

ENDOCRINOLOGY WAIVERS

CONDITION: HYPERTHYROIDISM (ICD9 242.03)

Revised January 2002

AEROMEDICAL CONCERNS: Hyperthyroidism and the resulting thyrotoxicosis may either present with slowly progressive symptoms (thyroid ophthalmopathy, corneal damage, optic neuropathy, tachycardia, various supraventricular dysrhythmias, nervousness, emotional lability and hyperkinesia) or may present acutely as in thyrotoxic crisis with fever, marked tachycardia with possible pulmonary edema or congestive heart failure. Cardiac and psychiatric symptoms are common in men. Thyroid ophthalmopathy frequently limits full visual fields, primarily in the upward gaze and more specifically in the superolateral field of gaze.

WAIVERS:

Initial Applicants (All Classes): Exceptions to policy or waivers are commonly recommended if the individual is euthyroid and there are no residual ophthalmologic deficits.

Rated Aviation Personnel: Waivers are commonly recommended once the patient is euthyroid, and there are no residual ophthalmologic deficits. Aircrew members with ophthalmopathy may require grounding during treatment. Aircrew with abnormal cardiac dysrhythmia will require possible waiver action for the dysrhythmia as well. Waivers are commonly granted for hyperthyroid-induced dysrhythmias once the patient is euthyroid and cardiac evaluation reveals no underlying pathology.

ICD9 Code Condition

242.01 Graves Disease
241.0 Thyroid Nodule
241.1 Multinodular Goiter, non-toxic
240.9 Goiter, unspecified
242.9 Thyrotoxicosis other

INFORMATION REQUIRED:

- ❖ Endocrinology consultation,
- ❖ Ophthalmology consultation,
- ❖ Recent (within the previous 90 days) thyroid panel (to include as a minimum TSH and Free T4); and,
- ❖ Cardiology consultation and full work-up may be required for any associated dysrhythmias. (See appropriate APL).

FOLLOW-UP: Submission of thyroid panel (TSH and Free T4 as a minimum) is required with all comprehensive FDMEs. Although this requirement is only with the comprehensive FDME, the flight surgeon should assess for symptoms and check levels annually. Ophthalmology and/or cardiology consultations with associated work-up may be required for those with residual abnormality or in those with unusual cardiac manifestations.

TREATMENT: The three main forms of therapy include: 1) antithyroid drugs, 2) radioactive iodine (I 131), and 3) surgery. Antithyroid drugs (methimazole, and propylthiouracil) are waivable but may cause side effects including vertigo and drowsiness as well as agranulocytosis (< 1%). Radioactive iodine is a simple and economical means of treating thyrotoxicosis with the principle disadvantage of producing a high incidence of late hypothyroidism. Surgery is also an alternative but has been declining in popularity; it may still have a role in treating females in their child-bearing years. Complications of thyrotoxicosis usually rapidly respond to therapy, but the patient usually requires grounding until euthyroid and all ophthalmologic or cardiac disorders, etc., are resolved.

DISCUSSION: Graves' disease is the most common cause of hyperthyroidism in patients younger than age 40 in the United States, occurring in an estimated 0.4% of the population. Muscle pain, weakness, and stiffness are the presenting symptoms in 25% of patients. Infiltrative ophthalmopathy is clinically evident in about 50% of patients. Approximately 10% manifest with atrial fibrillation. Paroxysmal supraventricular tachycardia may occasionally be present. Only about 25% of patients present with the classic features of thyrotoxicosis: tremors, tachycardia, nervousness, exophthalmos, heat intolerance, and weight loss despite increased appetite. When treated with drugs, there is a 30% lasting remission rate. Postradioiodine hypothyroidism occurs in 30% of patients at five years and may reach from 40-70% within 20 years. A third of patients undergoing surgery will be hypothyroid within 10 years. It is essential; therefore, that all treated patients be monitored regularly for the rest of their life. The complete remission rate after radioactive iodine is 86% with 60% developing myxedema after 10 years and a further 2-3% a year developing myxedema after that. More than 50% of cases of exophthalmos will spontaneously remit within 5 years with no other treatment than that of the underlying condition. Only 5% of patients with ocular pathology will require surgery.

REFERENCE:

Journal of the American Medical Association, *Treatment guidelines for patients with hyperthyroidism and hypothyroidism.* , 1995, 273: 808-12.

National Guidelines Clearinghouse: www.guideline.gov, *AACE clinical practice guidelines for the evaluation and treatment of hyperthyroidism and hypothyroidism.*