**Hypothyroidism (E03.9)**

**Subjective:**

Onset, duration, severity of symptoms, may be asymptomatic. Review history of recent pregnancy, weight change, energy level, shortness of breath with exercise, sleep habits, cold intolerance, skin texture, hair thinning, brittle nails, constipation, hoarseness, menstrual irregularity, difficulty swallowing, neck mass, extremity swelling, myalgias. Consider depression symptoms, anxiety, mood disorder. Review pertinent family history, personal history of head/neck radiation, chemotherapy exposure, OTC and prescription medication history (especially lithium). Consider history of co-existing autoimmune disease.

**Objective:**

General appearance, vital signs, weight, eye, thyroid, lungs, CV, abdomen, extremity exam to look for non-pitting edema (myxedema), neuro including reflexes and skin exams.

**Lab/X-Ray:** TSH, free T4 (advise patient to stop biotin supplements for 3 days prior to testing) Consider U/A, CBC, ESR, CMP, anti-TPO Ab, lipid panel. aPTT to look for hypothyroidism-associated hypocoagulable state. CK if myalgias, consider testing for celiac disease. Consider Thyroid US for any nodules.

**Assessment:**

Hypothyroidism, primary, secondary, subclinical

**Differential Diagnosis:** Thyroiditis, radioiodine treatment, thyroid surgery, anterior pituitary failure, transient TSH elevation due to acute illness or metoclopramide.

**Plan:**

**General Education/Therapeutics:** Discuss etiology, course and treatment. Important to continue treatment, usually lifetime. Monitor TSH at least annually; more frequently when initiating therapy. Watch for signs of over and or under-replacement. Need more frequent follow-up and may need a higher dose of medication with pregnancy.

**Medication:** May include but not limited to appropriate use of these medications: levothyroxine (Synthroid, Levothroid). In a younger patient with no history of heart disease/hypertension, may consider beginning with expected replacement dose, but also can begin with lower dosing per clinician. Older patients, or those with heart disease/HTN, should be started on a lower dose initially (25 – 50 mcg daily) and titrated slower.

**MD consultation/Referral:** If failure to respond adequately to treatment, or if interfering medical comorbidities.

**Complications:** Over-replacement, under-replacement, depression, hypersomnolence, pericardial effusion, bradycardia, hypertension, heart failure, sleep apnea, carpal tunnel syndrome, decreased fertility in females, erectile dysfunction in males, myxedema coma, Hashimoto encephalopathy, hyponatremia.

**Follow-Up:** TSH every 6-8 weeks until desired range is obtained as dosing is adjusted. Annual TSH and physical thereafter. May check sooner if patient becomes symptomatic.