

## Toxic nodular goiter

### Definition

Toxic nodular goiter involves an enlarged thyroid gland. The gland contains areas that have increased in size and formed nodules. One or more of these nodules produce too much thyroid hormone.

### Causes

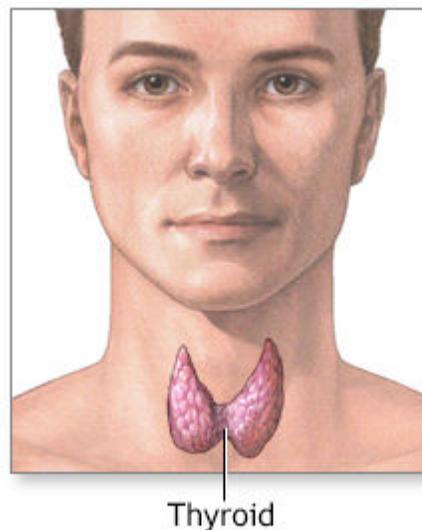
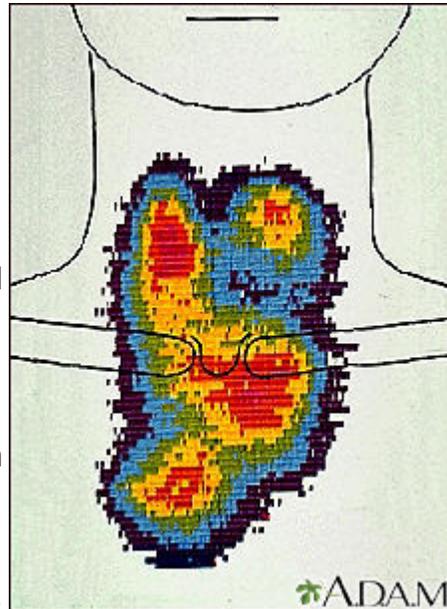
Toxic nodular goiter starts from an existing simple goiter. It occurs most often in older adults. Risk factors include being female and over 55 years old. This disorder is rare in children. Most people who develop it have had a goiter with nodules for many years. Sometimes the thyroid gland is only slightly enlarged, and the goiter was not already diagnosed.

Sometimes, people with toxic multinodular goiter will develop high thyroid levels for the first time. This mostly occurs after they take in a large amount of iodine through a vein (intravenously) or by mouth. The iodine may be used as contrast for a CT scan or heart catheterization. Taking medicines that contain iodine, such as amiodarone, may also lead to the disorder. Moving from a country with iodine deficiency to a country with a lot of iodine in the diet can also turn a simple goiter into a toxic goiter.

### Symptoms

Symptoms may include any of the following:

- Fatigue



ADAM.

- Heat intolerance
- Increased appetite
- Increased sweating
- Irregular menstrual period (in women)
- Muscle cramps
- Nervousness
- Restlessness
- Weight loss

Older adults may have symptoms that are less specific. These may include:

- Weakness and fatigue
- Palpitations and chest pain or pressure
- Changes in memory and mood

Toxic nodular goiter does not cause the bulging eyes that can occur with Graves disease. Graves disease is an autoimmune disorder that leads to an overactive thyroid gland (hyperthyroidism).

### Exams and Tests

A physical exam may show one or many nodules in the thyroid. The thyroid is often enlarged. There may be a rapid heart rate or a tremor.

Other tests that may be done include:

- Serum thyroid hormone levels (T3, T4)
- Serum TSH (thyroid stimulating hormone)
- Thyroid uptake and scan or radioactive iodine uptake
- Thyroid ultrasound

### Treatment

Beta-blockers can control some of the symptoms of hyperthyroidism until thyroid hormone levels in the body are under control.

Certain medicines can block or change how the thyroid gland uses iodine. These may be used to control the overactive thyroid gland in any of the following cases:

- Before surgery or radioiodine therapy occurs
- As a long term treatment

Radioiodine therapy may be used. Radioactive iodine is given by mouth. It then concentrates in the overactive thyroid tissue and causes damage. In rare cases, thyroid replacement is needed afterward.

Surgery to remove the thyroid may be done when:

or swallow

- Thyroid cancer is present
- Rapid treatment is needed

### Outlook (Prognosis)

Toxic nodular goiter is mainly a disease of older adults. So, other chronic health problems may affect the outcome of this condition. An older adult may be less able to tolerate the effect of the disease on the heart. However, the condition is often treatable with medicines.

### Possible Complications

Heart complications:

- Heart failure
- Irregular heartbeat (atrial fibrillation)
- Rapid heart rate

Other complications:

- Bone loss leading to osteoporosis

Thyroid crisis or storm is an acute worsening of hyperthyroidism symptoms. It may occur with infection or stress. Thyroid crisis may cause:

- Abdominal pain
- Decreased mental alertness
- Fever

People with this condition need to go to the hospital right away.

Complications of having a very large goiter may include difficulty breathing or swallowing. These complications are due to pressure on the airway passage (trachea) or esophagus, which lies behind the thyroid.

### When to Contact a Medical Professional

Call your health care provider if you have symptoms of this disorder listed above. Follow the provider's instructions for follow-up visits.

### Prevention

To prevent toxic nodular goiter, treat hyperthyroidism and simple goiter as your provider suggests.

Toxic multinodular goiter; Plummer disease; Thyrotoxicosis - nodular goiter; Overactive thyroid - toxic nodular goiter; Hyperthyroidism - toxic nodular goiter; Toxic multinodular goiter; MNG

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