

# Older Patients and Thyroid Disease

## WHAT IS THE THYROID GLAND?

The thyroid gland is a butterfly-shaped endocrine gland that is normally located in the lower front of the neck. The thyroid's job is to make thyroid hormones, which are released into the blood and then carried to every tissue in the body. Thyroid hormone helps the body use energy, control metabolism, stay warm and help the brain, heart, muscles, and other organs working as they should.

## DEFINITION: WHAT DO THE FOLLOWING PATIENTS OVER THE AGE OF 60 YEARS HAVE IN COMMON?

- 1) A 72-year-old woman with palpitations ("fluttering of the heart") and vague chest discomfort on climbing stairs
- 2) An 80-year-old man with severe constipation who falls asleep often
- 3) A 65-year-old woman who has lost strength in her legs, causing difficulty in climbing stairs; she has recently lost 15 lbs. in spite of a very good appetite
- 4) A 75-year-old woman who has developed difficulty swallowing and a dry cough, accompanied by hoarseness, weight gain, and dry, itchy skin
- 5) A 78-year-old man with hearing loss
- 6) An 84-year-old woman in whom a hand tremor has caused her to give up favorite activities. She is so depressed that she will not eat, and she has lost 12 lbs in the last 4 months.

All of these patients have symptoms of abnormal functions of their thyroid glands. Patients 1, 3 and 6 have symptoms of hyperthyroidism (overactive thyroid), meaning that there is excessive production of thyroid hormone by their thyroid glands. Patients 2, 4 and 5 have symptoms of hypothyroidism (underactive thyroid), meaning that there is reduced production of thyroid hormone. While some of the symptoms of hyperthyroidism and hypothyroidism are similar to those in younger patients, it is not uncommon for both hyperthyroidism and hypothyroidism to present in subtle ways in older patients, often as diseases of the bowel, heart or of the nervous system. An important clue to the presence of thyroid disease in the older patient is a history of thyroid disease in a close family member such as a parent, sibling or child.

## HYPERTHYROIDISM IN THE OLDER PATIENT

If there is too much thyroid hormone, every function of the body tends to speed up (see [Hyperthyroidism brochure](#)). However, while younger patients often have multiple symptoms related to the overactive thyroid, older patients may only have one or two symptoms. For example, patient number 1, above, experienced only some fluttering of her heart, and some chest discomfort on climbing stairs. Other patients may also have few symptoms, such as patient number 6, whose main symptoms are depression and hand tremor. Such a patient may withdraw from interactions with friends and family. In older patients, toxic multinodular goiter (big thyroid with multiple nodules producing excess thyroid hormones) is a more common cause of hyperthyroidism as compared to younger patients where Graves' disease is more common.

## TREATMENT OF THE OLDER PATIENT WITH HYPERTHYROIDISM

Similar to younger patients, treatment of hyperthyroidism in the older patient may include antithyroid medicines, radioactive iodine treatment, and sometimes surgical removal of the thyroid (see [Hyperthyroidism brochure](#)).

During treatment, the effects of change in thyroid function on other body systems must be closely monitored due to an increased chance of co-existing heart, and brain disease in older patients. Most often, thyroid function is brought under control first with antithyroid medicines (methimazole or propylthiouracil [PTU]) possibly followed by permanent treatment with radioactive iodine.

During the initial phase of treatment, healthcare providers will monitor heart function closely due to the effect of changing thyroid hormone levels on the heart. Symptoms of hyperthyroidism may be brought under control with beta- blocker medicines, such as propranolol or metoprolol, which are often given to slow a rapid heart rate. These medicines must be given with caution in patients with co-existing heart failure and the dose should be reduced once thyroid function is controlled. Symptoms of heart attack and heart failure must be treated at the same time with the treatment to bring thyroid function under control.



# OLDER PATIENTS AND THYROID DISEASE

Once thyroid function is maintained in the normal range with medicines, the healthcare provider and patient can make a decision on definitive treatment with radioactive iodine. There is some controversy about the normal level of TSH for older patients. In general, an attempt is made to keep thyroid function either normal or low in older patients treated with radioactive iodine. Treatment of an underactive thyroid condition (hypothyroidism) is usually more straightforward than the problem of recurrent hyperthyroidism in older patients, because of the bad effect hyperthyroidism can have on the heart.

A common clinical concern is patients with normal T4 and T3 but a low TSH. This is known as “subclinical hyperthyroidism” and is particularly common in older patients. If patients do not have symptoms clinicians may monitor these without treatment. Situations that may prompt starting medicines include symptoms and associated conditions such as osteoporosis (weak bones), heart disease, and in the older patient who is considered to be at higher risk for these associated problems. In these cases, a small dose of methimazole may be given.

## HYPOTHYROIDISM IN THE OLDER PATIENT

Hypothyroidism is very common in patients over 60 years of age and steadily increases with age (see [Hypothyroidism brochure](#)). Up to 1 in 4 patients in nursing homes may have undiagnosed hypothyroidism. Unlike symptoms of hyperthyroidism, the symptoms of hypothyroidism are very non-specific in all age groups and even more so in older patients. As with hyperthyroidism, the frequency of multiple symptoms decreases in the older patient. For example, memory loss or a decrease in cognitive functioning, often attributed to advancing age, may be the only symptoms of hypothyroidism. Symptoms and signs of hypothyroidism may include weight gain, sleepiness, dry skin, fatigue, and constipation, but lack of these symptoms does not rule out the diagnosis. To make this diagnosis in older patients, a healthcare provider often needs a high index of suspicion. Clues to the possibility of hypothyroidism include family members with thyroid disease, past treatment for hyperthyroidism, or a history of extensive surgery or radiation to the neck.

A decision to treat the patient with a new diagnosis of hypothyroidism will rest on several factors, including whether the patient is symptomatic from hypothyroidism, or just has an elevated thyroid-stimulating hormone (TSH) level with T4 levels being normal (also known as “subclinical hypothyroidism”). When this is found the decision to start thyroid medication in the older patient

will depend on how high the TSH level is as well as presence or absence of associated symptoms. It can be a part of normal aging to have mild elevations in TSH and does not necessarily need to be treated. The presence or absence and severity of thyroid-related symptoms and co-existing diseases such as heart disease or heart failure will determine the dose of thyroid hormone replacement that is needed.

## TREATMENT OF THE OLDER PATIENT WITH HYPOTHYROIDISM

Similar to younger patients, levothyroxine taken once daily by mouth fully replaces the function of the thyroid gland and successfully treats the symptoms of hypothyroidism in most patients (see [Thyroid Hormone Treatment brochure](#)). In particular, treatment of older hypothyroid patients must take into account that full thyroid hormone replacement need not take place quickly, and in fact may put stress on the heart and brain. Rather, hormone treatment is usually begun slowly with a partial daily dose, in order to allow the heart and brain to adjust to the increasing levels of thyroid hormone. The patient and family members must be aware of possible symptoms such as chest pain, shortness of breath, confusion and change in sleep habits, and notify the prescribing healthcare provider if these occur.

Treatment may therefore begin with levothyroxine at a dose of 25 to 50 micrograms daily, and the dose increased in steps every 6-8 weeks until the blood tests show a gradual return of the thyroid-stimulating hormone (TSH) levels to the normal range. Older patients with no evidence of heart disease, stroke or dementia may start on larger doses (for example, half of the anticipated full replacement dose) and proceed to full hormone replacement more quickly. In patients who experience chest pain, symptoms of heart failure, or mental changes such as confusion will need to have their dose of levothyroxine decreased, and later gradually increased over several months' time.

## SUMMARY

Thyroid disorders have no age limits; indeed, hypothyroidism is clearly more common in older than in younger adults. Despite the increased frequency of thyroid problems in older individuals, healthcare providers need a high index of suspicion to make the diagnosis since thyroid disorders often manifest as a disorder of another system in the body. Older patients with thyroid disorders require special attention to gradual treatment with careful monitoring and require lifelong follow-up.

