

# Many with low thyroid missed because labs may be wrong

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Millions of Americans - mostly women - could find the key to more energy, easier weight control, sharper thinking, less depression, less infertility, lower blood pressure and lower incidence of heart disease. It all depends on who wins a 10-year-old medical debate.

The holdup is the number on a lab test - specifically, the reference range for thyroid-stimulating hormone.

Many physicians who specialize in [endocrine disorders](#), including thyroid disease, think lab limits for thyroid-stimulating hormone are too broad, leaving many patients who suffer from low-thyroid disease undiagnosed and untreated.

Marilyn Arnst of Orlando, Fla., fell in that gap.

"I was cold all the time, even in the hot Orlando summer," said Arnst of the symptoms she felt seven years ago, when she was 49. "I would wake up feeling drowsy, and need to lie down in a couple hours. I was confused and foggy and kept finding more hair in my hairbrush."

The wife and mother asked her primary-care doctor to check her for low-thyroid disease. He ran the usual blood tests and told her she was fine. Her thyroid-stimulating hormone was 3.44. Most medical laboratories put the normal range for that hormone between 0.4 and 4.5 (milliunits per liter) or even as high as 5.5.

"Because both of my kids had just gone off to college and my husband traveled a lot, the doctor thought this was just a phase and suggested I try volunteering," Arnst recalled. Then a [nurse practitioner](#) friend told her to go back to the doctor and insist on more testing. A [blood test](#) for thyroid antibodies came back positive, confirming she had low-thyroid disease, or [hypothyroidism](#).

"My doctor felt terrible," she said, although in fact he only did what most doctors do. Unless they specialize in endocrine disease, most physicians go by the labs. He started Arnst on thyroid medication. Shortly afterward, she recalls, "I woke up and felt like myself again: clear, awake and alive."

A butterfly-shaped gland that sits at the base of the throat, the thyroid governs metabolism. When it doesn't make enough thyroid hormone, people feel sluggish, have trouble concentrating, gain weight and feel cold. Left untreated, [thyroid disease](#) can lead to more-serious health problems, including elevated cholesterol, heart disease, osteoporosis, infertility and depression.

Conversely, an overactive thyroid causes people to feel anxious, jittery and hot, and can cause rapid heartbeat and insomnia.

Overseeing all this is the brain's pituitary gland. When it senses that the thyroid isn't producing enough thyroid hormone, it sends out thyroid-stimulating hormone, also called thyrotropin, to tell the thyroid gland to step up production.

Thus, a high thyrotropin means the thyroid is underactive, causing hypothyroidism. A low level indicates that thyroid levels are too high, creating hyperthyroidism.

Low thyroid is 20 times more common, and among those it affects, 80

percent are women.

Most hypothyroidism occurs when the body makes antibodies that attack the thyroid gland. Treatment is simple and involves taking a daily bioidentical thyroid pill.

Mark Lupo, a Sarasota, Fla., endocrinologist who specializes in thyroid disorders, estimates that 25 million Americans, or about 12 percent of adults, currently have a low-thyroid condition, and only half are captured. He attended the annual meeting of the American Association of Clinical Endocrinologists last month and said the debate about whether to narrow the lab range was still in full swing.

Many endocrinologists think the labs' upper ranges of 4.2 to 5.5 are too high and should be 3. Opponents think lowering the limit would lead to increased costs and overtreatment.

"In the medical community, the issue is not seen as very serious," said Leonard Wartofsky, an endocrinologist and professor of medicine at Georgetown Medical Center in Washington who has published extensively on the subject and thinks anything over 2.5 should be looked at.

"No one will die from a thyroid-stimulating hormone that's 4.5. 'So what if you're a little tired, a little fat, a little blue,' doctors think, 'I have people with cancer.'"

Wartofsky says the medical-lab ranges are too high because the labs based normal ranges on a large population sample that included those who had thyroid disorders.

In 2002, the National Academy of Clinical Biochemists reran the population samples, removed those with thyroid problems and found that

95 percent of the population had thyrotropin levels of 2.5 or lower.

That same year, the National Health and Nutrition Examination Survey looked at samples from 17,000 adults and, after eliminating those with thyroid conditions, found that Caucasians have average thyrotropin levels of 1.4, and blacks have an average of 1.18.

"A lot of folks in the 2.5 to 5.0 range have mild depression and wind up taking anti-depressants when they really need thyroid medication," Lupo said. The same is true for patients taking medication for high blood pressure or high cholesterol.

"If low thyroid is the underlying cause of another problem, if you treat the thyroid, the other problems get better, and the need for other medications often goes away," he said.

Among the most outspoken opponents to narrowing the reference range is Martin Surks, an endocrinologist and professor of medicine and pathology at Albert Einstein Medical Center in New York. "Any decision to narrow the reference ranges has nothing to do with data," he said.

Lowering the rate would come at a cost, because it would mean a lot more testing, he said.

"Once diagnosed, patients have to have annual blood tests, regular doctors' visits and daily medication. All that adds up. Plus, identifying patients with a disease gives them a label they will carry the rest of their lives, which has insurance implications."

Surks also worries about overtreatment, which he thinks is worse than undertreatment.

"For whatever reason, doctors don't do a good job of dosing. Too much medication can tip patients into hyperthyroidism, which can lead to bone loss and arrhythmia," he said.

As for those gap patients who feel better on thyroid medication, Surks said: "It's possible they benefited from treatment, but the vast majority of these patients have a placebo effect. After a year or so, they'll probably feel just like they did before treatment."

Wartofsky argues that with treatment, patients with mild low thyroid could avoid some of the more serious conditions that untreated low [thyroid](#) can lead to: "What we'd gain if we treated these people are people who feel and function better and live longer."

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