



**Understanding
and managing**
hypothyroidism
in children

hypothyroidism in children

Although hypothyroidism generally affects adults, it can affect children of any age. This brochure will help you better understand hypothyroidism and serve as a guide when discussing hypothyroidism with your child's doctor. You will learn about hypothyroidism's causes, signs, symptoms, and how it can be managed.

Important facts about hypothyroidism

Hypothyroidism occurs when the thyroid becomes damaged or inflamed, making it unable to produce enough of the thyroid hormone thyroxine. This is the opposite of hyperthyroidism, in which the body produces too much thyroxine.

One in 2,500 newborns has hypothyroidism at birth,¹ while approximately 1 in 500 school-age children has hypothyroidism.²

Untreated hypothyroidism can be serious, possibly causing brain damage in infants and delaying a child's development and growth. But routine tests will generally detect hypothyroidism in newborns, while symptom evaluation and screening tests can reveal hypothyroidism in older babies and children.³

What can cause hypothyroidism in children?

The number one cause of hypothyroidism in people of all ages is Hashimoto's disease, a chronic autoimmune disease that causes the thyroid to become inflamed and unable to produce thyroid hormones.³ However, some people are born with an underdeveloped or absent thyroid. This can cause congenital hypothyroidism, or hypothyroidism from birth.³

Signs and symptoms of hypothyroidism in children

Symptoms of hypothyroidism can vary from child to child. And newborns often do not show symptoms at birth. Some common signs and symptoms of hypothyroidism in older children may include³:

- Fatigue
- Constipation
- Feeling cold all over
- Puffy face
- Weight gain from fluid retention
- Dry or yellow skin
- Loss of hair, or hair becoming coarse
- Voice becoming hoarse
- Goiter
- Delayed reflexes
- Muscular pain

Notify your healthcare provider right away if your child is experiencing any of these symptoms. If you suspect your child may have hypothyroidism, it's important to get a proper diagnosis as soon as possible.

How is hypothyroidism diagnosed in children?

It is important that you communicate any symptoms your child may be experiencing to your child's healthcare provider, and share any family history of hypothyroidism. This information, plus the results of a thyroid stimulating hormone, or TSH, test, can help your child's doctor diagnose hypothyroidism.

TSH is produced by the pituitary, a small gland in the brain. TSH is a hormone the body naturally produces if it senses that the thyroid is not releasing enough thyroxine. A healthy thyroid receives the message and responds by producing more thyroxine. This helps to keep your hormone levels within a normal range. A TSH test can help determine if the thyroid is underperforming, and if it may be hypothyroidism. It is recognized as the most reliable test of its kind.

Your child's doctor might also order additional tests, like a thyroid scan to look at the nodules, and a biopsy to check for thyroid cancer—keep in mind thyroid cancer is rare in children.⁴



Treating hypothyroidism in children

Although hypothyroidism is treatable, it's recommended that patients under 18 years of age see a specialist called an endocrinologist who can properly manage your child's hypothyroidism.³

Treatment generally means a medication that replaces the thyroid hormones your child's body needs but is not producing. Once on treatment, it is important that your child remain consistent with taking medication.^{3,5} This is because thyroid replacement medications are narrow therapeutic index drugs, which means that when the dosage is off by just a little bit, it can change TSH levels and possibly cause symptoms.

It can take time to find the dosage that is right for your child. Once the correct dose is determined, your child's doctor will want to see him or her every 3 months if your child is young, and every year if he or she is older. You may notice changes in your child's development or behavior, depending on his or her age and severity of hypothyroidism, but your child's doctor will keep a close eye on these changes and adjust treatment as needed along the way.³

5 tips for taking medication

- 1. Make medication part of your child's daily routine.** Thyroid replacement medication must be taken at the same time every day, exactly as prescribed. By helping your child associate the medication with a part of his or her everyday routine, your child will be more likely to remember to take it on time.
- 2. Refill your child's prescription early so the medication doesn't run out.** Plan ahead to ensure no doses are missed. Missing doses can cause changes in your child's thyroxine level.
- 3. Have your child continue to take his or her medication as the doctor prescribed, even if symptoms go away.** Unless explicitly instructed by a doctor, it is important that your child consistently takes their medicine as their doctor prescribes.
- 4. Notify your healthcare provider if your child starts or stops any other medications.** Some thyroid hormone replacement treatments can interact with other drugs. Your doctor should always be informed if there is a change in any other medications your child may be taking. This includes any over-the-counter medications or vitamin supplements.
- 5. Check your child's pills at the pharmacy.** Always check your child's pills to be sure they are what his or her doctor prescribed.

The bottom line

Hypothyroidism can often be managed with one pill a day and the support of your child's healthcare provider.

References: 1. Olney RS, Grosse SD, Vogt RF. Prevalence of congenital hypothyroidism—current trends and future directions: Workshop summary. *Pediatrics*. 2010;125:S31-S36. 2. LaFranchi S. Acquired hypothyroidism. In: Feinberg L, Kleinman RE, eds. *Saunders Manual of Pediatric Practice*. 2nd ed. Philadelphia, PA:Saunders, 2002. 3. The endocrine System – Part XXV. In: Kliegman RM, Behrman RE, Jenson HB, Stanton BF, eds. *Nelson Textbook of Pediatrics*. 18th ed. Philadelphia, PA:Saunders Elsevier;2007. 4. Li J, Thompson TD, Miller JW, et al. Cancer incidence among children and adolescents in the United States, 2001-2003. *Pediatrics*. 2008;121:e1470-e1477. 5. Baskin HJ, Cobin RH, Gharib H, et al; for the American Association of Clinical Endocrinologists. American Association of Clinical Endocrinologists medical guidelines for clinical practice for the evaluation and treatment of hyperthyroidism and hypothyroidism. *Endocr Pract*. 2002;8:457-469