

Hypothyroidism

A plain-English guide for you and your family

WHAT IS HAPPENING

The thyroid is a butterfly-shaped gland in the front of your neck. It makes thyroid hormone—a chemical messenger that travels through the blood and tells every cell in the body how fast to burn fuel, make heat, and do its job. Think of thyroid hormone as the body's gas pedal: it sets the speed for your metabolism (how fast your cells work). In hypothyroidism, the thyroid stops making enough hormone. The most common cause is Hashimoto thyroiditis—your own immune system mistakenly attacks and damages the thyroid over time. Other causes include thyroid surgery (the gland was removed), not enough iodine in the diet (iodine is the building block for thyroid hormone), or certain medicines like lithium (a mood stabilizer) and amiodarone (a heart rhythm drug) that block the thyroid. When thyroid hormone drops, every cell in the body slows down. You feel exhausted and cold because cells aren't burning fuel fast enough to make energy or heat. Weight creeps up because the body stores calories instead of burning them. Skin gets dry and hair falls out because the cells that build skin and hair slow down. The gut moves food slowly, so constipation happens. The heart beats slower, and the brain's mood centers get sluggish, so sadness and brain fog set in. The pituitary gland (a tiny control center at the base of the brain) notices the low thyroid hormone and pumps out more TSH (thyroid-stimulating hormone), trying to push the thyroid to work harder—so TSH goes up while T4 (the main thyroid hormone) goes down. Treatment is simple: a daily pill of levothyroxine, which is the same as the hormone your thyroid should be making. It replaces what's missing and brings everything back to normal speed. Most people feel much better within weeks.

What you might feel

- Feeling tired all the time, even after sleeping
- Weight gain without eating more
- Feeling cold when others are comfortable
- Skin that feels dry and rough
- Hair that falls out or thins, especially on the head and outer third of the eyebrows
- Constipation (trouble having bowel movements)
- Feeling sad, down, or hopeless

- Thinking and remembering feel slower or fuzzy (brain fog)
- Slow heart rate (often below 60 beats per minute at rest)
- Swelling in the face, hands, or legs (puffy look, especially around the eyes)

Call the doctor right away if...

- Chest pain, trouble breathing, or a very slow heart rate (below 50 beats per minute)—these can signal myxedema coma, a life-threatening emergency where the body shuts down from severe thyroid deficiency.
- Severe confusion, extreme sleepiness, or passing out—signs that brain function is dropping dangerously low and you need emergency care right away.
- Body temperature below 95°F (35°C, measured with a thermometer)—the body can't make enough heat, and this can lead to organ failure without urgent treatment.
- Sudden, severe swelling in the neck that makes it hard to swallow or breathe—this can mean bleeding into a goiter (swollen thyroid) or rapid growth that presses on the windpipe and blocks air.

What the care team will do

- Monitor vital signs every 4 hours, especially heart rate and body temperature
- Assess mental status and level of consciousness every shift using Glasgow Coma Scale or AVPU method
- Teach patient to take levothyroxine on empty stomach 30 to 60 minutes before breakfast with full glass of water
- Review all medications and supplements, separate calcium, iron, antacids, and fiber supplements by 4 hours from levothyroxine dose
- Monitor bowel movements daily and implement constipation prevention protocol with fluids, fiber, and activity
- Assess skin integrity every shift, apply moisturizer, and use warm blankets if patient reports feeling cold
- Educate patient that symptom improvement takes 4 to 6 weeks and TSH testing happens every 6 to 8 weeks until levels normalize
- Screen for depression using PHQ-2 or PHQ-9 tool and refer to mental health if score is elevated

Medicines you may be given — and why

Levothyroxine

Levothyroxine is a lab-made copy of T4 (thyroxine), the main hormone your thyroid gland normally pumps out. When your thyroid can't make enough on its own, levothyroxine fills the gap. Your body takes the T4 from the pill and turns it into T3 (the active form that cells actually use for energy). This keeps your metabolism, energy, heart rate, and body temperature running at the right speed. It fixes the root problem by giving back the missing hormone.

Where this information comes from

- American Thyroid Association (ATA)
- Endocrine Society Clinical Practice Guideline on Hypothyroidism
- American Association of Clinical Endocrinology (AACE)
- UpToDate Clinical Decision Support

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