

# The Effects of Metabolism on the Thyroid Gland Control

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## ABOUT THE STUDY

Thyroid cancer is a relatively rare form of cancer that affects the thyroid gland, a small butterfly-shaped organ located in the front of the neck. While the overall incidence of thyroid cancer is increasing worldwide, advancements in diagnostic techniques have led to early detection and improved treatment outcomes. This article aims to provide an overview of thyroid cancer, including its causes, types, symptoms, diagnosis, and treatment options. The thyroid gland plays a crucial role in regulating metabolism and producing hormones that control various bodily functions. When abnormal cells in the thyroid gland begin to grow and divide uncontrollably, it leads to the formation of a tumour, which can be cancerous or non-cancerous. Thyroid cancer occurs when these abnormal cells become malignant and invade surrounding tissues. The exact causes of thyroid cancer remain largely unknown. However, certain risk factors have been identified, including: Exposure to radiation: Previous exposure to radiation, either through medical treatments or environmental factors, can increase the risk. Family history: A family history of thyroid cancer or certain genetic syndromes can increase the likelihood of developing the disease. Papillary Thyroid Cancer: The most common form, accounting for about 80% of cases. It usually grows slowly and has a good prognosis.

## Symptoms and diagnosis

Thyroid cancer may not exhibit any noticeable symptoms in its early stages. However, as the tumour grows, individuals may experience the following: To diagnose thyroid cancer, various tests are conducted, including a physical examination, blood tests, ultrasound, biopsy, and imaging scans like CT scans or MRIs. These diagnostic tools help determine the presence of cancer, its stage, and whether it has spread to other parts of the body. Treatment for thyroid cancer depends on the type, stage, and individual factors.

The primary treatment options include surgery the most common approach is the removal of the thyroid gland (thyroidectomy), sometimes along with nearby lymph nodes.

## Radioactive iodine therapy

Following surgery, radioactive iodine may be administered to destroy any remaining cancer cells.

## External beam radiation therapy

This treatment uses high-energy X-rays to target and destroy cancer cells. In cases of advanced or aggressive thyroid cancer, chemotherapy drugs may be used to kill cancer cells or slow their growth.

## Targeted therapy

Certain drugs target specific molecules or pathways involved in cancer growth and are used for advanced or metastatic cases. Thyroid cancer, although relatively rare, can have a significant impact on affected individuals. Early detection and prompt treatment are essential for favorable outcomes. By understanding the causes, types, symptoms, and treatment options available, patients and healthcare professionals can work together to combat this disease.

Thyroid cancer, a malignancy that affects the butterfly-shaped gland located at the base of the neck, has become increasingly prevalent in recent years. This form of cancer often goes undetected until it reaches advanced stages, making early diagnosis and awareness crucial.

Understanding the risk factors, symptoms, diagnostic procedures, treatment options, and preventive measures associated with thyroid cancer is vital for individuals and healthcare professionals alike. In this article, the thyroid gland, located in the front of the neck, produces hormones that regulate metabolism and other bodily functions.

When abnormal cell growth occurs in the thyroid gland, it can lead to the development of thyroid cancer. There are four main types of thyroid cancer: Papillary, follicular, medullary, and anaplastic.

Papillary and follicular thyroid cancers are the most common, accounting for around 90% of cases. Medullary and anaplastic thyroid cancers are rarer but tend to be more aggressive. Several risk factors contribute to the development of thyroid cancer.

Gender plays a role, as women are three times more likely to be diagnosed with thyroid cancer than men. Exposure to ionizing radiation, particularly during childhood, is a known risk factor. Genetic conditions, such as familial medullary thyroid carcinoma and familial adenomatous polyposis, also increase the risk.

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