

Reflexology and the Endocrine System: One amazing orchestra!

Hypothetical scenario: You didn't get enough sleep and wake up with a headache. A glance at the alarm clock tells you you're already late.

How many of us start the day this way?

This month is about the **Endocrine system**, a system made up of groups of cells called endocrine glands. These glands secrete chemicals (hormones) directly into the bloodstream.

Hormones influence almost every cell in our body, but different types of cells respond to different hormones.

Hormones regulate mood, growth, physical maturation, mental skills, tissue function, and metabolism. They affect sexual function, reproductive processes, and can cause serious health problems – even death, when the endocrine glands aren't working properly. Eek, not good!

The pituitary, hypothalamus and pineal glands are located in the centre of the head, located quite close together. **The pituitary is often called the master gland** and is connected to the brain by an intermediary piece of tissue, like an interlink, called the hypothalamus.

The hypothalamus is part of the nervous and endocrine systems because it sends out nervous impulses and manufactures hormones. It connects to the pituitary gland and is like the conductor of an orchestra. It regulates and controls the other endocrine glands as if they are the orchestra. It is essential in coordinating the balance and flow of the entire endocrine system.

The pituitary gland produces critical hormones that control various bodily functions. It sends signals to other endocrine glands to stimulate or inhibit their own hormone production. For example, the pituitary gland will release a hormone (adrenocorticotropic hormone (ACTH)) to stimulate cortisol production in the adrenal glands when you're stressed.

The pineal gland regulates light and dark and seasonal rhythm. Did you know the optic nerve controls the pineal gland? It releases melatonin (think: sleep) and is related to other functions such as calcium metabolism. SAD and depression are connected to the pineal gland. Sufferers often find using a **full spectrum light box** helps during low-light winter months.

The thyroid gland is shaped like a large bow-tie at the base of the throat. It governs general metabolic rate. Like the idle in your car, a hyperthyroid you're burning up a lot of gas; a hypothyroid and you're in danger of stalling. Along with thyroxin, the thyroid gland also secretes calcitonin. This hormone lowers calcium levels in the blood. The

parathyroid glands are embedded like four polka-dots just behind the thyroid gland. They produce a hormone called parathyroid hormone which has the opposite effect of calcitonin. It increases the calcium levels in the blood. These glands also help blood clotting time.

The thymus gland is a dual-function gland. It sits right behind your breastbone and is part of the endocrine and immune systems. It produces thyroxin, triggers and produces t-cells. It is critical in childhood to build a strong immune response.

The pancreas is another dual-function system. It is an endocrine and digestive organ. As an endocrine gland, it secretes the hormone insulin and glucagon. These are functional in the regulation of blood sugar. Blood sugar in the blood, is like gas in a car. This is the energy source which gives the body its get up and go. If the thyroid gland sets the pace of the idle, this would be like the gas line regulating how much gas is coming in at any given time. We know diabetes and hypoglycemia are two conditions based on imbalances in the pancreas. Diabetes is too little insulin – therefore too high a blood sugar. Hypoglycemia is too much insulin – therefore too low a blood sugar.

The adrenal glands (there are two) sit like little caps on top of the kidneys. They release the hormones: adrenaline, noradrenaline, and cortisol. Adrenaline and noradrenaline are important hormones for the fight or flight response. This is what regulates our back-up system in relationship to stress or threat. It's really an emergency system, and of course in today's high-paced life, I find many people have a lot of sensitivity on the adrenal gland reflex. Cortisol helps to balance the adrenaline. **Cortisol is an anti-inflammatory.** The adrenals also function in water balance, by having trophic hormones along with the kidneys.

The ovaries and testes are dual function endocrine and reproductive organs. The ovaries and the testes are what secrete the majority of estrogen and progesterone in the female and testosterone in the male.

As the second of nine body systems, I imagine it's become clear -- we're complicated beings!

It's not uncommon when receiving a reflexology treatment to find the Endocrine System reflexes are tender.

Here's a great exercise if you're **feeling anxious? Stressed? Try thymus tapping** – it's easy and you can do this anytime, anywhere! Tap the middle of your chest with your 2nd, 3rd, & 4th fingers or thump with your fist – think Tarzan! Do this for about twenty seconds and breathe deeply in and out. You may feel a little tingling or a subtle settled feeling.

One system can't work without the others. Next month we look at the Respiratory System.

Warmly,

Brin