



# THYROID CANCER

## What is thyroid cancer?

There are four main types of thyroid cancer: papillary, follicular, medullary and anaplastic, with the vast majority either papillary or follicular typically treated with surgery and, in some cases, also with radioiodine therapy.

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.

## What are the features of thyroid cancer?

Many patients with thyroid cancer have no symptoms, and most times it is detected by chance, such as a lump in the thyroid gland during a routine physical exam or an imaging study of the neck done for unrelated reasons (CT or MRI scan of spine or chest, carotid ultrasound, etc.). Some patients with thyroid cancer begin to notice 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 symptoms.

## What are the causes of thyroid cancer?

As with many types of cancer, the specific reason for developing thyroid cancer remains a mystery. However, there are some major risk factors such as:

- A history of radiation to the head or neck, especially during childhood
- Genetic predisposition (heredity), particularly with the medullary type of thyroid cancer.

## Diagnosing thyroid cancer

(NOTE: See Thyroid Nodule informational sheet)

Your physician will take a detailed history and perform a physical examination, especially of the thyroid gland. After all the facts are gathered, your physician will offer you the best diagnostic approach. The tests your physician may order for evaluation of the thyroid lump include:

- **Fine-needle aspiration (FNA) 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.
- **Blood work**

## Treating thyroid cancer

Fortunately, most types of thyroid cancer can be diagnosed early and cured, but a thoughtful and comprehensive investigation is necessary. If thyroid cancer is suspected after review of all the information, referral to an experienced thyroid surgeon is recommended.

If thyroid cancer is the diagnosis, the usual approach has been to remove both sides of the thyroid gland\*. If the diagnosis of thyroid cancer is much less certain or cannot be made during surgery, only the side of the thyroid containing the lump may be removed. If cancer is subsequently confirmed, further consultation with an endocrinologist is appropriate. Additional surgery may be required to remove the remaining tissue in order to reduce the risk of recurrence of cancer. In cases when the risk of recurrence is significant, radioactive iodine treatment may be recommended in order to destroy any remaining malignant thyroid cells.

**Radioactive iodine treatment should never be given to a pregnant woman or to a woman who is breastfeeding.** Whenever pregnancy is possible, pregnancy testing is mandatory prior to administering diagnostic or therapeutic radioiodine treatment. If radioiodine is inadvertently administered to a woman who is pregnant, the advisability of terminating the pregnancy should be discussed with her obstetrician and endocrinologist.

Also, radioactive iodine should not be given to women who are breastfeeding as small amounts of radioactive iodine will be excreted in breast milk, which may permanently damage the infant's thyroid. If you were not taking thyroid hormone prior to radioiodine therapy, thyroid medication (levothyroxine) will be started in order to replace the function of the thyroid and to decrease the likelihood of cancer. Periodic monitoring by an endocrinologist is recommended and may include ultrasound examinations, radioiodine body scans, and periodic testing of a blood protein called thyroglobulin, which is found in normal thyroid cells but can also be produced by thyroid cancer cells.

The optimal frequency of further monitoring studies to be certain that the cancer has not recurred will be determined by your physician and based on the features of the cancer.

*\* Editors Note: Experts in the field are modifying this recommendation for some cases of thyroid cancer.*

