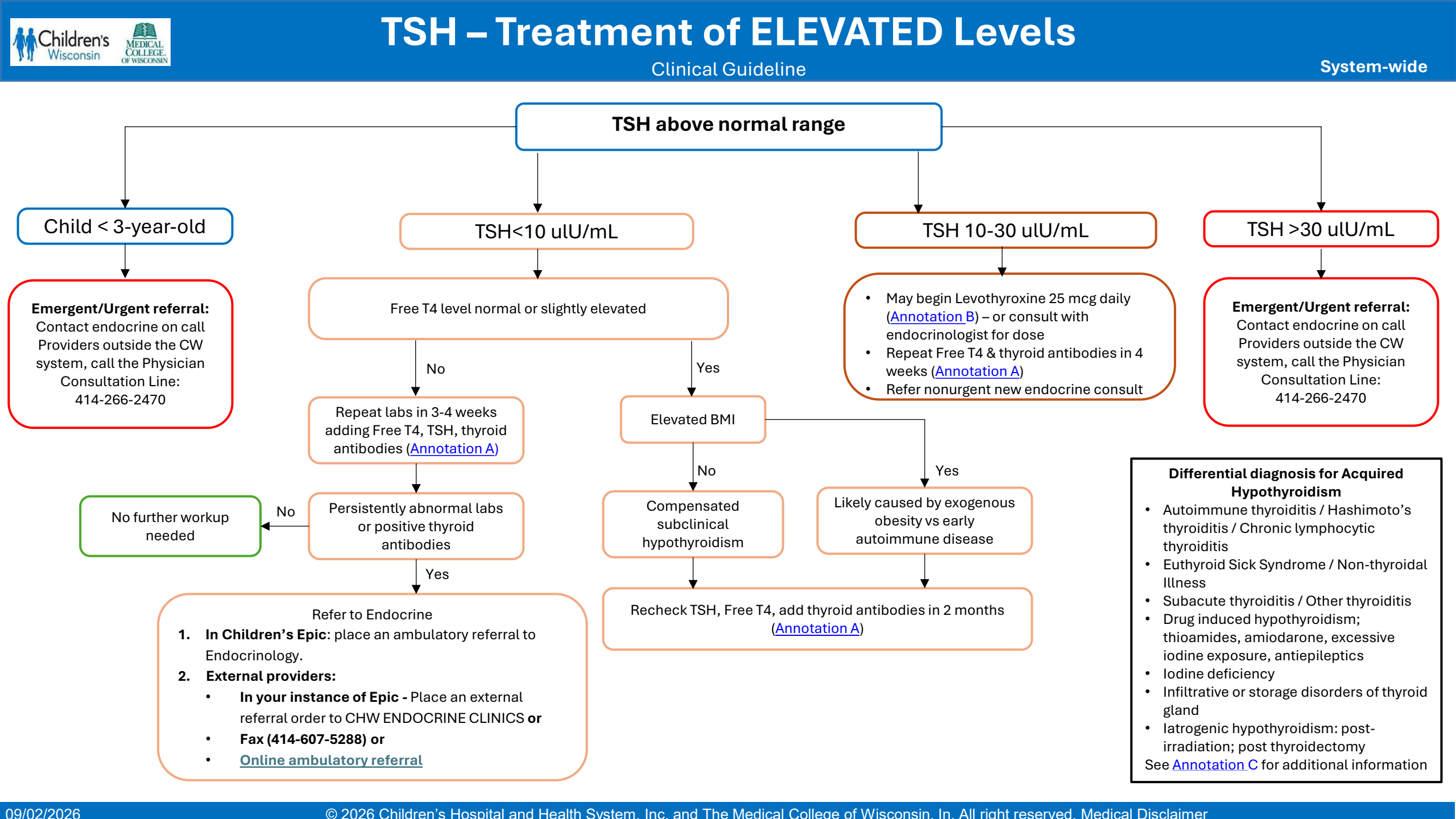




## Annotations

### A. Initial laboratory work-up can include:

- Thyroid function tests:
  - Free T4 (FT4)
- **Other tests to consider:**
  - Anti-thyroid antibodies \*
  - Thyroid peroxidase Ab
  - Thyroglobulin Ab
- These are not necessary for a diagnosis

### B. Treatment

- Treatment of hypothyroidism includes thyroid hormone replacement (Levothyroxine; LT4).
  - Brand-name thyroid hormone (i.e., Synthroid, Levoxyl) is an equivalent option for therapy as generic LT4.
  - Switching of levothyroxine from brand name to generic preparations, or between generic preparations can lead to perturbations in serum TSH and is not recommended unless under supervision of endocrinologist.
  - In addition, other forms of thyroid hormone replacement, such as desiccated porcine thyroid hormone (Armour Thyroid®) are not well studied for long-term use in hypothyroidism in children and are not currently recommended.
- Treatment can be initiated for children over age 3 yrs. **Refer to endocrinologist urgently if <3 yrs old**
- **Dosing** of LT4 is in micrograms, and pill strengths are commonly color-coded for ease of use and safety.
  - Dose should be taken on an empty stomach with water (can be crushed and dissolved) and wait 15-30 minutes prior to eating.
  - Administration along with some foods and supplements, such as soy and high fiber, should be avoided as it can impair LT4 absorption.
  - Titration of dose is by serial thyroid function testing (TSH +/- Free T4, often TSH only is required for ongoing monitoring), generally done about 4-8 weeks after a dose change.
  - Follow up visits are recommended at regular intervals to monitor adherence, blood levels, and growth and development.

### C. Additional Information

- In Primary Hypothyroidism (thyroid failure), FT4 is low or normal; TSH is elevated.
- In Central Hypothyroidism (pituitary/hypothalamic cause), FT4 is low but TSH may be normal or low (rare).
- Thyroid auto-antibodies (thyroid peroxidase antibody and thyroglobulin antibodies) may be helpful in determining underlying etiology of hypothyroidism.
- Total and Free T3 are generally not necessary for screening and monitoring.
- Mildly abnormal TSH levels (<10 uIU/ml) with normal FT4 are not likely to cause symptoms and can be followed and repeated over time.
- A good portion of children with this subclinical hypothyroidism revert back to normal thyroid function over time. Hyperlipidemia may be seen secondary to hypothyroidism. Consider screening with TSH, FT4 in dyslipidemia.
- Consider screening for hypothyroidism in depression especially in setting of poor linear growth.
- Thyroid ultrasonography is not generally required unless thyroid gland is significantly enlarged and/or asymmetric, or there is suspicion of thyroid nodule.
- Common obesity is generally exogenous and unlikely to be secondary to hypothyroidism. Screening for thyroid dysfunction is not recommended in absence of symptoms, poor linear growth or other risk factors.

### References

1.

Rodriguez, L., Dinauer, C., & Francis, G. (2022). Treatment of hypothyroidism in infants, children and adolescents. Trends in endocrinology and metabolism: TEM, 33(7), 522–532.  
<https://doi.org/10.1016/j.tem.2022.04.007>

2.

Jonklaas J et al. Guidelines for the Treatment of Hypothyroidism: Prepared by the American Thyroid Association Task Force on Thyroid Hormone Replacement. Thyroid. December 2014, 24(12): 1670-1751. (*Considered seminal work*)

Please contact [clinicalguidelines@childrenswi.org](mailto:clinicalguidelines@childrenswi.org) for questions or comments.

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### Medical Disclaimer

This Clinical Guideline (CG) is designed to provide a framework for evaluation and treatment. It is not intended to establish a protocol for all patients with this condition, nor is it intended to replace a clinician’s judgement. Adherence to this CG is voluntary. Decisions to adopt recommendations from this CG must be made by the clinician in light of available resources and the individual circumstances of the patient. Medicine is a dynamic science; as research and clinical experience enhance and inform the practice of medicine, changes in treatment protocols and drug therapies are required. The authors have checked with sources believed to be reliable in their effort to provide information that is complete and generally in accord with standards accepted at the time of publication. However, because of the possibility of human error and changes in medical science, neither the authors nor Children’s Hospital and Health System, Inc., nor any other party involved in the preparation of this work warrant that the information contained in this work is in every respect accurate or complete, and they are not responsible for any errors in, omissions from, or results obtained from the use of this information.