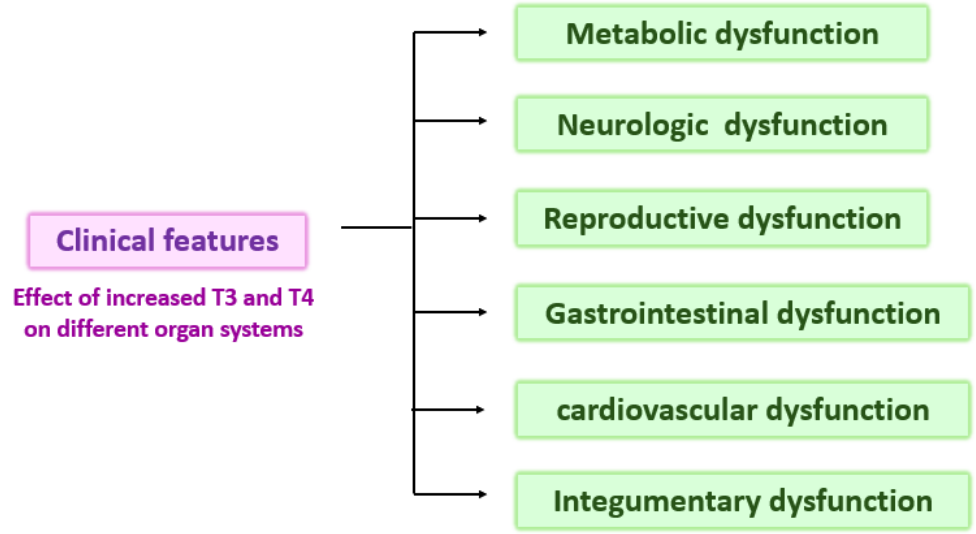
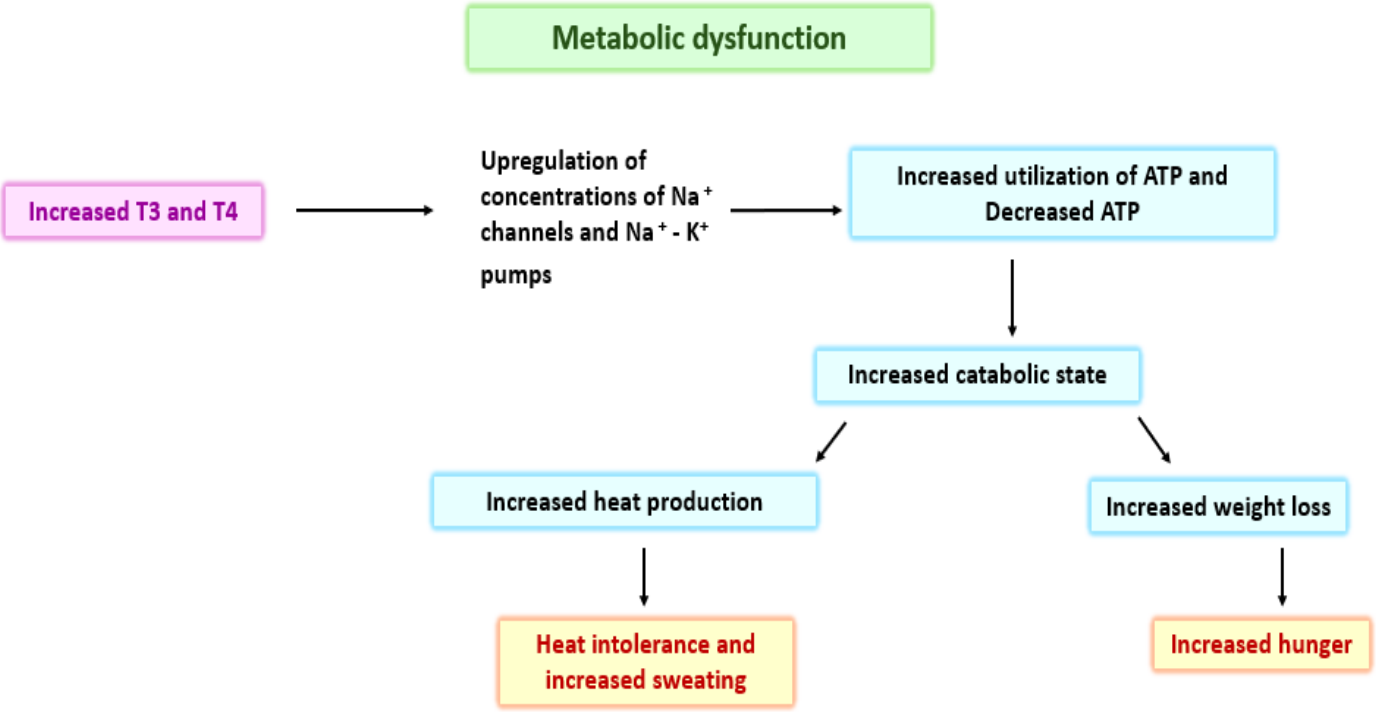
HYPERTHYROIDISM – CLINICAL FEATURES AND DIAGNOSIS





Neurologic dysfunction

Increased T3 and T4 → Increased neuronal BMR → Increased neuronal activity

- Hyperactivity
- Tremors
- Increased deep tendon reflexes

- Insomnia
- Inability to concentrate
- Anxiety

Reproductive dysfunction

Increased T3 and T4 → LIVER → Increased production of Thyroxine binding globulin (TBG)

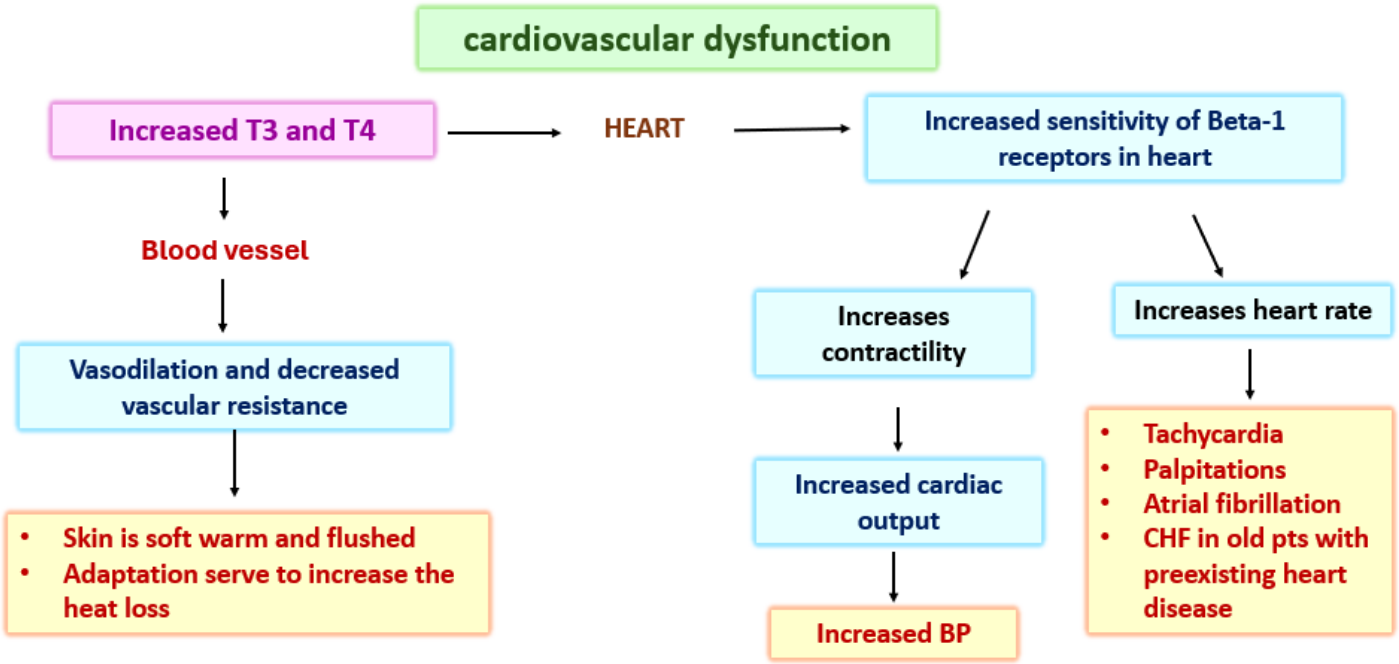
Binds to free estrogen/progesterone and testosterone → Decreased levels of E/T/P →

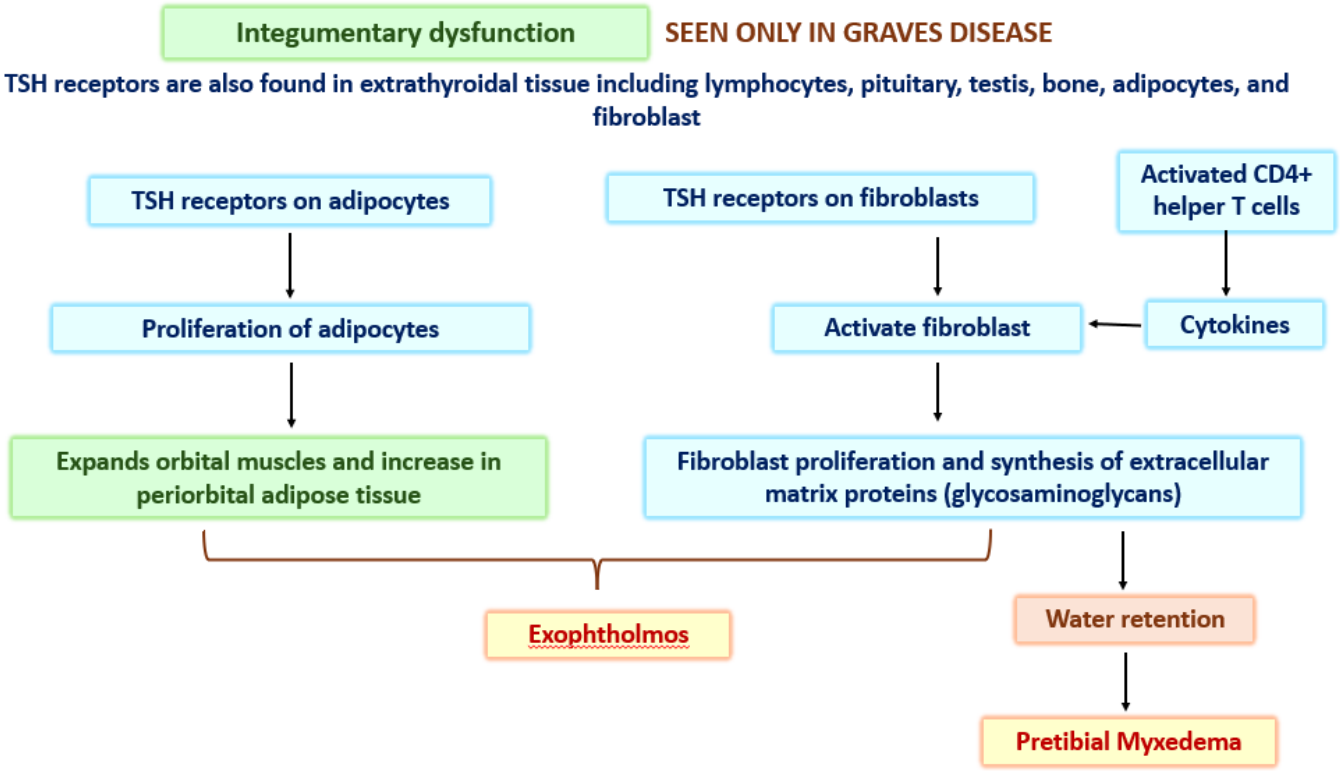
- Decreased libido
- Infertility
- Menstrual disturbances

Gastrointestinal dysfunction

Increased T3 and T4 → On GIT →

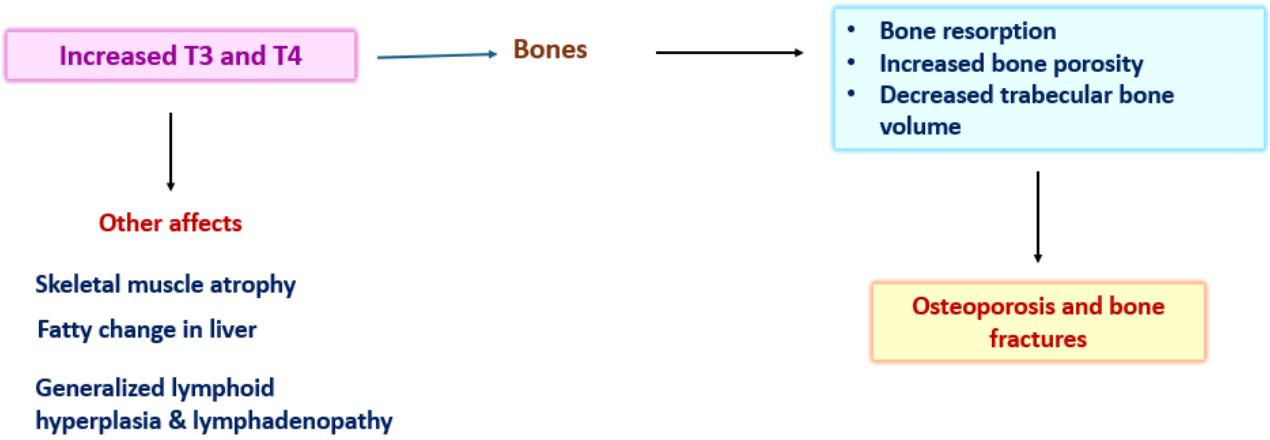
- Increased motility and reduced transit times lead to hyperdefecation (not to be confused with diarrhea)
- Typically responds to beta-blockers

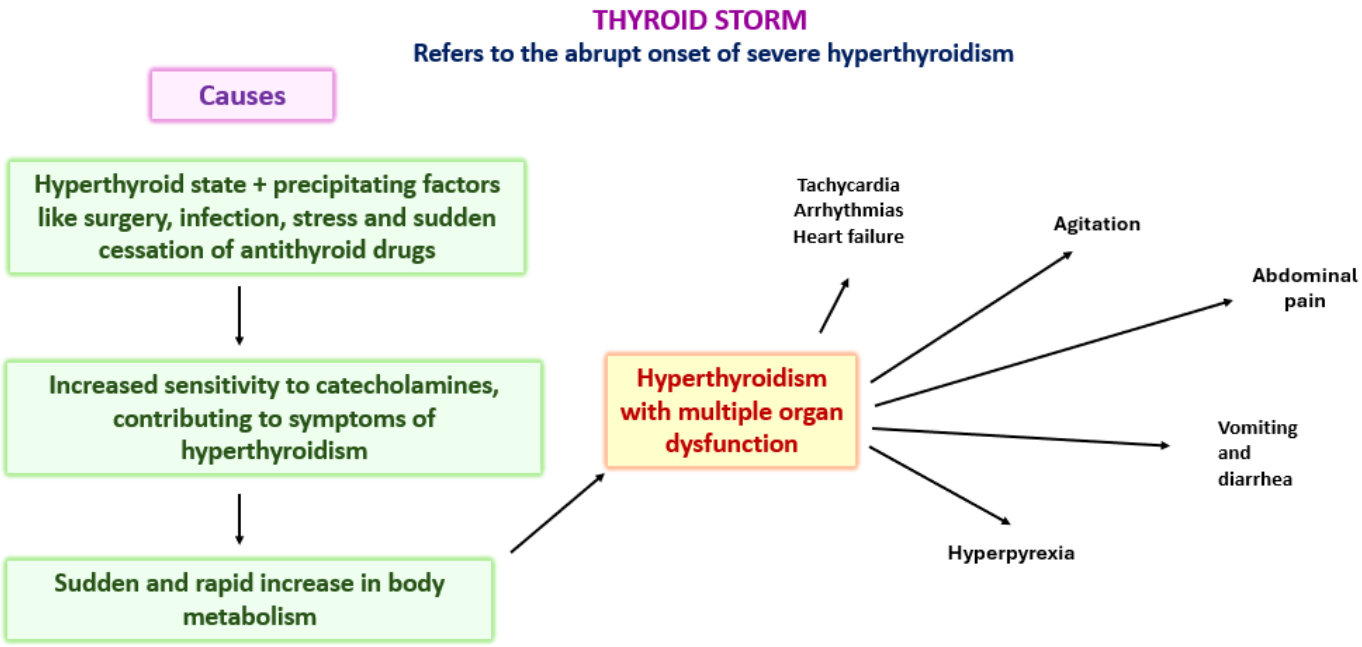

cardiovascular dysfunction
Increased T3 and T4
HEART
Increased sensitivity of Beta-1 receptors in heart
Blood vessel
Vasodilation and decreased vascular resistance
Skin is soft warm and flushed
Adaptation serve to increase the heat loss
Increases contractility
Increased cardiac output
Increased BP
Increases heart rate
Tachycardia
Palpitations
Atrial fibrillation
CHF in old pts with preexisting heart disease


Integumentary dysfunction
SEEN ONLY IN GRAVES DISEASE
TSH receptors are also found in extrathyroidal tissue including lymphocytes, pituitary, testis, bone, adipocytes, and fibroblast
TSH receptors on adipocytes
Proliferation of adipocytes
Expands orbital muscles and increase in periorbital adipose tissue
TSH receptors on fibroblasts
Activated CD4+ helper T cells
Activate fibroblast
Cytokines
Fibroblast proliferation and synthesis of extracellular matrix proteins (glycosaminoglycans)
Exophtholmos
Water retention
Pretibial Myxedema

Ocular changes

- **A wide, staring gaze and lid lag are present because of sympathetic overstimulation of the superior tarsal muscle (also known as Müller's muscle), which functions along side the levator palpebrae superioris muscle to raise the upper eyelid**
- **True thyroid ophthalmopathy associated with proptosis occurs only in Graves disease**





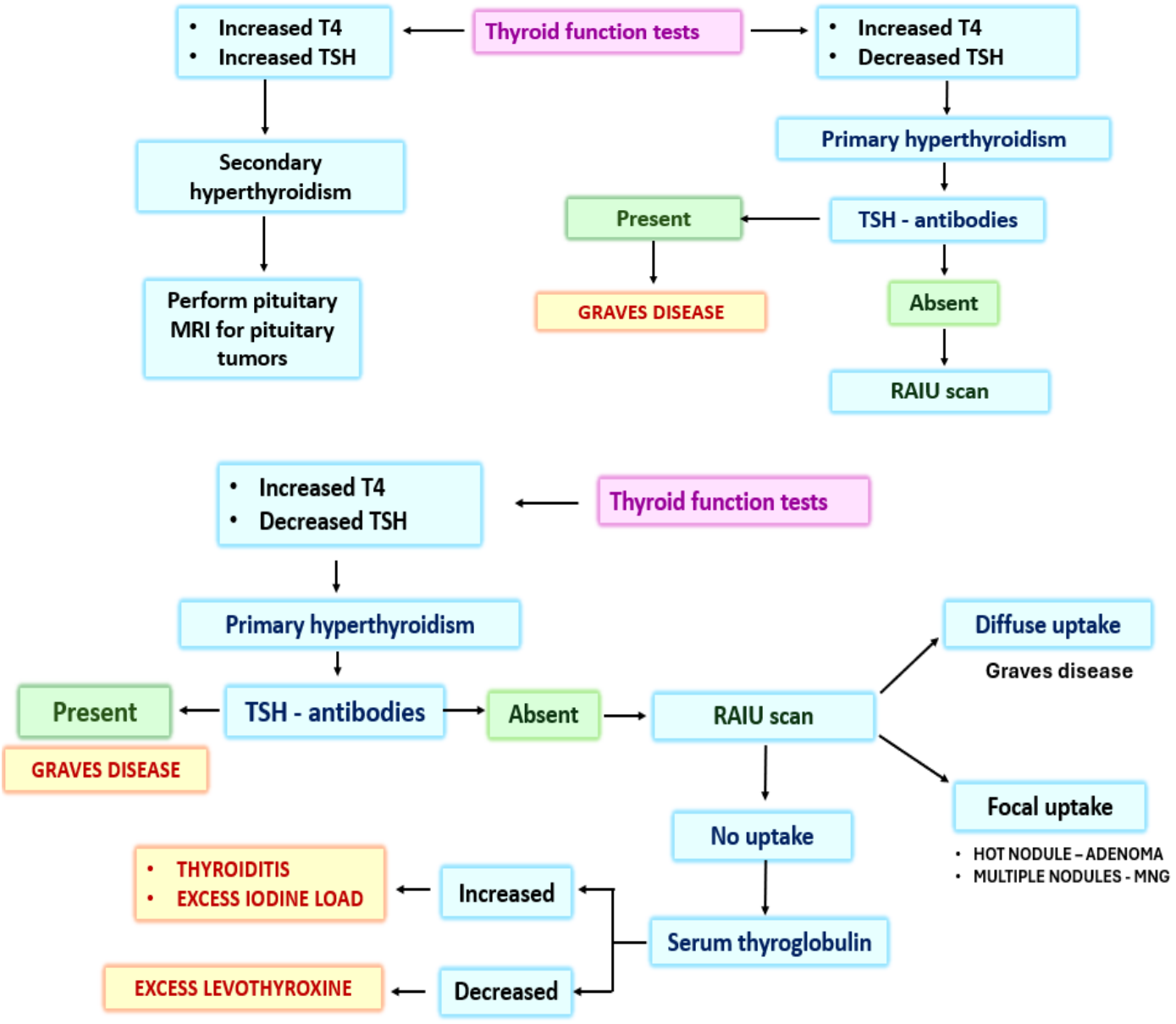
Thyroid storm is a medical emergency as untreated patients die of cardiac arrhythmias

Clinical Features

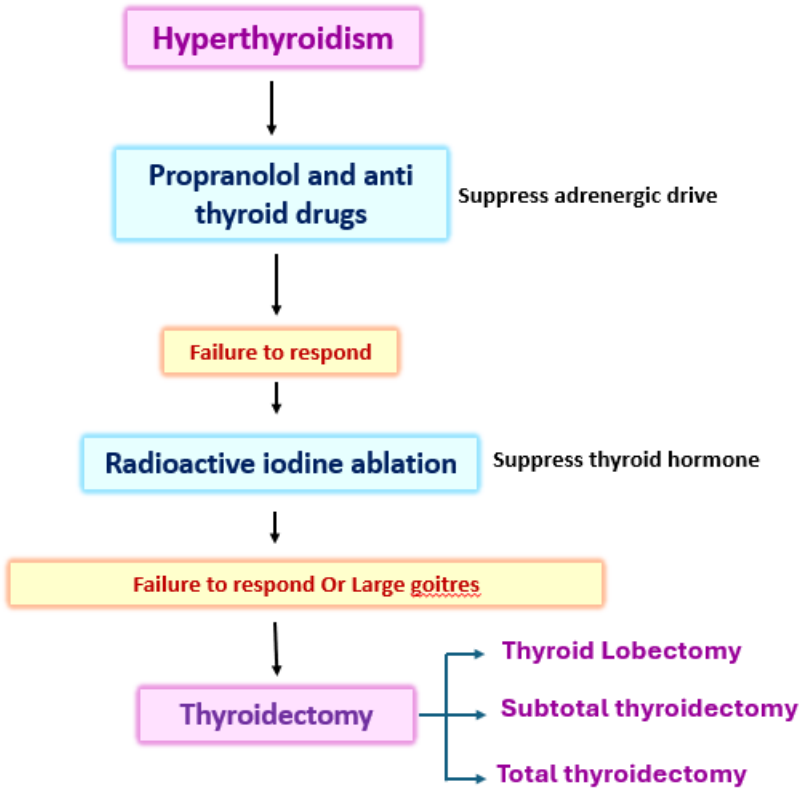
Apathetic hyperthyroidism

- refers to thyrotoxicosis occurring in older adults
- Typical clinical features of hyperthyroidism are blunted due to age and comorbidities
- Diagnosis is often made during laboratory workup for unexplained weight loss or worsening cardiovascular disease

LABORATORY DIAGNOSIS OF HYPERTHYROIDISM



HYPERTHYROIDISM- TREATMENT



SUMMARY

CLINICAL FEATURES OF HYPERTHYROIDISM