

Thyroid Disorders (Hypothyroidism, Hyperthyroidism)

The thyroid is a gland in the neck that produces several essential hormones. Problems can occur when thyroid hormone levels are too low (hypothyroidism) or too high (hyperthyroidism). Hypothyroidism can be present at birth and can cause growth and developmental disorders if not detected and treated. Thyroid problems can also develop later in childhood and adolescence, especially in girls, causing a number of problems.

What are thyroid disorders?

There are many types of thyroid disorders. In children, the most common are *hypothyroid* disorders, meaning that thyroid hormone levels are too low. The most serious disease in this category is *congenital hypothyroidism*. Babies who are born with inadequate thyroid activity can develop serious growth and mental deficiencies if not treated within the first few months of life. Fortunately, congenital hypothyroidism is usually detected by routine screening tests performed at birth. Treatment to replace thyroid hormone prevents most complications.

Older children may have *acquired hypothyroidism*, which means the problem with low thyroid hormones occurred some time after birth. The most common cause is lymphocytic (Hashimoto's) thyroiditis, which is caused by antibodies made by the body that attack the thyroid gland. This is an *autoimmune* disease that occurs when the body's own immune system attacks itself. Hypothyroidism can cause delayed growth, decreased energy, constipation, and other symptoms. It is treatable with thyroid hormone replacement.

In *hyperthyroid* disorders, thyroid hormone levels are too high. The most common type is *Graves' disease*, which occurs most often in teenage girls (and in women). It is also caused by the person's immune system affecting the thyroid gland. Treatment consists of thyroid-blocking drugs.

What do they look like?

- Babies with *congenital hypothyroidism* appear normal at birth. However, without treatment they gradually develop delayed growth and development, including mental retardation. The problem is usually detected at birth by routine screening tests. If the diagnosis is missed, early symptoms may include feeding problems, sluggish behavior, sleepiness, and constipation.
- For children with *acquired hypothyroidism*, the main sign is slower than normal growth. However, you may notice other symptoms first, including puffy swelling of

the skin, constipation, always feeling cold, low energy, and sleepiness. Signs of puberty may occur early in younger children or be delayed in older children. A goiter, swelling of the thyroid gland in the neck, is often present.

- *Hyperthyroidism*, including Graves' disease, is most common in girls between the ages of 11 and 15. Initial symptoms may include hyperactivity, extreme mood swings, and reduced attention, causing problems at school. A goiter and bulging of the eyes (exophthalmos) also may be present. Your child may seem to eat a lot but never gain weight. Many other symptoms are possible, including excessive sweating, fast heartbeat, and muscle weakness.

What puts your child at risk of thyroid disorders?

- Thyroid disorders are more common in girls than in boys.
- A family history of thyroid or autoimmune disorders, including type 1 diabetes.
- Hypothyroidism may occur more often in children with certain genetic disorders such as Down syndrome, Turner's syndrome, or Klinefelter's syndrome.

How are thyroid disorders treated?

Once they have been detected, thyroid disorders can be treated. Hypothyroid disorders are treated by replacing the low levels of the thyroid hormone thyroxine. Hyperthyroid disorders in children are most often treated by giving drugs to block thyroid hormones. For expert diagnosis and treatment, your doctor will probably recommend a visit to an endocrinologist (a specialist in treating hormone diseases).

- *Congenital hypothyroidism*. Your child will need immediate treatment with thyroxine. Careful monitoring is essential to make sure your child is getting the correct dose of thyroxine. In the first few years of life, tests are needed to determine whether your child's thyroid gland has started functioning or whether hypothyroidism is a permanent problem. Your child should receive close medical follow-up to ensure that his or her growth and mental and physical development continue to stay on track.
- *Acquired hypothyroidism*. Tests are performed to identify the cause of your child's low thyroid activity. Treatment with thyroxine is given to make up for the missing thyroid hormone levels. Close follow-up is needed to make sure your child is receiving the correct thyroxine dose.
- *Hyperthyroid disorders*. The usual treatment for Graves' disease in children is medications that block thyroid hormones.

- These drugs have a number of possible side effects. Careful medical follow-up is needed.
- Treatment may have to continue for several years. There is a chance that hyperthyroid disease will recur after the end of treatment. In that case, your child will have to go back on antithyroid medications.
- In some cases, surgery may be recommended to remove most of the thyroid gland. This is generally a safe procedure. However, there is a risk that surgery may lead to the opposite problem, that is, thyroid function may become too low (hypothyroidism).
- Another possible alternative is radioiodine treatment: medications are used instead of surgery to eliminate overactive thyroid tissue. Again, there is a risk of hypo-

thyroidism. Surgery and radioiodine treatment are used more often in adults than in children.



When should I call your office?

Thyroid disorders are complex diseases that require careful follow-up, often by a specialist. Call your endocrinologist or our office if any of the symptoms of thyroid disease return after treatment:

- Hyperthyroidism: shakiness, fast heart rate.
- Hypothyroidism: low energy, sleepiness, weight gain, constipation.