. The hormones released by these glands send messages back to the hypothalamus telling it to instruct the pituitary to release more or less stimulating hormones. This is known as a negative feedback loop. The hypothalamus continues to scan the body and the cycle continues.

HOW DOES CHRONIC STRESS AFFECT WEIGHT, FERTILITY AND MOOD?

If you are experiencing internal or external stress, your hypothalamus is prompted to release a hormone called Corticotropin Releasing Hormone or CRH. This hormone tells the pituitary gland to send a message to the adrenal glands to make more cortisol!

Too much CRH and cortisol inhibit the function of the thyroid, thus decreasing the production of thyroid hormones. This leads to weight gain, poor concentration, depression, fatigue and many other symptoms associated with thyroid dysfunction and adrenal fatigue. This inhibition of your thyroid function can take place behind the scenes for many years and also go undetected in blood work. This is why so many women are caught off guard when diagnosed with a thyroid disorder because usually everything is fine and then "suddenly" they start to feel awful.

Fertility - if your thyroid isn't making adequate amounts of T3, this will negatively impact progesterone productions. Plus, cortisol directly dampens the production of progesterone so this is a two-sided. Low progesterone is epidemic among young women today and a leading cause for reduced fertility.

Mood - low thyroid function is a direct contributor to mood disorders like anxiety and depression. Add in low progesterone to this mix and it creates a recipe for a chronic inability to handle stress.