AEBP
ALTA EAST BAY PATHOLOGY

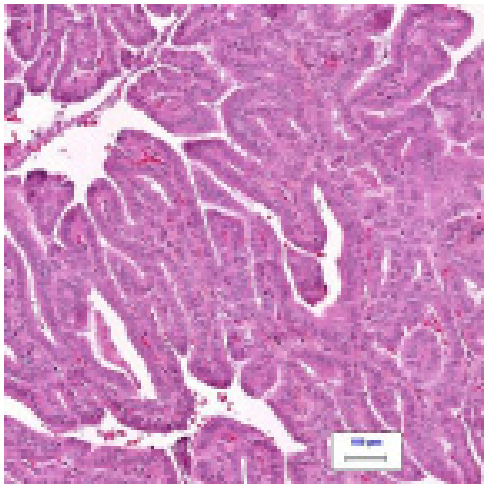
Thyroid Cancer

Papillary Thyroid Cancer

What is papillary thyroid cancer?

About 44,670 Americans are diagnosed with thyroid cancer each year, according to the National Cancer Institute. Thyroid cancer incidence is increasing at a faster rate among American men and women than any other type of cancer.

Papillary thyroid cancer, which accounts for about 80 percent of these cases, is a cancer of thyroid follicular cells. Most people diagnosed with papillary thyroid cancer at an early stage can be cured. About 1,500 Americans die from all types of thyroid cancer each year. This relatively low death rate is due to successful early detection and treatment in most cases.



Papillary thyroid cancer.

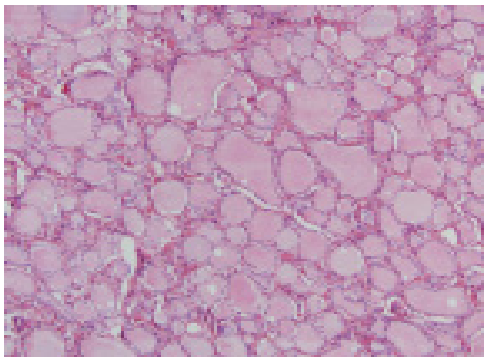
Who is likely to have papillary thyroid cancer?

Women are three times more likely than men to have papillary thyroid cancer. Most cases afflict individuals between the ages of 30 and 50. Associated risk factors include radiation exposure, a family history of thyroid cancer, and too much iodine in the diet. Less often, papillary thyroid cancer is associated with having a goiter, benign thyroid nodule, or multiple colon growths (familial polyposis). Also, papillary thyroid cancer has been linked to nuclear weapons testing in the western United States and to accidents in nuclear power plants and atomic weapons production facilities (for example, the Chernobyl nuclear facility accident).

What characterizes papillary thyroid cancer?

Papillary thyroid cancer is characterized by its papillary architectural growth pattern but more importantly by the changes in the appearance of the nuclei of the tumor. Any cancerous nodule can become life-threatening by spreading via lymphatic spaces or blood vessels to lymph nodes or nearby bones and other organs. However, among all malignant neoplasms, there is a low death rate for papillary thyroid cancer.

Nodules can be detected when your primary care physician checks your neck and throat and feels the thyroid for lumps. Otherwise, early thyroid cancer does not have symptoms. If the cancer grows, symptoms may include a lump in the front of the neck, hoarseness or voice changes, swollen lymph nodes in the neck, trouble swallowing or breathing, or throat or neck pain.



Normal thyroid cells.

How does the pathologist make the diagnosis?

If your symptoms suggest the possibility of thyroid cancer, your physician will order a ***blood test*** that the pathologist will check for abnormal levels of ***thyroid-stimulating hormone (TSH).*** Too much or too little TSH shows that the thyroid is not working well. Blood test results also can show a changed ***RET*** (Rearranged during Transfection) ***gene*** passed from parent to child.

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Definitions

Thyroid gland: Located at the base of the throat, an organ that makes hormones affecting heart rate, blood pressure, body temperature, and weight.

Papillary: Refers to an architectural pattern of growth similar to an arborizing pattern of a tree.

Goiter: Non-cancerous enlargement of the thyroid gland.

Nodules: Cellular growths in the thyroid gland. These growths are usually benign but may be cancerous.

Pathologist: A physician who examines tissues and fluids to diagnose disease in order to assist in making treatment decisions.

What kinds of questions should I ask my doctors?

Ask any question you want. There are no questions you should be reluctant to ask. Here are a few to consider:

- Please describe the type of cancer I have and what treatment options are available.
- What is the stage of my cancer?
- What are the chances for full remission?
- What treatment options do you recommend? Why do you believe these are the best treatments?
- What are the pros and cons of these treatment options?
- What are the side effects?
- Is your medical team experienced in treating the type of cancer I have?
- Can you provide me with information about the physicians and others on the medical team?
- If I want a second opinion, could you provide me with the names of physicians and/or institutions that you would recommend?

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What else does the pathologist look for?

Your primary care physician may order an ***ultrasound and thyroid scan*** for review by radiologists. Cells removed by ***fine-needle aspiration (FNA)*** or tissue removed by a ***biopsy*** are sent to the pathologist to examine. An ultrasound or thyroid scan creates images of thyroid nodules that the radiologist can view for signs of cancer. An FNA or a biopsy, however, are the only potential sure ways to diagnose cancer.

What is meant by the stage of the cancer?

Your pathologist and primary care doctor determine the cancer's ***stage*** to plan the best treatment. This process involves determining the size of the cancerous nodule, whether or not the cancer has spread and, if so, to what parts of the body. Thyroid cancer spreads most often to the lymph nodes, and much less often to the lungs and to bones. Stage 1 cancers are small and confined to the thyroid, and stage 4 tumors have spread well beyond the thyroid. Stages 2 and 3 describe conditions in between these two extremes.

Staging may involve tests such as ***ultrasound, CT or MRI scans, chest x-rays,*** or ***whole body scans.*** These tests enable the pathologist to determine where the cancer has spread and its stage.

How do doctors determine what treatment will be necessary?

Your treatment will depend on the size of the nodule, your age, and whether or not the cancer has spread. The pathologist consults with your primary care physician or specialist. Together, using their combined experience and knowledge, they determine treatment options most appropriate for your condition. It's important to learn as much as you can about your treatment options and make the decision that's right for you.

What kinds of treatments are available for papillary thyroid cancer?

Papillary thyroid cancer may be treated with ***surgery, external radiation therapy, thyroid hormone treatment, radioactive iodine therapy,*** or ***chemotherapy.*** Many patients receive a combination of these treatments.

Surgery and external radiation therapy are ***local therapies*** that remove or destroy cancer in the thyroid. When the cancer has spread beyond the thyroid, these two therapies can control the disease in the thyroid. Common surgical procedures are the ***total thyroidectomy*** (removal of the entire thyroid gland), the ***lobectomy*** (removal of part of the thyroid), and ***lymphectomy,*** which removes lymph nodes where the cancer has spread. External radiation therapy is generally used after surgery; this therapy uses high-energy beams projected from outside the body to destroy any remaining cancer.

Thyroid hormone treatment, radioactive iodine therapy, and chemotherapy are ***systemic therapies*** delivered through the bloodstream to destroy or stop the progression of cancer cells present throughout the body. These therapies also can reduce pain.

Any of these treatments may cause side effects and alter your normal activities. Ask your primary care physician or specialist to explain possible side effects thoroughly. If your treatment removes or destroys your entire thyroid, or a large portion of your thyroid, you will be required to take thyroid hormone pills for the rest of your life to replace the natural thyroid hormone. If the surgeon removes the parathyroid glands, located behind the thyroid, you will need to take calcium and vitamin D supplements for the rest of your life.

Follow-up care is very important because thyroid cancer comes back in up to 30 percent of all cases. Also, if you receive radioactive iodine therapy or external radiation therapy, you have an increased chance of developing other cancers later in your life. You should receive regular blood tests to check your levels of TSH and ***thyroglobulin*** (thyroid hormone stored in the thyroid). Your physicians also may recommend repeating some of the diagnostic and staging tests to see if the cancer has returned.

Clinical trials of new treatments for thyroid cancer may be found at www.cancer.gov/clinicaltrials. These treatments are highly experimental in nature but may be a potential option for advanced cancers. Some trials may involve biologic therapy, which uses the natural defenses of the immune system to fight cancer.

For more information, go to www.cancer.gov (National Cancer Institute), www.medicinenet.com (owned and operated by Web MD), or www.thyca.org (Thyroid Cancer Survivors' Association). Type the keywords ***thyroid cancer*** into the search box.