

# Goitre: benign thyroid nodules



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There could be many different causes of goiters in people who do not have thyroid problems.

The patient could have a mild case of Hashimoto's thyroiditis that has not yet caused the thyroid to become underactive. They may have inherited a "weak" thyroid gland, which has to be stimulated excessively by thyroid stimulating hormone in order to make a normal amount of thyroid hormone. They may have an autoimmune disease in which the body's immune system produces immunoglobulins that stimulate the thyroid to grow without either destroying it or stimulating it to make too much thyroid hormone.

They may have conditions in which white blood cells in the body produce substances called "cytokines" that stimulate the thyroid to grow. Often, when a patient has a goiter with normal thyroid hormone levels, the doctor is never really able to find out the exact cause of the goiter. Small benign euthyroid goiters do not require treatment. The effectiveness of medical treatment using thyroid hormone for benign goiters is controversial. Large and complicated goiters may require medical and surgical treatment. Malignant goiters require medical and surgical treatment.

The size of a benign euthyroid goiter may be reduced with levothyroxine suppressive therapy. The patient is monitored to keep serum TSH in a low but detectable range to avoid hyperthyroidism, cardiac arrhythmias, and osteoporosis. The patient has to be compliant with monitoring. Some authorities suggest suppressive treatment for a definite time period instead of indefinite therapy. Patients with Hashimoto thyroiditis respond better. Treatment of hypothyroidism or hyperthyroidism often reduces the size of a

goiter. Thyroid hormone replacement is often required following surgical and radiation treatment of a goiter. Use of radioactive iodine for the therapy of nontoxic goiter has been disappointing and is controversial. Medical therapy of autonomous nodules with thyroid hormone is not indicated. Ethanol infusion into benign thyroid nodules has not been approved in the United States, but it is used elsewhere. Iodine Deficiency Disorders (IDD) can be prevented by an adequate intake of iodine in the population. Monitoring and evaluation are the most important phases of an IDD control program.

The consequences of iodine deficiency are goiter and subclinical/clinical hypothyroidism in pregnancy. The deficiency is an important risk factor for brain damage and motor-mental development in the fetus, the neonate and in the child. In order to assess IDD, control programs should be developed, followed up and evaluated. The recommended methods of assessing status are; assessment of the goiter rate, measurement of urinary iodine concentration, determination of thyroid hormone levels and of thyroglobulin. Although adequate technology exists, elimination programs for IDD have not been successful until recent years.

The most important issue at present is the long-term sustainability of salt iodization programmes. Alternative strategies are also needed for iodization in areas where iodized salt will not be available in the foreseeable future. Goitre associated with hypothyroidism or hyperthyroidism may be present with symptoms of the underlying disorder. For hyperthyroidism, the most common symptoms are weight loss despite increased appetite, and heat intolerance. However, these symptoms are often unspecific and hard to diagnose.