Thyroid Cancer

Thyroid cancer (or carcinoma) is a malignant lump or growth originating in the thyroid gland. It is the most rapidly increasing cancer in the United States and primarily affects women. There are three basic types of thyroid cancer:

- Differentiated (papillary, follicular and Hurthle cell)
- Medullary
- Anaplastic (or undifferentiated)

How common is thyroid cancer?
Thyroid cancer is extremely—and increasingly—common. Often it is found incidentally or from a palpable nodule in your neck. There are more aggressive types of thyroid cancer that can present with lymph node metastasis (development of a secondary malignant growth at a distance from a primary site of cancer).

What is the general prognosis for thyroid cancer?
The treatment and success rates for a cure are excellent for localized thyroid cancer. Localized thyroid cancer means the cancer is still in the thyroid gland or a few nearby lymph nodes.

What are the symptoms of thyroid cancer?
- Enlarging lump or mass on the thyroid gland (lower neck)
- A lump or mass on the side of the neck (lymph gland)
- Hoarseness or change in voice
- Pressure or tightness in the lower neck
- Difficulty swallowing
- Many early thyroid cancers do not show symptoms and are found during studies performed for other reasons

What causes thyroid cancer?
As with many other cancers, doctors do not know all of the reasons why cancer develops. However, there are several known risk factors for thyroid cancer:

- Radiation to the head or neck (especially during childhood)
- Family history of thyroid or other endocrine tumors
- History of goiter (enlarged thyroid)
- Gender: more than 75% of thyroid cancers affect women; however, men with a thyroid lump are at higher risk of their lump being a cancer
- History of iodine deficiency (rare in the United States).
How is thyroid cancer diagnosed?
After a thyroid nodule is discovered, your doctor may recommend a fine needle biopsy (FNA) if the nodule has any concerning features. Sometimes, gene expression testing or molecular tests are used for additional information about a nodule and its risk of cancer. Your doctor will discuss the results with you and determine if and when to recommend surgery for definitive diagnosis and/or treatment.

How is thyroid cancer treated?
Fortunately, most thyroid cancers are very treatable and have an excellent prognosis. Treatment is dependent on the type of thyroid cancer and usually involves surgical removal of all or part of the thyroid (and sometimes lymph glands). After surgery, thyroid hormone replacement pills are generally required. Additional treatment with radioactive iodine or other medications may be recommended depending on the tumor type and stage of disease. Long-term monitoring and treatment by an endocrinologist or other thyroid cancer specialist is generally recommended as thyroid cancer can recur in the neck or other places. See our patient education pieces on Thyroid Surgery and on Radioactive Iodine Treatment for Hyperthyroidism.

What are the different types of thyroid cancer?
There are three basic types of thyroid cancer, and treatment depends on the tumor type:

- **Differentiated** (papillary, follicular or Hurthle cell) account for more than 90% of thyroid cancers and arise from the follicular cells of the thyroid that help produce and store thyroid hormones. These tumors tend to grow slowly and when detected early are usually very treatable. Surgery is the main treatment (removal of part or all of the thyroid and possibly lymph glands). Because differentiated thyroid cancer cells tend to uptake and process iodine, radioactive iodine treatments are sometimes given after surgery. These tumors also make a protein called thyroglobulin, which can be measured in the blood stream and used to follow patients after surgery.

- **Medullary** thyroid cancer accounts for 5-7% of thyroid cancers and arises from the C cells of the thyroid. Up to 20% of medullary cancers are associated with familial cancer syndromes and other endocrine tumors so genetic testing is often recommended. Surgery is the main treatment (removal of part or all of the thyroid and possibly lymph glands). Medullary cancers do not process iodine so iodine scans and treatments are not effective.

- **Anaplastic** thyroid cancer is a rare form of thyroid cancer that grows very quickly and can be difficult to treat. Because it tends to be aggressive and spread to other parts of the body, chemotherapy and radiation treatments (rather than surgery) are the main forms of treatment.