

# CT Children's CLASP Guideline

## Thyroid Nodule

### INTRODUCTION

Thyroid nodular disease consists of a number of disorders including a solitary nodule, a multinodular goiter, nodular goiter observed in autoimmune thyroid disease, i.e. chronic lymphocytic thyroiditis (Hashimoto thyroiditis) or Graves' disease. These nodules may be palpable or non-palpable.

Prevalence of thyroid nodules in prepubertal children is estimated at up to 1.8%. Evidence suggests malignancy rates in children are higher than in adults, with a mean malignancy rate of 26% in children. Most (97%) benign nodules remain benign.

Most patients with thyroid nodules have few or no symptoms and nodules are often discovered incidentally on physical examination or through imaging studies performed for unrelated reasons.

### INITIAL EVALUATION AND MANAGEMENT

#### INITIAL EVALUATION:

- Targeted history (see risk factors below):

#### **Factors suggesting increased risk for malignancy include:**

<b>HISTORY</b>	<ul style="list-style-type: none"> <li>History of head and neck irradiation. <i>Childhood cancer survivors who were treated for their primary malignancy with radiation therapy.</i></li> <li>Family history of papillary thyroid cancer, medullary thyroid cancer, and multiple endocrine neoplasia type 2</li> <li>Adolescent female</li> <li>Prepubertal males and females have similar incidence</li> <li>History of rapid growth of nodule</li> <li>Obstructive symptoms: persistent dysphonia, dysphagia or dyspnea</li> </ul>
<b>PHYSICAL</b>	<ul style="list-style-type: none"> <li>Firm or hard consistency</li> <li>Cervical adenopathy</li> <li>Fixed nodule</li> </ul>

- Targeted Physical Exam (method of examination/palpation):
  - Place first two digits of both hands just below cricoid cartilage so that left and right fingers meet on the patient's midline. Place thumbs posterior to patient's neck and flatten all fingers against the neck. Use finger pads, not tips, to palpate and identify the isthmus.
  - Then gently draw fingers laterally 1-2cm and palpate lateral lobes
  - Now ask patient to swallow and assess for asymmetrical elevation of lobes (suggests nodularity)
  - Palpate neck for palpable nodules and cervical nodes
  - Assess for signs of hyperthyroidism or hypothyroidism on exam (i.e. pulse rate, skin findings)
- Initial diagnostic testing
  - TSH and free T4, TPO, thyroglobulin antibody
  - Thyroid ultrasound (US): Request US be performed at Connecticut Children's Medical Center or a Jefferson Radiology imaging center

#### INITIAL MANAGEMENT:

- Provide reassurance to the family if the nodule is <1cm without suspicious features and the TSH level is normal.
- Discuss additional work up found on the referral guideline, including a referral to the thyroid center for additional testing and evaluation by the specialty team

<b>WHEN TO REFER</b>	<p><b>See Appendix A: Initial Evaluation &amp; When to Refer Algorithm</b> to determine the following three options: Delay Referral, Referral to Thyroid Center, Referral to Endocrinology</p> <p><b>Urgent referral (within 1 week) to the Thyroid Center:</b></p> <ul style="list-style-type: none"> <li>• A nodule &gt;1 cm or &lt;1cm with suspicious findings (see <b>Appendix A: Initial Evaluation &amp; When to Refer Algorithm</b>)</li> <li>• If TSH is low to Thyroid Center</li> </ul> <p><b>Urgent referral (within 1 week) to Endocrinology:</b></p> <ul style="list-style-type: none"> <li>• If TSH is elevated (&gt;7.5) with low free T4</li> </ul> <p><b>Routine referral to Endocrinology:</b></p> <ul style="list-style-type: none"> <li>• If TSH is elevated with normal free T4, per primary care provider discretion</li> </ul>
<b>HOW TO REFER</b>	<p><b>Referral to The Thyroid Center in Endocrinology via CT Children’s One Call Access Center</b>  <b>Phone:</b> 833.733.7669 <b>Fax:</b> 833.226.2329</p> <p>For more information on how to place referrals to Connecticut Children’s, click <a href="#">here</a>.</p> <p><b>Information to be included with the referral:</b></p> <ul style="list-style-type: none"> <li>▪ Notes from visit(s) with the PCP</li> <li>▪ Growth chart</li> <li>▪ Thyroid test results and thyroid US including images</li> </ul>
<b>WHAT TO EXPECT</b>	<p><b>What to expect from CT Children’s Visit:</b></p> <ul style="list-style-type: none"> <li>▪ History, physical exam</li> <li>▪ Need to obtain CD/imaging of thyroid US, additional labs and repeat thyroid imaging if appropriate</li> <li>▪ Nuclear imaging studies if appropriate</li> <li>▪ Ultrasound guided FNAC (fine needle aspiration cytology) if appropriate</li> <li>▪ Consideration of surgical removal of thyroid or radioactive iodine ablation therapy</li> <li>▪ Comprehensive patient education</li> </ul>

## APPENDIX A: Initial Evaluation & When to Refer Algorithm

