

Focus on...

Thyroid

► FOCUS HEALTH

**A gland
at the
center
of our
well-being**

Not everyone knows that, in many cases, symptoms such as depression, anxiety, gain or loss in weight, abnormalities of the menstrual cycle may be due to **a gland at the center of our wellbeing: the thyroid**. These disorders, in fact, are too often ignored or underestimated because not reconnected to a thyroid disorder.

It is important, however, to recognize the “**alarm bells**” that should prompt the patient to suspect a malfunction of the thyroid and, therefore, to consult his/her own physician.

A specialized visit and a blood test may, in fact, **prevent** important cardiovascular, metabolic and bones complications, that even mild thyroid dysfunction, if not recognized and treated appropriately, may determine.

THE SIZE OF THE PROBLEM

With over 40,000 surgical procedures performed every year to remove thyroid, Italy is placed atop the world ranking of the most exposed countries to the risk of thyroid disease.

The dimensions of the problem are on the rise. This does not mean that in the past our grandmothers were not suffering from thyroid, but rather than at the time the problem was diagnosed late and with more difficulty. Today, an early diagnosis and the wide therapeutic opportunities can bring together peacefully patient with thyroid disease for a lifetime.

Thyroid diseases affect 6 million people in Italy, especially adult women, who suffer from 5 to 8 times more than men. The reasons why women suffer more often from thyroid problems may be related to increased frequency of autoimmune diseases (immune system alterations) in females.

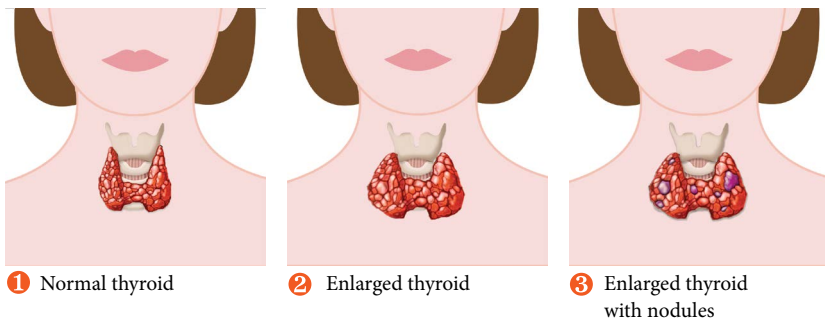
Furthermore, since hormonal changes accompany the whole life of the woman, from puberty to adulthood and particularly during pregnancy, lactation and menopause, thyroid diseases are more frequent compared to men in any age group.

WHAT IS THE THYROID?

The thyroid is a very small endocrine gland, with a form reminiscent of a butterfly, located in the front of the neck, just below the Adam's apple [FIGURE 1].

It can be considered a kind of “power station” of our body because it controls metabolism and its main functions, such as heart beat, development of the central nervous system, body growth, blood pressure, cholesterol level, weight, muscle strength, mental acuity, and many other things.

The task of the thyroid gland is to produce and synthesize two iodine-containing hormones, thyroxin (T₄) and triiodothyronine (T₃) which, via the blood, reach all organs influencing their activities: if the amount of thyroid hormones in the circulation is sufficient, the thyroid gland stops producing them, and then starts again when the level falls below the physiologic levels.



WHICH ARE THE MOST COMMON PATHOLOGIES OF THE THYROID?

Thyroid diseases can be divided into changes in form (goiters and nodules), dysfunction (hyperthyroidism and hypothyroidism) and tumors (benign and malignant).

When the thyroid becomes ill, its shape can change, enlarging or forming one or more nodules. Any increase in volume of the thyroid gland is defined **goiter** and may affect the entire gland [FIGURE ②], a single area (**uninodular goiter**) or more areas (**multinodular goiter**) [FIGURE ③].

The thyroid dysfunctions indicate, instead, an alteration of the production of thyroid hormones, or in excess (hyperthyroidism) or in deficiency (hypothyroidism).

In case of **hyperthyroidism**, the high amount of hormones stimulates excessively some functions of the body, causing an heartbeat acceleration, hand tremors, nervousness, insomnia, hot, sweating.

On the contrary, in case of **hypothyroidism**, thyroid works less than necessary, and the condition is characterized by easy tiredness and lack of initiative, cold intolerance, impaired concentration, drowsiness, weight gain and bloated feeling.

The thyroid gland may work less than necessary due to chronic inflammatory processes, as in the case of so-called **Hashimoto's thyroiditis**, an autoimmune disease that leads the antibodies produced by the immune system to attack the thyroid compromising its functionality. The consequence is a progressive reduction (up to termination) in the production of thyroid hormones: progressively the gland is completely destroyed causing a gradual worsening of symptoms.

Another form of autoimmune disease is **post-partum thyroiditis**, an inflammatory disease that occurs in 5-9% of women within a year after delivery and is usually a temporary condition.

Finally, **tumors of the thyroid**, which, although account for only 1% of oncological diseases, are steadily increasing in our country. They are, in general, small tumors with a diameter smaller than one centimeter, often diagnosed by ultrasound performed for other reasons. These tumors are not very aggressive and easily curable in the vast majority of cases. Early diagnosis however, is extremely important to discover the disease when it is still possible a surgical intervention and get a complete cure.

THE ALARM BELLS

But what are the “alarm bells” that should be a warning for a malfunction of our thyroid? The symptoms of the thyroid diseases are often non-specific, or common to many other diseases, so it is difficult to identify and attribute these symptoms to a thyroid dysfunction.

For this reason, it is important to pay attention to any alarm bell and – once recognized – talk to the family doctor (GP) or the specialist.

➤ **Menstrual cycle disorders**

The thyroid, both in the case of poor functioning that of excessive activity in thyroid hormones production, often causes irregularities in the menstrual cycle or even the disappearance of menstruation.

➤ **Gain or weight loss**

Thyroid hormones affect the metabolism of fats and carbohydrates and the proper functioning of the digestive system. An altered functioning of the thyroid gland reflects, then, on body weight. In particular, in hypothyroidism, weight gain occurs in 57% of the cases, due to a reduction in metabolic activity and retention of liquids. In hyperthyroidism, instead, 52-85% of subject undergoes an increase in metabolism and a significant weight loss.

➤ **Weakness and fatigue**

Loss of energy and muscle strength may signal a malfunction of the thyroid. These symptoms, in fact, are present in almost all of the pathologies due to deficiency of thyroid hormones (hypothyroidism) and occur in lower percentage, even in hyperthyroid subjects.

➤ **Psycho-intellectual disorders**

To hypothyroidism are often associated memory disorders, drowsiness, difficulty concentrating, slowed thinking, poor school or work performance. In hyperthyroidism, instead, are frequent insomnia, nervousness, and mood swings.

➤ **Intolerance to heat or cold**

Thyroid hormone production is very important in thermoregulation and adaptation to cold and hot. The patients suffering from hypothyroidism are in 90% of cases intolerant to cold; conversely, people with excessive production thyroid hormone have a high sensitivity to hot in percentages varying between 40 and 90%.

➤ **Intestinal disorders**

Thyroid hormones play a stimulating action on the intestine. In case of hyperthyroidism, there is an increase in intestinal contractions with the production of loose stools. On the contrary, in situations of hormonal insufficiency (hypothyroidism), constipation may occur with frequency around 60% of the cases.

TESTS TO DO

A **blood test** that doses TSH, the hormone produced to regulate the thyroid, is used to better define the problem. TSH, in fact, gets up when the thyroid works poorly and is lowered when it operates much. In the past it was possible to identify a thyroid problem only when the consequent diseases came to an advanced stage; sophisticated methods, available today, are able to dose infinitesimal concentrations of TSH which allow diagnosing any dysfunction in very premature stages, even before the onset of symptoms. For further diagnosis, **it is possible to dose the thyroid hormones**, thyroxin (T₄) and tri-

iodothyronine (T₃), which lowers in hypothyroidism and rises in hyperthyroidism.

Subsequently, based on the diagnosis, the doctor may prescribe further investigation with instrumental exams such as **ultrasound**, which shows nodules not detectable by palpation alone, **scintigraphy**, which is only required in the case of hyper-functioning nodule, **fine-needle aspiration**, the method considered more reliable to know the nature of the thyroid nodule. In presence of a tumor, in addition, the specialist may recommend its removal with **surgery**, to decide according to the nature and size of the nodule.

THE IMPORTANCE OF PREVENTION

The first rules in order to prevent thyroid diseases are simple: **iodized salt and selenium**, in fact, are the two best thyroid friends especially with regard to prevention.

A balanced diet, therefore, is an important preventing factor for thyroid health. The body to be able to operate well needs about 150-200 micrograms of iodine per day, equal to the amount that we eliminate daily in the urine. The main contribution is through the water intake, elements with added iodine (salt) and a diet rich in foods that contain it, such as seafood, shellfish, seaweed, and fish (preferably blue fish).

Recent studies have also revealed the importance for the proper functioning of the thyroid gland of another chemical element, **selenium**, which plays an important role in the production of thyroid hormones, improving defense capacity of “oxidative” defense of the whole body, specifically the thyroid. Natural sources of selenium are fish, shellfish, meat, dairy products, fruits, vegeta-

bles and nuts, but we must consider that approximately 50-60% of selenium we ingest is excreted via the urine.

Finally, for a hypothyroidism sufferer sea can be an excellent and precious health ally. On the coast the air is usually less polluted and contains higher amounts of iodine. Sun's rays, wind, temperature, and humidity of the seaside are all climatic elements that bring great benefits to those who have a thyroid that works too little. For those who are suffering from hyperthyroidism it is better to spend a vacation where the climate is milder, and the presence of iodine in the air is less. For this reason, the ideal is mountain of a modest altitude.

IMPORTANT If you suffer from one of the disorders that we have called “alarm bells” talk to your family doctor or to a specialist. You may suffer from a thyroid disease that can be treated properly.

