

## Thyroid cancer

The thyroid gland is in the throat, below the larynx (Adam's apple). It comprises two lobes that sit on either side of the windpipe, joined at the front by an isthmus. The thyroid gland secretes hormones that regulate many metabolic processes, such as growth and energy expenditure. Around one out of every 1,000 people will be affected by thyroid cancer, with women slightly more susceptible than men. Risk factors include chronic goitre, family history, gender and exposure to radiation, particularly if the doses were given specifically to the head and neck. In the 1950s, radiation therapy was often used to treat problems of the adenoids and tonsils. Nuclear fallout is also associated with thyroid cancer. There are different types of thyroid cancer, categorised by malignancy, growth rate and the type of cells affected. Recovery depends on various factors including the age and general health of the person, the type and location of the cancer, and how far the cancer has advanced before commencement of treatment.

### Symptoms

The symptoms of thyroid cancer depend on the type, but may include:

- Swelling of the throat as the thyroid gland enlarges
- Hoarse voice
- Voice changes
- Persistent cough
- Gastrointestinal disturbances, such as diarrhoea or constipation.

### Different types

The types of thyroid cancer are:

- **Papillary carcinoma** - the most common form of thyroid cancer, which accounts for 70 to 80 per cent of cases. This cancer affects the cells that produce thyroid hormone. It grows slowly.
- **Follicular carcinoma** - this cancer also affects thyroid hormone-producing cells. However, it grows more quickly. This cancer accounts for around 10 per cent of thyroid cancers.
- **Medullary carcinoma** - this type of cancer tends to run in families. The symptoms may mimic those of Cushing's syndrome. It does not involve thyroid hormone-producing cells and accounts for 5 to 10 per cent of thyroid cancers.
- **Anaplastic carcinoma** - this is the most aggressive and malignant form of thyroid cancer. It tends to grow rapidly and block the windpipe. It generally originates in benign or low grade cancerous thyroid tumours and accounts for around 7 per cent of thyroid cancers.
- **Thyroid lymphoma** - this occurs when white blood cells (lymphocytes) invade the thyroid and become cancerous. This accounts for around 4 per cent of thyroid cancers.

### Risk factors

Anyone can develop thyroid cancer, regardless of age or gender. Some of the risk factors associated with thyroid cancer include:

- **Radiation exposure** - high doses of radiation were used during the 1950s to treat disorders of the throat and skin. Absorbed radioactive fallout following nuclear accidents is also a risk factor.
- **Chronic goitre** - persistent enlargement of the thyroid gland.
- **Family history** - a susceptibility can be inherited.
- **Gender** - more women than men develop thyroid cancer.

## Diagnosis methods

Diagnosing thyroid cancer involves a number of tests, including:

- Physical examination
- Blood tests
- Ultrasound scans
- Examination of the vocal cords
- Tissue biopsy.

## Treatment options

Treatment depends on the type, size and stage of the cancer, and the patient's age and health. Options may include:

- **Surgery** - the favoured treatment for papillary, follicular and medullary cancers. The thyroid gland is removed, either whole or in part depending on the size of the cancer and how much of the gland is affected. Nearby lymph nodes may also be removed.
- **Radiation therapy** - Radioactive iodine is used to kill any remaining thyroid hormone-producing cells. This normally requires the patient to stop thyroxine treatment for a few weeks to cause thyroid stimulating hormone (TSH) levels to rise and thereby stimulate the thyroid cells to absorb the radioactive iodine. Patients can become significantly hypothyroid during this period. External radiation is frequently used for medullary and anaplastic cancer, and for tumours which do not respond to radioactive iodine.
- **Hormone therapy** - patients require thyroid hormone replacement in the form of thyroxine following surgery. The doses given are generally higher than for other hypothyroid patients, in order to suppress the production of thyroid stimulating hormone and thereby suppress the growth of thyroid cells.
- **Chemotherapy** - drugs that kill cancer cells are used for the cancers that do not involve the thyroid hormone-producing cells.

## Genetic testing

Medullary carcinoma has been associated with an abnormal gene that can be inherited. Blood relatives of someone diagnosed with medullary carcinoma can be genetically tested. A person who has the gene, but not the cancer, may elect to have their thyroid gland removed to rule out any possibility of developing the disease in the future.

## Where to get help

- Your doctor
- Thyroid Australia Tel. (03) 9888 2588
- Cancer Council Victoria, Information and Support Service Tel. 131 120

## Things to remember

- The thyroid gland regulates many bodily functions including growth and energy expenditure.
- There are four different types of thyroid cancer, which are categorised according to their malignancy and speed of growth.
- Treatment options may include surgery to remove the thyroid gland and nearby lymph nodes, chemotherapy, radiation therapy and hormone therapy.
- Thyroid cancer is readily treatable and has excellent survival rates.

**This page has been produced in consultation with, and approved by:**

Thyroid Australia

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