

Sample Topic

Thyroiditis



The Medical Disability Advisor: Workplace Guidelines for Disability Duration

Fifth Edition

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Editor-in-Chief

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Thyroiditis

Related Terms

- Atypical Subacute Thyroiditis
- Autoimmune Thyroiditis
- Chronic Lymphocytic Thyroiditis
- De Quervain's Thyroiditis
- Giant Cell Thyroiditis
- Granulomatous Thyroiditis
- Hashimoto's Disease
- Hashimoto's Thyroiditis
- Hashitoxicosis
- Hyperthyroiditis
- Inflammation of the Thyroid
- Lymphadenoid Goiter
- Lymphocytic Thyroiditis
- Painless Thyroiditis
- Silent Lymphocytic Thyroiditis
- Silent Thyroiditis
- Struma Lymphomatosa
- Subacute Granulomatous Thyroiditis
- Subacute Lymphocytic Thyroiditis
- Subacute Thyroiditis
- Thyroadenitis

Medical Codes

- **ICD-9-CM:** 017.5, 245, 245.0, 245.1, 245.2, 245.3, 245.4, 245.8, 245.9, 246, 246.0, 246.1, 246.2, 246.3, 246.8, 246.9, 648.1
- **ICD-10:** E06, E06.0, E06.1, E06.2, E06.3, E06.4, E06.5, E06.9, E07, E07.0, E07.1, E07.8, E07.9

Definition

Thyroiditis refers to either acute or slowly developing (chronic) inflammation of the thyroid gland, a small butterfly-shaped gland in the front of the neck, below the Adam's apple. This gland produces hormones (thyroid hormones) that play an important role in controlling the body's metabolism. When the thyroid becomes inflamed, it can become enlarged (goiter) and overactive (hyperthyroidism), or it can shrink (atrophy) as it loses activity and function (hypothyroidism).

Thyroiditis is often characterized by a period of excessive thyroid hormone production (hyperthyroidism) followed by a period of inadequate thyroid hormone production (hypothyroidism). In some cases, thyroid function is not affected.

There are three main types of thyroiditis: chronic thyroiditis (from autoimmune origin), subacute thyroiditis (from viral infection), and acute suppurative thyroiditis (from bacterial infection). The most common type of chronic thyroiditis is Hashimoto's disease (chronic autoimmune lymphocytic thyroiditis), an autoimmune disease in which the immune system attacks the body's own tissues; in this case the tissues of the thyroid gland are being attacked by antithyroid antibodies produced by the immune system. As a result, the thyroid gland becomes unable to produce enough hormones. Hashimoto's disease is often not diagnosed until it has suppressed thyroid production, resulting in hypothyroidism. Most individuals with Hashimoto's disease are hypothyroid; only a small percentage are hyperthyroid. As

in other autoimmune diseases, stress is believed to be a factor in Hashimoto's disease, but the condition is also associated with other autoimmune diseases such as type I diabetes, pernicious anemia, Addison's disease, rheumatoid arthritis, lupus, chronic hepatitis, hypoparathyroidism, hypopituitarism, and vitiligo. It is also linked to genetic conditions such as Down syndrome, Turner's syndrome, and Klinefelter's syndrome.

Other forms of autoimmune thyroid disease (AITD) include Graves' disease, silent lymphocytic thyroiditis, sporadic or transient thyroiditis, and painless postpartum thyroiditis, a form of transient autoimmune thyroid dysfunction that develops in women after childbirth. Silent lymphocytic thyroiditis, also called painless thyroiditis, develops when the thyroid gland becomes infiltrated with lymphocytes (a type of white blood cell involved in immune response); it is characterized by an enlarged thyroid gland without associated pain. After several weeks to several months of hyperthyroid symptoms, the condition resolves completely with no permanent damage to thyroid function in about 90% of cases.

Subacute granulomatous thyroiditis, a less common type of thyroiditis, most often follows viral infections such as mumps, influenza, Coxsackie virus, infectious mononucleosis, myocarditis, or adenovirus. Subacute granulomatous thyroiditis is characterized by painful thyroid enlargement for weeks or months, fever, and a short period of hyperthyroidism, followed by a short period of hypothyroidism that usually resolves completely, returning to normal thyroid function. Granulomatous thyroiditis tends to occur in localized outbreaks (epidemics) due to its association with viral infections.

In rare cases, acute thyroiditis can be caused by bacterial infection, typically from staphylococcus aureus, streptococcus hemolyticus, or pneumococcus. Thyroiditis may also be caused from exposure to radiation, or may result from a condition called Riedel's thyroiditis, which has no known cause.

Risk: Risk factors for chronic autoimmune thyroiditis such as Hashimoto's disease and other forms of lymphocytic thyroiditis are both genetic and environmental. A family history of the condition or a history of autoimmune disease increases risk. All types of AITD are found in men and women between 13 and 80 years of age but occur 3 times more often among middle-aged to elderly women.

Risk factors for subacute granulomatous thyroiditis include exposure to radiation, a recent history of viral infection, and exposure to other cases in the community. Females are at greater risk than males, and the disease tends to occur in young to middle-aged persons.

Incidence and Prevalence: Hashimoto's disease is the most common form of thyroid disease diagnosed in the US, occurring in 3% to 4% of the population (Ragan). The incidence rate is 1 in 10,000 individuals. Postpartum thyroiditis occurs in about 6% to 8% of postpartum women (Lazarus 685). The incidence rate for subacute granulomatous thyroiditis is 1 in 10,000 individuals. Silent lymphocytic thyroiditis occurs in 1 in 10,000 individuals.

Diagnosis

History: Symptoms of thyroiditis will vary, depending on the type of disease involved. Individuals may complain of pain, a feeling of fullness in the neck due to thyroid enlargement (goiter), and fever. Other common symptoms reported may be symptoms of hypothyroidism: a hoarse voice, slowed speech, puffiness of the face, swelling of the legs, joint stiffness, dry or thinning hair, constipation, intolerance to cold, unintentional weight gain, fatigue, dry coarse skin, and depression. Symptoms of hyperthyroidism may also be reported, such as profuse sweating, feeling hot, heat intolerance, restlessness, nervousness, shakiness, difficulty sleeping, tiredness, weakness, diarrhea, frequent bowel movements, bulging eyes, sensitivity to light, unintentional weight loss, increased appetite, menstrual irregularity, and confusion. Individuals with subacute granulomatous thyroiditis will often complain of a sore throat, although the pain is actually in the thyroid gland.

Physical exam: Exam and palpation of the neck may reveal an enlarged thyroid, which may or may not be tender, depending on the underlying cause. Goiter will typically be present in three-fourths of individuals with thyroiditis. Physical findings due to hypothyroidism include slow heart rate (bradycardia), cool skin, low body temperature, and sluggish reflexes. Physical findings related to hyperthyroidism include rapid heart rate (tachycardia); irregular heartbeat (atrial fibrillation); warm, moist skin; rapid reflexes; and high blood pressure (hypertension).

Tests: To evaluate thyroid function, thyroid hormone levels will be determined (serum T3, T4, and TSH), and a T3 radioimmunoassay (T3ria) or T3 resin uptake (T3ru) may be performed. A CBC with differential blood smear will be done, which may show abnormal numbers of white blood cells that will be identified on the smear as lymphocytes, especially in Hashimoto's disease, Graves' disease, other forms of lymphocytic thyroiditis, and bacterial thyroiditis. Other blood tests for subacute thyroiditis may include erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP).

A radioactive iodine uptake test is useful in differentiating between the forms of thyroiditis. In this test, the individual is given a small quantity of a radioactive chemical (either orally or by injection). The chemical is then absorbed by the thyroid gland, and the radioactivity emitted produces a film image of the thyroid for evaluation of abnormalities.

In Hashimoto's thyroiditis, high levels of antithyroid antibodies are typically detected. Immunofluorescence assays will be done to identify antithyroid microsomal antibodies, antithyroglobulin antibodies, and antimitochondrial antibodies that may be present on thyroid cells. Over 90% of individuals will have microsomal (thyroid peroxidase) antibodies (Carey 1618), which are present in other forms of autoimmune thyroiditis as well. Because these levels may also be abnormal in other thyroid conditions such as thyroid cancer or thyrotoxicosis, a small sample of tissue may be removed from the thyroid gland (biopsy) and stained (immunohistochemical staining) for microscopic examination to identify the type of cells present and confirm Hashimoto's disease or a variant of Hashimoto's such

as Graves' disease.

Treatment

Treatment depends on the type of thyroiditis. Early treatment of Hashimoto's disease may be limited to regular observation by the physician if the gland is only slightly enlarged and there is not yet any evidence of thyroid hormone deficiency. However, most cases of Hashimoto's disease progress to hypothyroidism, and as the disease progresses, treatment must become more aggressive. Treatment for Hashimoto's chronic autoimmune thyroiditis is usually focused on controlling the symptoms of hypothyroidism.

Subacute granulomatous thyroiditis often resolves on its own within a few months. Analgesics and anti-inflammatory medication may be prescribed to reduce inflammation and alleviate pain. During the period when thyroid disease is active, hyperthyroidism may need to be treated with beta-blockers, which can relieve the symptoms of rapid heart rate and excessive sweating. Silent lymphocytic thyroiditis does not usually require treatment because it generally resolves on its own. However, symptoms of hyperthyroidism or hypothyroidism may require specific treatment with drug therapy to control thyroid hormone levels. In the rare case of related bacterial infection, antibiotics may be prescribed.

Prognosis

The prognosis following thyroiditis depends on the underlying cause. Most individuals with Hashimoto's disease generally progress to complete thyroid failure and subsequent permanent hypothyroidism. Hypothyroidism generally responds well to treatment, and affected individuals are able to function normally, although goiter from autoimmune thyroiditis may not subside with thyroid hormone replacement and may take months or years to resolve. The other types of thyroiditis tend to resolve completely and without treatment. If treatment is indicated, these conditions generally respond well, and total resolution of symptoms is common. Symptoms can recur but tend to resolve again.

Differential Diagnoses

- Goiter
- Graves' disease
- Infection of the upper digestive tract (throat, esophagus)
- Systemic infection or other systemic illness
- Thyroid cancer
- Thyroid cyst and related hemorrhage
- Thyrotoxicosis

Specialists

- Endocrinologist
- Internal Medicine Physician

Comorbid Conditions

- Bacterial infection
- Diabetes
- Heart disease
- Hypertension
- Immune system disorders

Complications

Thyroiditis is often complicated by hypothyroidism and/or hyperthyroidism.

Factors Influencing Duration

The length of disability is influenced by the form of thyroiditis, the severity of symptoms, and the individual's response to treatment. Hashimoto's disease is progressive and will usually result in permanent hypothyroidism, which is generally responsive to therapy.

Length of Disability

Duration depends on the type of thyroiditis.

Medical treatment, thyroiditis.

DURATION IN DAYS			
Job Classification	Minimum	Optimum	Maximum
Any Work	3	7	28

Return to Work

No work restrictions or accommodations should be necessary.

Failure to Recover

Regarding diagnosis:

- Has individual's thyroid gland become enlarged and hyperactive? Atrophied and hypoactive?
- Does individual have any other autoimmune diseases? Does individual have any genetic conditions such as Down syndrome?
- Has individual recently had a baby?
- Has individual recently had a viral illness? A bacterial infection?
- Was there an exposure to radiation, or does individual have a condition called Riedel's thyroiditis?

- Does individual complain of pain and a feeling of fullness in the neck and fever? Does individual have a sore throat, hoarse voice, slowed speech, puffy face, swelling of the legs, joint stiffness, dry or thinning hair, constipation, intolerance to heat or cold, unintentional weight gain or loss, fatigue, dry coarse skin, depression, profuse sweating, feeling hot, restlessness, nervousness, shakiness, insomnia, weakness, diarrhea, bulging eyes, sensitivity to light, increased appetite, menstrual irregularity, or confusion?
- On exam, was the thyroid enlarged? Was it tender?
- What was individual's pulse rate? Body temperature? Blood pressure? Reflexes? Was the skin cool or moist?
- Has individual had thyroid function testing, including antibodies? Was a radioactive iodine uptake test done? Was a biopsy performed?
- Have conditions with similar symptoms been ruled out?

Regarding treatment:

- Were medications prescribed?
- If so, is individual compliant with the dosing and usage instructions?

Regarding prognosis:

- Does individual have any conditions that could affect recovery?
- Has individual's thyroiditis been complicated by hypothyroidism and/or hyperthyroidism?

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