**Thyroid Disease**

**Identification of Thyroid Disease**

Patients ≥ 50 years old should be considered for evaluation for hyperthyroidism and hypothyroidism every 5 years as part of a physical or health maintenance visit.

**Case Finding:**

- Order TSH for patients with signs, symptoms, or other indications of hypo- or hyperthyroidism.
- Other indications, patients:
  - with autoimmune diseases (e.g. Type 1 diabetes mellitus, B12 deficiency, pernicious anemia, Addison’s disease and collagen-vascular diseases)
  - with previous thyroid injury (exposure to radiation, excess iodine)
  - with previous thyroid surgery or thyroid function abnormality
  - when patient is undergoing treatment with interferon for hepatitis C perform baseline testing before treatment and every 3 months during treatment
  - when patient is undergoing treatment with amiodarone or lithium perform baseline testing before treatment and every 3 months during treatment

**Testing:**

- TSH is the best choice except in rare cases
- TSH + FT4 for patients with secondary diagnosis of thyroid disease and other CNS diseases, including brain injury
- Refer to endocrinologist if results of tests confusing

**Identification of Thyroid Disease for Pregnant Women and Those Planning Pregnancy:**

- At initial interview, ask questions to identify potential thyroid problems and test as appropriate. Factors to be considered in case finding:
  - Those with autoimmune diseases often associated with thyroid disease, such as type 1 diabetes and pernicious anemia
  - Patients with a prior history of thyroid disease or thyroid surgery, an abnormal thyroid exam, or taking drugs known to affect the thyroid
  - Patients with a family history of thyroid illness or history of miscarriage

- When testing needed, first trimester, perform TSH and FT4
- This is necessary since in the first trimester HCG mimics TSH and leads to suppressed TSH even when patient euthyroid
- Second/third trimester perform TSH except when thyroid disease is secondary diagnosis (cause is hypothalamic or pituitary)

**Treatment of Pregnant Women with Thyroid Disease**

- Pregnant women who have hypothyroidism and those on thyroid, test on regular basis (see above) during pregnancy, treat appropriately
- Thyroid nodules can and should be evaluated, follow up as necessary with obstetrician/gynecologist, surgeon & endocrinologist working together
- Imaging (ultrasound) may be ordered, as indicated, radioisotope studies should not be done

**Hypothyroidism**

Hypothyroidism is a syndrome that results from inadequate levels of thyroid hormone (T-4 and/or T-3). It is manifested by a set of symptoms, physical findings and laboratory tests.

See pages 3-5 for algorithms on diagnosis and treatment of hypothyroidism and hyperthyroidism and thyroid nodule

**Key Points about Hypothyroidism**

**Generic/Brand Medication for Hypothyroidism**

- For safety, use consistent source of thyroidine for a particular patient, either brand name or generic. Treat potential change of thyroidine source (between brand and generic, one generic to another, one pharmacy to another) like a dosage change: check TSH 6-8 weeks following change
- Signs and symptoms of hypothyroidism: decrease in metabolic rate, tiredness, lethargy, sensitivity to cold, menstrual disturbances, goiter, hyperlipidemia
- For most patients, TSH is the test of choice for screening and monitoring of hypothyroidism
- Numerous drugs/diseases can alter T4 & T3 levels
- TSH is not the test of choice for those with pituitary disease, brain injury or in first trimester of pregnancy
- What is normal TSH (within the reference range) depends largely on individual
- Clear evidence that treating asymptomatic patients with TSH greater than 10 reduces morbidity and mortality

**Key Points about Hyperthyroidism**

- TSH the best diagnostic test for hyperthyroidism
- Asymptomatic patients over age 50 with suppressed TSH (less than 0.1) at risk for atrial fibrillation
- Confirmation of elevated FT4 and/or FT3 required after screening with a TSH
- Workup should include iodine uptake and scan to define etiology of hyperthyroidism
- Review treatment options with patient and family

**Key Points about Thyroid Nodule (TN) Evaluation**

- Rule of FIVE: 5% of your overall patient population will have palpable TNs, 5% of all palpable TNs are malignant
- Rule of ACTIVITY: Most nodules that are hyperactive are benign (extremely rare exceptions)

Refer to Endocrinologist

- RISK FACTORS for malignancy:
  - A PALPABLE nodule
  - Age < 20 or >60
  - M>F
  - History of radiation exposure
  - Familial history of thyroid cancer
  - Progressive growth on oral T-4
- Ultrasound characteristics of TN causing concern:
  - Microcalcifications
  - Hypoechojenicity
  - Intranodule vascularity
  - Irregular nodule margins
  - Nodule > 10mm

**NOTES About Thyroid Nodules**

- There is no strong evidence that treatment of euthyroid patients with thyroid hormone will shrink benign thyroid nodules.
- Evaluate further if patient has normal or elevated TSH
- Evaluate all palpable nodules

See endocrinologist for any nodule with above risk factors or concerning