

# About Thyroid Cancer

The thyroid gland is located in the lower front of the neck, above the collarbones and below the voice box (larynx). **Thyroid cancer** (carcinoma) usually appears as a painless lump in this area. In most cases, the lump is only on one side, and the results of thyroid function tests (blood tests) are usually normal.

There are four main types of thyroid cancer (papillary, follicular, medullary and anaplastic), but the vast majority of cases are either papillary or follicular.

- **Papillary thyroid cancer** is the most common type of thyroid cancer, accounting for 70 to 80 percent of all cases. It is most commonly diagnosed in women 30-40 years old and most frequently spreads to cervical (neck) lymph nodes.
- **Follicular thyroid cancer** is the second most common type of thyroid cancer, accounting for 10 to 15 percent of cases. Although it usually does not spread, when it does it goes to the lungs and bones through the bloodstream.
- Most common types of thyroid cancer are "sporadic" or isolated, and not inherited. However, an uncommon type of thyroid cancer, **medullary cancer**, which makes up about five percent of all thyroid cancers, can be familial, or run in families. When medullary cancer is inherited as a familial disease, it can be detected by a genetic blood test. Unless the disease is inherited, your children will not be affected.
- **Anaplastic thyroid cancer** accounts for less than five percent of thyroid cancer patients. It is the most aggressive form of thyroid cancer and treatment is rarely effective.

Because the most common thyroid cancers, papillary and follicular, tend to grow slowly, usually do not spread beyond the neck and respond to treatment, most patients with thyroid cancers have excellent prognoses. For example, the 20-year



survival of the most common type, papillary thyroid cancer, is almost 95 percent.

The estimated number of newly diagnosed thyroid cancer patients has continued an upward trend for more than 15 years! This represents an alarming and rapid percentage increase for any form of cancer, especially since most all other cancers are either stable or declining in their incidence rates. Fortunately, virtually the entire rate of increasing thyroid cancer patients annually is due to newly diagnosed papillary cancer, rather than other types of more aggressive thyroid cancer. The exact cause (or causes) is not clear; but, this rise in the incidence of papillary thyroid cancer has been attributed to better and earlier diagnostic imaging with ultrasound. However, other background environmental causes are difficult to exclude and there are continuing efforts to analyze this incidence trend.

## **Causes of Thyroid cancer**

As with many types of cancer, the specific reason for developing thyroid cancer remains a mystery in the vast majority of patients. Some major risk factors are:

- External radiation to the head or neck, especially during childhood
- Genetic predisposition (the influence of heredity), particularly for the medullary type of thyroid cancer



## Signs & Symptoms

Many patients with thyroid cancer have no symptoms and are found by chance to have a lump in the thyroid gland during a routine physical exam, or an imaging study of the neck done for unrelated reasons such as a carotid ultrasound, CT or MRI scan of the spine or chest. Other patients with thyroid cancer become aware of a gradually enlarging lump in the front portion of the neck, which usually moves with swallowing. Occasionally, the lump may cause a feeling of pressure. Obviously, finding a lump in the neck should be brought to the attention of your physician, even in the absence of other symptoms.

## Diagnosis

First, your physician takes a detailed history and performs a careful physical examination, especially of the thyroid gland. The best diagnostic approach for a specific patient will be determined by your physician after careful consideration of all the facts. The tests available to your physician for evaluation of the thyroid lump include, but are not limited to, the following:

- **Fine-needle aspiration biopsy** – this is usually done first and, if positive, significantly reduces the need for more elaborate and expensive testing
- **Ultrasonography** – this may be required for guidance of the fine needle biopsy if the nodule is difficult to feel
- **Thyroid scan** – this can be done to see if the mass is capable of concentrating radioiodine, particularly in those patients with low TSH levels, who are likely to have hot nodules, which are almost always benign.



[Read more about these procedures in the Thyroid Nodules section.](#)

## Treatment

The great majority of patients with thyroid cancer have a disease that can be successfully treated. In order to ensure your chances for a successful outcome, it is important to receive treatment and follow-up care from those with a great deal of experience in the diagnosis and treatment of thyroid cancer. This is usually an endocrinologist, a doctor who specializes in hormone-related disorders.

### What treatment will I require?

Treatment depends on the type and extent of cancer. Treatment options include **surgery, radioactive iodine, external radiation** (see below), and **chemotherapy**. All patients require thyroid surgery and many receive radioiodine after surgery (see below).

### What kind of surgery?

Removal of part or all of the thyroid gland (**thyroidectomy**) is the first step in management. Lymph nodes with cancer in them are also removed. A surgeon who has experience



with thyroid cancer is the best choice for performing your surgery.

You may be thinking, “shouldn’t I be seeing an oncologist?”. The answer is usually no. An endocrinologist is the physician who deals primarily with the diagnosis, treatment and follow-up of most patients with thyroid cancer. However, if/when standard therapy fails to control the progression of thyroid cancer and chemotherapy is being considered, then consultation with an oncologist is appropriate.

### **Will I require radiation? What type?**

Conventional radiation therapy, the type that is generally used for cancer, is not used very often to treat thyroid cancer. It is reserved to treat thyroid cancer that cannot be removed surgically or eliminated with radioactive iodine. Fortunately, it is only required to treat a small minority of thyroid cancer cases. This type of radiation treatment is often referred to as external radiation therapy because the source of the radiation comes from outside the body.

Most often patients with thyroid cancer who require radiation treatment receive **radioactive iodine**. This type of radiation works internally once it enters your body. It is administered by either



swallowing a capsule or drinking a radioactive liquid containing a radioactive form of iodine.

