

Congenital hypothyroidism: Diagnostic algorithm

Newborn Screen for hypothyroidism:
Initial T4 <10%, TSH ↑
Or Initial TSH ↑

Clinical suspicion of hypothyroidism

Measure serum TSH and
free T4 (or T4 and T3 resin uptake)

TSH ↑ (>9 mU/L)
Free T4 ↓ (<0.6 ng/dL)

Diagnosis primary CH confirmed

Other diagnostic studies to
determine etiology (optional):

- Radionuclide uptake and scan
- Ultrasonography
- Serum thyroglobulin
- Maternal antithyroid antibodies
- Urinary iodine

TSH ↓ or normal (<9 mU/L)
Free T4 ↓ (<0.6 ng/dL)

**Diagnosis likely secondary
(central) hypothyroidism**

- Isolated: TSH β gene analysis
- Evaluate for other pituitary hormone deficiencies
- MRI of brain
- Eye exam-check for optic nerve hypoplasia