



# All about your HORMONES

Hormones are your body's chemical messengers and are part of the endocrine system. They play a critical role in our body's chemistry. Our endocrine glands make these hormones which travel through our bloodstream to tissues and organs. The endocrine system regulates most of our body's major systems and functions and in many ways are our "chemical brain".

## Some of the body functions they affect are:

- Growth and development
- Metabolism – how the body gets and uses energy from foods we eat
- Sexual development and function
- Heart function
- Reproduction
- Mood
- Appetite
- Sleep cycles
- Stress responses



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# Endocrine Glands and Hormones

Endocrine glands are special groups of cells that make hormones. The major endocrine glands are:

**Hypothalamus** – produces hormones that regulates the Pituitary Gland which regulate body temperature, appetite, sex drive, weight, mood, sleep and thirst.

**Pineal Gland** – produces and regulates hormones, including melatonin which is necessary for our sleep cycle.

**Pituitary Gland** – the “master control gland” that is the size of a pea but controls several hormone glands in your body, including the thyroid, ovaries and testicles.

**Thymus** – only active until puberty; produces cells crucial to the immune system that protects the body from threats such as viruses and infections.

**Adrenal Glands** – controls metabolism, produces androgens and cortisol, gives your body odour and pubic hair, helps in how we respond to stress, regulates blood pressure and more.

**Testes** – male reproductive glands produce sperm and secretes testosterone.

**Parathyroid** – controls the amount of calcium in our bones and blood.

**Thyroid** – located in the front of the neck below the Adam’s apple. This gland produces thyroid hormones.

**Pancreas** – produces insulin, glucagon and other hormones but primarily responsible for controlling blood sugar levels.

**Ovaries** – female reproductive glands that produce eggs and sex hormones – including estrogen, testosterone and progesterone – which are vital to reproductive organ development, breast development, bone health, pregnancy, and fertility.



# Your essential hormones

When your hormones are in proper balance, they help your body thrive. But an imbalance in your hormone levels can affect your body and your well-being. Here are a few of your body's most important hormones, their role and why they're important:

## Testosterone

Main male sex hormone but also produced in women's ovaries in small amounts. Controls sex drive, bone density, muscle strength and growth of body hair.

## Estrogen

Main female sex hormone. Responsible for puberty and menopause. Regulates the menstrual cycle, maintains pregnancy and keeps bones strong for women and men.

## Progesterone

Helps maintain the menstrual cycle. After ovulation these levels rise to prepare the uterus for a fertilized egg. When pregnancy doesn't occur, levels drop and the menstrual cycle occurs.

## Prolactin

Prolactin levels rise during pregnancy. The pituitary gland releases prolactin after childbirth to trigger lactation, which enables new mothers to breastfeed.

## Insulin

Released by the pancreas so your body can use glucose from food for energy or to store for future use. Helps keep blood sugar levels from getting too high or too low.



## Serotonin

Known as the happy chemical as it boosts and stabilises mood. Eating chocolate may make you feel happier – dark chocolate converts a compound called L-tryptophan to serotonin.

## Thyroid hormones

Determines metabolism. Controls the rate at which the body burns calories, regulates weight and determines energy levels, internal body temperature, skin-, hair-, nail growth, etc.



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## Adrenaline

In a stressful situation this flight-or-fight hormone releases into the blood, sending impulses to initiate a quick reaction which makes you respond quickly to the stress.

## Cortisol

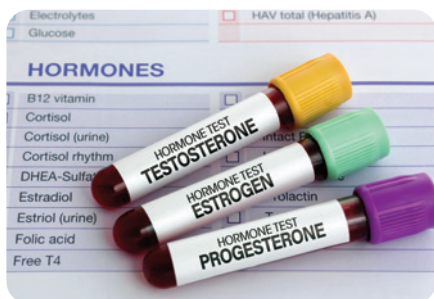
Controls physical and psychological stress. During times of stress, it increases heart rate, blood pressure, blood glucose, respiration and muscle tension in response to danger.

## Growth hormone

Stimulates growth, cell reproduction, increased muscle mass and bone development. Protects your tissues from breaking which guards against injuries and boosts your metabolism.

## Melatonin

Hormone that affects sleep patterns which regulates our sleep and wake cycles. The pineal gland produces melatonin at night to help you fall asleep and stay asleep.



## Are your hormones out of balance?

### Insulin Resistance

- Weight gain
- Sugar Addiction

### Imbalanced Cortisol

- Stress
- Hunger
- Poor sleep

### Imbalanced Growth Hormone

- Stuffy or runny nose
- Frequent skin reactions
- Tendency towards sinusitis

### Low Thyroid / Insulin Resistance

- Bloating
- Exhaustion
- Hair loss
- Dry skin

### Imbalanced Testosterone

- Fatigue
- Achy joints
- Frequent colds
- Masculine features like male pattern hair growth and excessive sweating in women

### Estrogen Dominance

- Breast tenderness
- Ovarian cysts
- Difficulty losing weight

Sources: [eblogfa.com](http://eblogfa.com) | [www.jagranjosh.com](http://www.jagranjosh.com) | [quizlet.com](http://quizlet.com) | [www.shape.com](http://www.shape.com) | [hormone.org](http://hormone.org) | [www.hormonereset.com](http://www.hormonereset.com) | Images: [www.freepik.com](http://www.freepik.com) | [www.flaticon.com](http://www.flaticon.com)