

Thyroid Function Test in the Evaluation of Hyperthyroidism



**Low TSH
Low Normal T4**

Possible central Hypothyroidism

Unlikely Sub-clinical Hyperthyroidism

Reconsider etiology for which thyroid labs were sent

**Low TSH
Normal T4+/-T3**

Subclinical Hyperthyroidism

Can repeat labs 6 weeks after the resolution of pregnancy, critical illness, and dopamine agonists/octreotide.

**Low TSH
High T4+/-T3**

Primary Hyperthyroidism

Signs of symmetrically enlarged thyroid & ophthalmopathy

Graves disease
Confirm with TRab

**High Normal TSH
High T4+/-T3**

Central Hyperthyroidism

MRI pituitary

Painful
1. Subacute granulomatous thyroiditis > viral
2. Infectious thyroiditis < suppurative
3. Palpation thyroiditis

Painless
1. Silent thyroiditis
2. Postpartum thyroiditis
3. Factitious ingestion (confirm with low thyroglobulin)

Rare causes
Drug (i.e. Amiodarone) induced, struma ovarii, iodine load (i.e. contrast)

If taking biotin, hold and retest in 48-72 hours

Calculate Burch Wartofsky point scale for hyperthyroidism, treat as indicated



Radioactive Iodine uptake

Decreased uptake

Increased uptake

1. Single Focus Toxic adenoma
2. Multiple Foci Toxic multinodular goiter
3. Homogenous Graves Disease

Rare causes
Low iodine state, gestational trophoblastic disease

