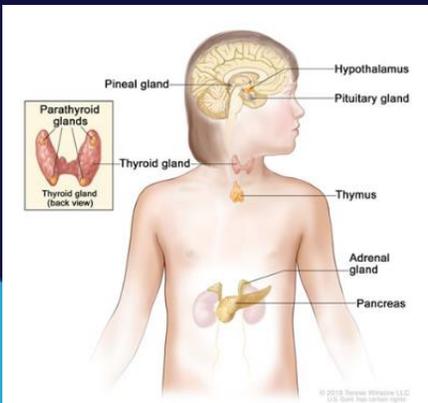


## WHAT ARE HORMONES?

Hormones are chemical messengers that regulate processes in the body by secreting directly into the blood and into organs and tissues throughout the body<sup>1</sup>. Hormone levels signal to the brain that one feels full, and the brain tells the body to stop eating!<sup>1</sup> If there is an imbalance of hormone levels, weight can be affected! This can cause someone to either gain or lose weight! This body system is called the endocrine system, and it also includes pituitary gland, thyroid gland, and the pancreas.<sup>1</sup>



## CONTACT US FOR MORE INFORMATION

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HAVE YOU EVER FELT UNSATISFIED AFTER EATING AND STILL HUNGRY AFTERWARDS?

# ARE YOUR HORMONES IMPACTING WEIGHT GAIN?



A quick guide to see how the body regulates weight on a hormonal level. Abnormal hormone levels can cause someone to gain weight!

## KEY HORMONES



### NEVER FULL? LEPTIN!

Leptin is a hormone that is produced in fat cells that controls a person's appetite.<sup>2</sup> Leptin tells the brain to reduce the urge to eat when there is enough fat stored.<sup>2</sup> Higher leptin levels signal to the brain to obtain more fat by eating more.<sup>2</sup> That person will not feel full, ultimately leading to weight gain.<sup>2</sup>



### FEELING HUNGRY? INSULIN!

Insulin is a hormone that is produced in the pancreas.<sup>3</sup> Insulin helps control blood sugar by breaking down carbohydrates from the food one eats into glucose to be used as energy or stored as glycogen.<sup>3</sup> When the body needs energy, insulin stimulates the glucose uptake from the muscles, liver, and fat.<sup>3</sup> Too much insulin in the blood can signal the brain that one needs to eat more to obtain more glucose.<sup>3</sup> This can result in feeling hungry.

## SOME OTHER HORMONES THAT INFLUENCE WEIGHT

### ● SLOWER METABOLISM?



The pituitary gland in the brain produces growth hormone, which affects metabolism.<sup>4</sup> Lower levels of this hormone can slow down the metabolism, causing the body to not break down food as energy and instead becomes storage, also known as fat.<sup>4</sup>

### ● STRESSED?



Cortisol is a stress hormone, so when a person is stressed, levels are higher.<sup>4</sup> Elevated cortisol levels can make one gain weight by increasing appetite.<sup>4</sup>

### ● NOT BURNING ENOUGH CALORIES?



When there is too little thyroid hormone produced in the thyroid, it can cause weight gain.<sup>4</sup> This is called hypothyroidism.<sup>4</sup> This is due to a slower rate of calories being burned in the body.<sup>4</sup>

## What can I do to help maintain my hormone levels?

### ● EXERCISE!



Regular exercise can lead to improved insulin resistance and help lose weight.<sup>4</sup>

### ● NO CRASH DIETS!



Leptin levels can drop during a low-calorie diet.<sup>4</sup> Lower leptin levels can increase appetite and hunger because the brain thinks the body is starving and slow down metabolism.<sup>4</sup>

### ● AVOID STRESS!



Meditate, practice mindfulness, and try to eliminate stress to lower cortisol levels.<sup>4</sup>

### ● SLEEP!

Longer duration of sleep has shown to lower insulin levels, cortisol levels, and leptin levels.<sup>5</sup>



