

Thyroid Cancers

- Thyroid cancer is found in certain thyroid nodules, but most nodules are benign.
- There are several different types of thyroid cancer
 - **Papillary** - The most common cancer in endocrinology, and 85% of thyroid cancers; very slow growing and curable; more common in people who have had radiation therapy earlier in life.
 - **There are a few variants of this type (i.e., Hurthle Cell, Tall Cell, Hobnail, Insular, Columnar, Follicular, etc.) that require specialized attention.**
 - **Follicular** - 12% of thyroid cancers; slow growing, more associated with older patients, especially in areas without iodine in the diet.
 - Like papillary, there are some variants that require special attention.
 - **Medullary** - 1-2% of thyroid cancers; usually a hereditary cancer, and can be associated with other syndromes like MEN. Some cases are random. It is treated with surgery, and occasionally radiation therapy. The hormone calcitonin serves as a tumor marker.
 - **Anaplastic** - 0.01% of thyroid cancers; quite rare, associated with specific gene mutations and has an extremely high mortality rate. Frequently it is far advanced by the time it is detected. It is treated with surgery, chemotherapy and radiation therapy.
- How do we treat thyroid cancers?
 - Cancer is diagnosed first by a fine needle aspiration (biopsy).
 - Everyone with cancer gets to have thyroid surgery--overwhelmingly this is a total thyroidectomy, but there are certain cases where only the side that has the nodule needs to be removed.
 - After surgery, patients take a thyroid hormone replacement pill **which is vital for life.**
 - Some patients with papillary or its subtypes may need a second treatment: radioactive iodine. This decision is made based on the pathology staging of the tumor at the time of your surgery.
 - Certain subtypes of cancer are resistant to iodine treatment and now there is a new class of immune drugs that can be used to treat these.
 - Depending on the stage of cancer, we may adjust your dose of levothyroxine to target a specific TSH level to deliberately reduce the risk of a recurrence.
 - Medullary is treated with surgery and occasionally radiation if the disease is persistent/recurrent.
 - Anaplastic is the only type that is treated with chemotherapy & radiation in the traditional sense.
- What is thyroid hormone replacement?

- **Levothyroxine** is the generic medication for **human thyroid hormone, T4. It is synthetically produced but IDENTICAL in structure to the hormone your body produces.** Your body converts the T4 to T3 as needed.
- Armour thyroid is ground-up dehydrated pig thyroid gland, so the hormones are similar but not identical to our own hormones. It's a little harder to adjust because each pill can have different amounts of both T4 and T3 in it, but overall it works fine.
- Liothyronine (T3) is only used in specific situations because the body is very good at converting T4 to T3 when needed. Using T3 can increase the risk of heart palpitations and thin bones.
- Survival rates
 - **Papillary** - In general 5 year survival > 90% when diagnosed before age 65.
 - This does depend on if the tumor is a special variant or there are metastases outside of the neck.
 - **Follicular** - in general 10 year survival 80-95% depending on patient's age and stage of disease.
 - **Medullary** - In general 10 year survival is 98% when surgery resolves high levels of calcitonin. If calcitonin levels persist after surgery, survival is approximately 70%.
 - These numbers vary based on patient's age and disease stage.
 - **Anaplastic** - because this type is so aggressive, death usually occurs within a year, and our primary concern is ensuring optimal quality of life for the patient and family.
- Resources
 - **Never worry alone; if in doubt, come see us in the clinic!**
 - American Cancer Society <https://www.cancer.org/cancer/thyroid-cancer.html>
 - American Thyroid Association <https://www.thyroid.org/thyroid-cancer/>
 - Mayo Clinic www.mayoclinic.com
 - National Cancer Institute <https://www.cancer.gov/types/thyroid/patient/thyroid-treatment-pdq>

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