

Thyroid Presentation

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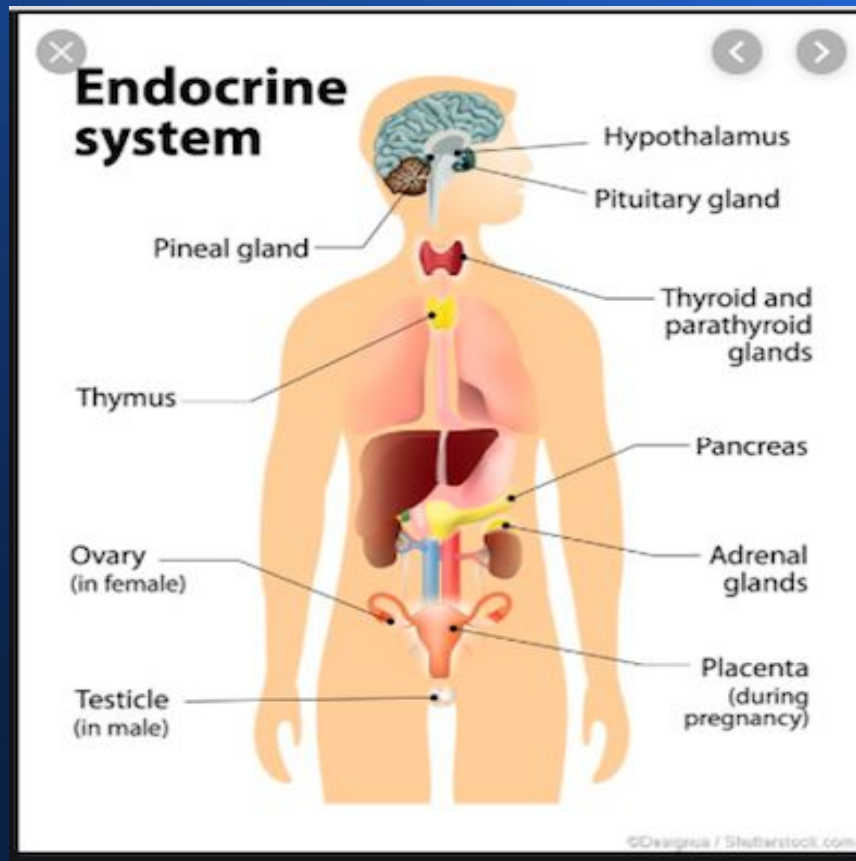
Epidemiology

- The thyroid relies on Iodine to produce thyroid hormone.
- Iodine deficiency is a major cause of thyroid disease
- World wide, one billion people live in iodine deficient areas
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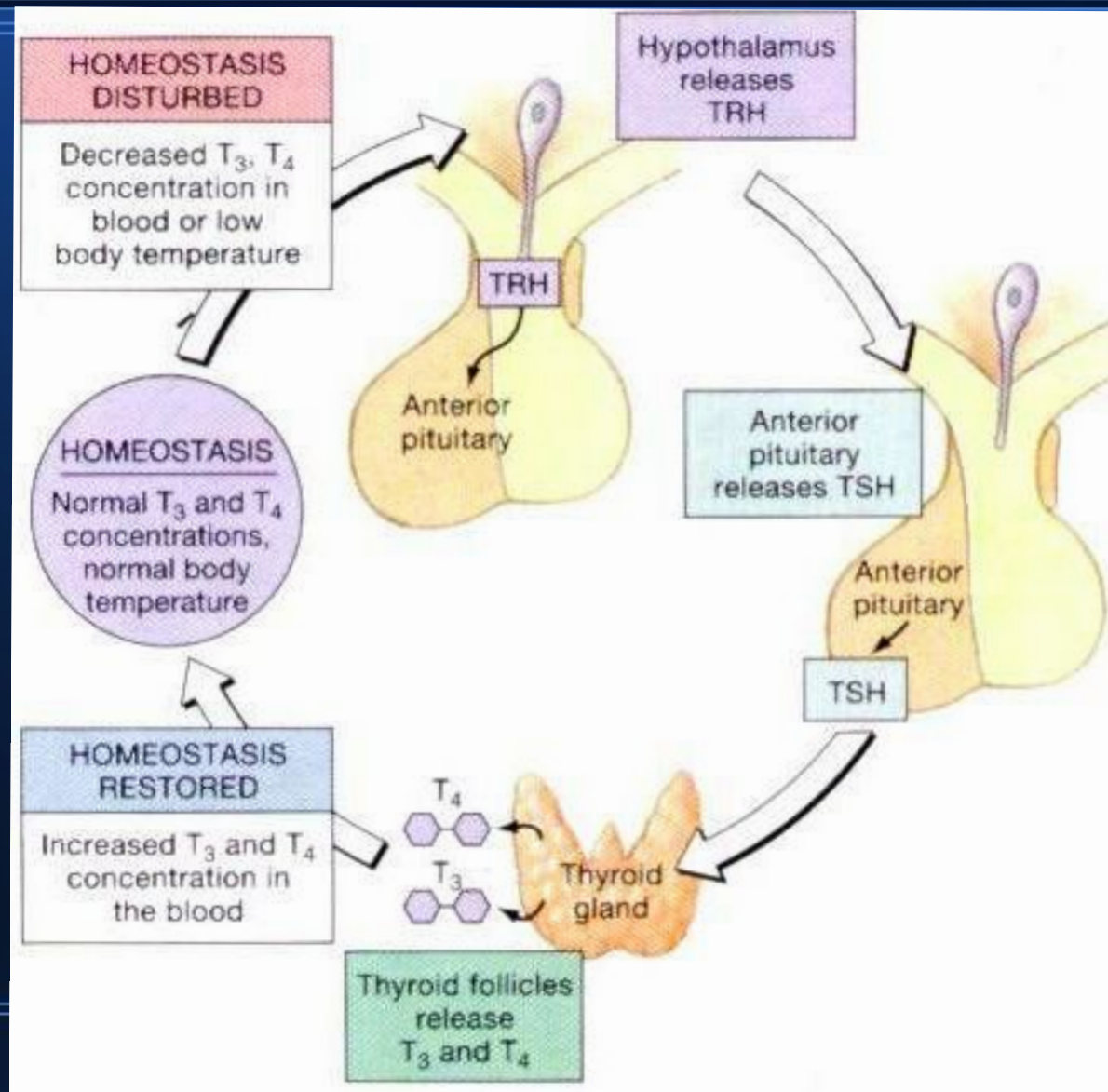
Epidemiology

- Graves disease and Hashimoto disease have an auto immune component and are more prevalent in iodine replete countries
- Females are 4 times more likely to experience Thyroid disease than males
- Maori are not over represented amongst this cohort

The Endocrine System

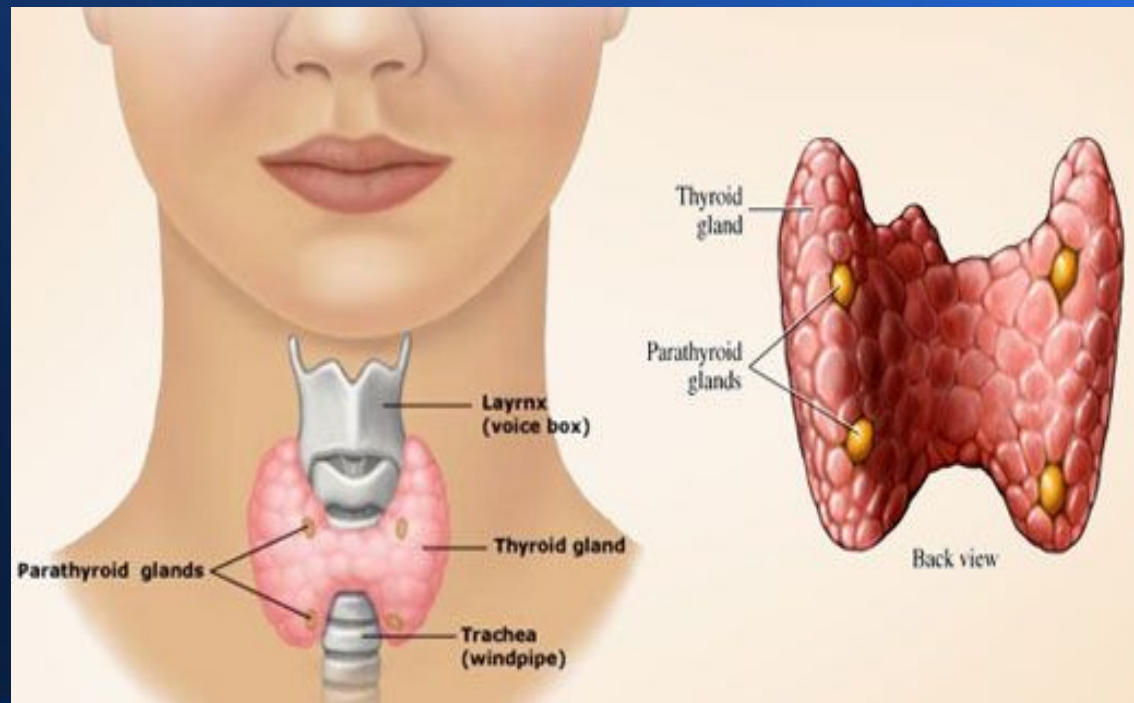


Negative Feedback System



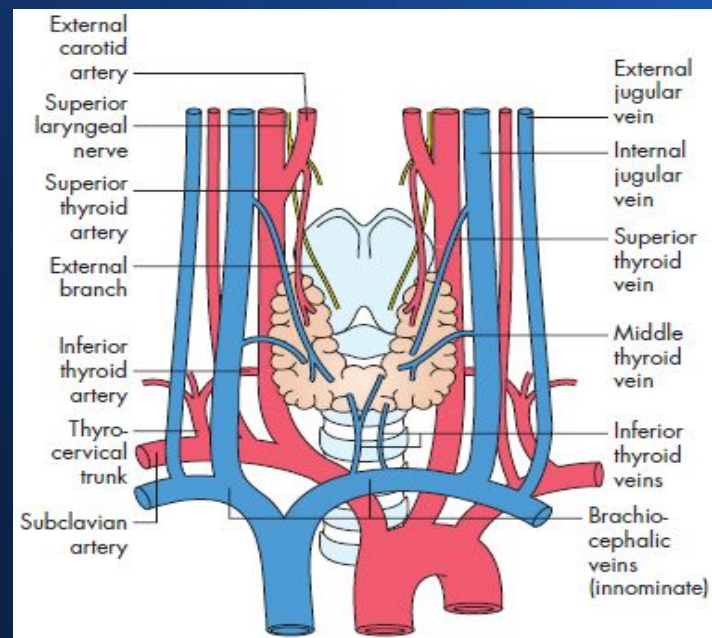
Anatomy of the Thyroid Gland

- Is part of the Endocrine system
- Butterfly shaped Gland, weighing about 30grams



Anatomy of the Thyroid Gland

Venous drainage via the inferior, middle and internal thyroid veins, allows for rapid transport of thyroid hormones throughout the body.



Role of Thyroid Hormones

- Control Protein, fat and Glucose metabolism by increasing metabolic rate.
- Control heat production
- Control Heart rate
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Clinical Manifestations of Hypothyroidism,

- Fatigue
- Lethargy
- Cold intolerance
- Weight gain
- Constipation
- Change in voice and dry skin

Clinical Manifestations of hyperthyroidism

- Increased heart rate
- Increased respiratory
- Overall increase cardiac output
- Heat intolerance
- Tremors
- Nervousness
- Weight loss

Management of Hypothyroidism

- Thyroxine
- Generally managed in Primary Care setting

Management of Hyperthyroidism

- Medication, Carbimazole or PTU in pregnancy
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- Radio-Active-Iodine
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- Surgery, total or partial thyroidectomy

Normal Thyroid Values

T4 12.8 – 20.4

T3 4.0 – 6.8

TSH 0.40 – 3.80

Case study

Margaret presented with a 40 kg weight loss over the last 10 months, only a small amount of that being intentional. Margaret had noticed increased anxiety and irritability over the last few months, she has noticed a fine tremor occasionally in both her hands and changes in her menstrual cycle. T4 66.9, TSH <0.01 T3 34.3

- Normal Values

- T4 12.8 – 20.4

- T3 4.0 – 6.8

- TSH 0.40 – 3.80

Hyperthyroidism, commenced on Carbimazole 15mg BD (6 tablets), and to retest in one months time. Discuss surgery or RAI.

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Case Study

Following a hemithyroidectomy for a thyroid cyst, Ann presented to her GP feeling sluggish, tired, felt the cold more and a slight weight increase. Ann's 6 week post-operative thyroid function tests

were T4 8.1, TSH 4.7 and T3 2.8

Normal Values

T4 12.8 – 20.4

T3 4.0 – 6.8

TSH 0.40 – 3.80

Ann's remaining thyroid tissue was unable to produce enough thyroid hormone, therefore she was commenced on thyroxine replacement.

Parathyroids

The thyroid houses 2 pairs of Parathyroid glands sit within the thyroid

Each gland is approximately the size of a grain of rice.

Parathyroid glands control serum Calcium and phosphate levels

