

Hashimoto thyroiditis

Hashimoto thyroiditis means your immune cells mistakenly attack your thyroid gland. The gland weakens and stops making enough thyroid hormone (the fuel that keeps your body's engine running). Treatment is simple: take a pill of the missing hormone—levothyroxine—every day.

THE ONE-LINE TRUTH

Your own immune system slowly destroys your thyroid gland, so the gland makes less and less thyroid hormone over time.

The chain — how it unfolds

1. You feel exhausted all the time, even after a full night of sleep. — why: Every cell in your body needs thyroid hormone to make energy. When T4 and T3 drop, your cells burn fuel more slowly, so your muscles make less ATP (the energy molecule), your brain gets less fuel, and you feel wiped out. It is like trying to drive a car with the engine stuck in first gear.
2. You gain weight even though you are eating the same amount—or even less—than before. — why: Thyroid hormone sets your basal metabolic rate—the number of calories you burn just sitting still. When hormone drops, your cells burn fewer calories, so extra energy from food gets stored as fat instead of being used. Your gut also slows down, so you absorb more calories and hold more water, adding pounds on the scale.
3. You feel cold all the time; you need a sweater when everyone else is comfortable. — why: Thyroid hormone tells your hypothalamus (the brain's thermostat) what your body temperature should be. Low hormone lowers the set-point, so your brain thinks you are too warm and stops generating heat. Your muscles shiver less, your blood vessels in the skin stay narrow to save heat, and you feel freezing even in a warm room.
4. You get constipated—bowel movements become hard, dry, and rare, maybe only once or twice a week. — why: Your intestines are ringed with smooth muscle that squeezes food along in waves called the gut's squeezing waves (peristalsis). Thyroid hormone keeps that muscle active. When hormone drops, the muscle contracts more slowly, so food sits in your colon longer. The colon absorbs more water out of the stool, leaving it hard and difficult to pass.

5. Your skin becomes dry, rough, and flaky; moisturizer stops helping. — why: Skin cells normally turn over every few weeks, shedding dead cells and making new ones. Thyroid hormone drives that turnover. Without enough hormone, old dead cells pile up on the surface and sweat glands (eccrine glands) produce less moisture, so your skin gets thick, dry, and scaly—especially on elbows, knees, and shins.
6. Your hair thins and falls out more than usual when you brush or wash it. — why: Each hair follicle cycles between a growing phase (anagen), a resting phase (telogen), and a shedding phase. Thyroid hormone keeps follicles in the growing phase. When hormone drops, more follicles shift into resting and shedding, so you lose hair faster than it regrows. The outer third of your eyebrows may thin or disappear completely—a classic sign doctors look for.
7. If you have periods, they become heavier, longer, or more irregular; you may soak through pads or have cycles every few weeks instead of monthly. — why: Thyroid hormone works with estrogen and progesterone to control the menstrual cycle. Low thyroid disrupts the hypothalamic-pituitary-ovarian axis, so ovulation may not happen (anovulation), progesterone drops, and the uterine lining sheds unpredictably. Periods become heavy (menorrhagia) or come too often. Fertility also drops because eggs do not mature properly.
8. Your face, hands, and ankles swell and look puffy; you may leave a dent when you press your shin, but the dent fills in slowly. — why: Low thyroid hormone causes your tissues to fill with a thick gel-like substance made of glycosaminoglycans and protein—this is called myxedema. It is not regular water swelling (pitting swelling (edema)); it is a non-pitting puffiness that makes your face look doughy, your eyelids swollen, and your tongue thick. Fluid also leaks into body cavities, causing pericardial a fluid collection (effusion) (fluid around the heart) or pleural a fluid collection (fluid around the lungs).

Spot it — what you see, and why

- Tired all the time, even after sleeping: The immune system attacks the thyroid gland (the neck gland that sets the body's speed), so it can't make enough thyroid hormone to keep your cells running at normal speed — like a battery running low, everything slows down.
- Weight gain without eating more: Low thyroid hormone slows your metabolism (how fast your body burns food for energy), so you store more calories as fat even if you haven't changed what you eat.
- Feeling cold when others feel fine: Thyroid hormone normally tells cells to burn fuel and make heat; when it's low, your body produces less heat, so you feel chilly even in a warm room.
- Dry skin and hair; hair falls out more: Thyroid hormone keeps skin and hair follicles healthy and growing; when it drops, skin cells don't make enough oil and hair roots slow down or stop, so skin dries out and hair thins.

- Constipation (hard to poop): Low thyroid hormone slows the muscles that push food through your gut, so waste moves more slowly and becomes hard and dry.
- Goiter (a swelling in the front of the neck): Early on, the thyroid gland swells because the pituitary gland (a tiny boss gland in the brain) sends extra TSH (thyroid-stimulating hormone) to push the thyroid to work harder; later the gland may shrink as immune cells destroy more of it.

Red flags — act now

- Sudden, severe swelling in the neck that makes it hard to breathe or swallow (could mean bleeding into the thyroid or a dangerous infection)
- Heart rate under 50 or trouble staying awake, feeling very confused, or body temperature under 95°F (signs of myxedema coma, a life-threatening shutdown from very low thyroid hormone)
- A hard, fixed lump in the thyroid that doesn't move (raises concern for thyroid cancer, which is rare but needs urgent check)

Treat it — in this order

1. Levothyroxine (synthetic T4, the main thyroid hormone) → Replaces the thyroid hormone your destroyed gland cannot make anymore. This fixes the low T4 that is making your body run in slow-motion — energy comes back, heart rate rises, skin warms up, and thinking sharpens. Dose is usually 1.6 micrograms per kilogram of body weight per day, taken once every morning on an empty stomach.
2. Check TSH and free T4 every 6–8 weeks after starting or changing the dose → Tells you if the dose is right by measuring how hard your pituitary is working to wake up your thyroid. Goal is TSH between 0.5 and 2.5 mIU/L for most people (ATA guidelines). This lets you dial in the exact amount you need — too little and you stay tired, too much and your heart races.
3. Start with a lower dose (25–50 micrograms per day) in elderly patients or anyone with heart disease → Prevents your heart from getting stressed when you suddenly flood it with new hormone. A weak heart can go into a dangerous fast rhythm (like atrial fibrillation (an irregular, quivering heartbeat)) or even have a heart attack if you ramp up thyroid hormone too fast. Starting low and raising the dose every 4–6 weeks lets the heart adjust safely.
4. Take levothyroxine on an empty stomach, 30–60 minutes before breakfast, with water only → Lets your gut absorb the full dose. Food, coffee, calcium pills, iron pills, and antacids all block absorption, so the dose that should work will not. Taking it alone in the morning makes sure the hormone gets into your blood.

5. Screen for other autoimmune diseases (type 1 diabetes, celiac disease, vitiligo, Addison disease, pernicious anemia) → Finds other places where the immune system is attacking the body. About 10–20% of people with Hashimoto also have celiac disease, and several percent have type 1 diabetes or Addison disease (where the immune system destroys the adrenal glands). Catching these early prevents crises like severe low blood sugar or a life-threatening adrenal crash.

Your top priorities at the bedside

1. Check vital signs including temperature and watch for a slow heart rate (bradycardia) (slow heart rate below 60) or hypothermia (body temperature below 95 degrees) — why: Severe hypothyroidism slows metabolism so heart rate and body temperature drop, and temperatures below 95 degrees signal possible myxedema coma requiring ICU care
2. Assess mental status and level of alertness at every shift, noting any confusion or excessive sleepiness — why: Progressive confusion or sleepiness means brain metabolism is slowing from severe hypothyroidism and can progress to myxedema coma where the patient stops breathing
3. Teach patient to take levothyroxine on empty stomach 30 to 60 minutes before breakfast with water only, and avoid calcium or iron supplements within 4 hours — why: Food blocks absorption of thyroid hormone by 40 percent, and calcium or iron bind to the medicine in the stomach preventing the body from using it