

# Thyroid gland and its hormone

By

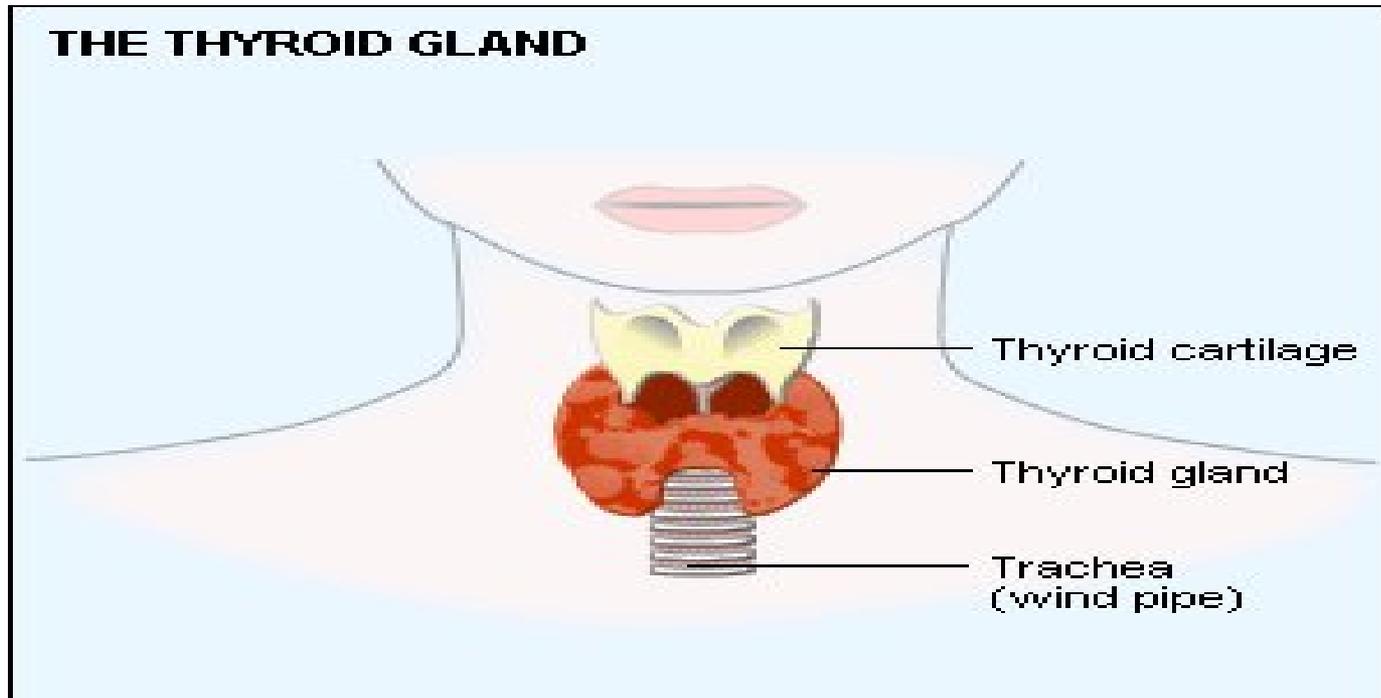
Ram Balak Mahto

Guest faculty

Zoology department

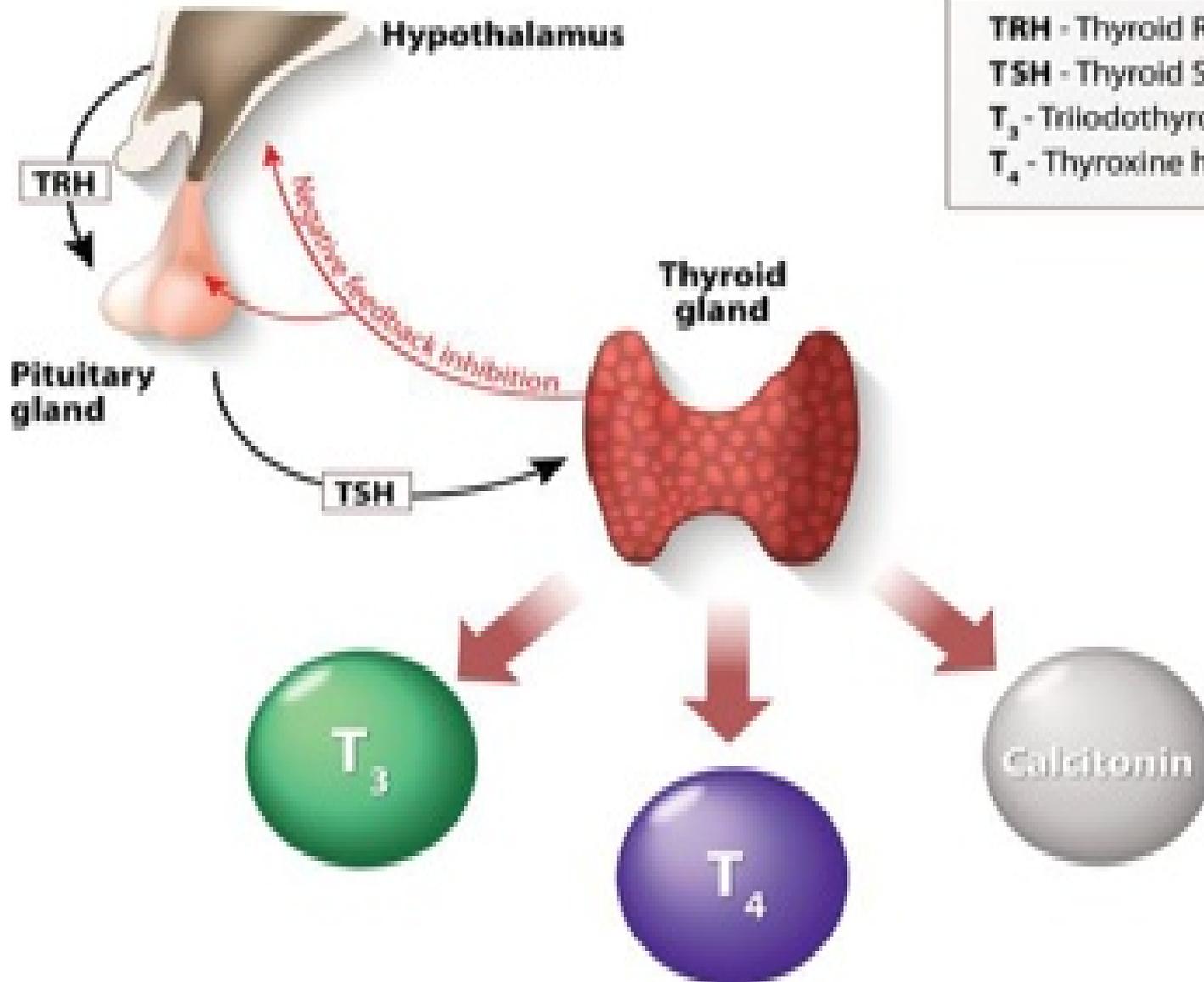
VSJ College Rajnagar Madhubani

# Thyroid gland and its hormone



- Thyroid stimulating hormone (TSH), which is produced by the pituitary gland, acts to stimulate hormone production by the thyroid gland.
- The pituitary gland is stimulated to make TSH by the hypothalamus gland in the brain

# THYROID HORMONES



**TRH** - Thyroid Releasing Hormone  
**TSH** - Thyroid Stimulating Hormone  
**T<sub>3</sub>** - Trilodothyronine hormone  
**T<sub>4</sub>** - Thyroxine hormone

## Definition

Thyroid hormones are vital to the growth and development of a fetus. Its chemical substances made by the thyroid gland, which is located in the front of the neck. The [thyroid gland](#) makes and releases two thyroid hormones: thyroxine ( $T_4$ ) and triiodothyronine ( $T_3$ ). Thyroid hormones affect every cell and all the organs of the body. Too much thyroid hormone speeds things up and too little thyroid hormone slows things down.

A deficiency of iodine leads to decreased production of  $T_3$  and  $T_4$ , enlarges the thyroid tissue and will cause the disease known as simple goitre. The major form of thyroid hormone in the blood is thyroxine ( $T_4$ ), which has a longer half-life than  $T_3$ . In humans, the ratio of  $T_4$  to  $T_3$  released into the blood is between 14:1 and 20:1.  $T_4$  is converted to the active  $T_3$ .

**Thyroid hormones affect every cell and all the organs of the body.**

**They:**

- Regulate the rate at which calories are burned, affecting weight loss or weight gain.
- Can slow down or speed up the heartbeat.
- Can raise or lower body temperature.
- Influence the rate at which food moves through the digestive tract.
- Control the way muscles contract.
- Control the rate at which dying cells are replaced.