

# Overtreating patients for hypothyroidism could raise their risk of stroke, study finds

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heart rhythm disorder associated with stroke, a new study of more than 174,000 patients has found. Credit: Intermountain Medical Center Heart Institute

For patients who take medication to treat hypothyroidism, being treated with too much medication can lead to an increased risk of atrial fibrillation, a common heart rhythm disorder associated with stroke, a new study of more than 174,000 patients has found.

The findings were presented by researchers from the Intermountain Medical Center Heart Institute in Salt Lake City at the American Heart Association Scientific Session conference in Chicago.

"We know [patients](#) with hypothyroidism have a higher risk of atrial [fibrillation](#), but we didn't consider increased risk within what's considered the normal range of [thyroid hormones](#)," said lead researcher Jeffrey L. Anderson, MD, Distinguished Clinical and Research Physician at the Intermountain Medical Center Heart Institute, which is part of the Intermountain Healthcare system. "These findings show we might want to re-consider what we call normal."

In the new study, researchers surveyed the electronic medical records of 174,914 patients treated at Intermountain Healthcare facilities whose free thyroxine (fT4) levels were recorded and who were not on thyroid replacement medication. Researchers then took what's considered a normal range of fT4 levels, divided it into four quartiles, then looked at those patients' records for a current or future diagnosis of atrial fibrillation.

They found a 40 percent increase in existing atrial fibrillation for patients in the highest quartile of fT4 levels compared to patients in the lowest, and a 16 percent increase in newly developing atrial fibrillation

during 3-years of follow up.

These findings, said Dr. Anderson, suggest that the optimal healthy range of fT4 should be reconsidered and redefined.

"Thyroid hormones are associated with losing weight and having more energy, which may lead to people being treated at the high end of the normal range," said Dr. Anderson. "Are we harming people by putting them at a higher risk of atrial fibrillation, and therefore stroke?"

The study also showed that fT4 should be measured, along with thyroid-stimulating hormone (TSH), which is more commonly tested for in patients with irregular thyroid hormone levels but was not helpful within the normal range in refining risk.

The link between fT4 and atrial fibrillation was recently recognized in the Rotterdam Study, a population-based cohort study first started in 1990. However, with any new and unexpected report requires replication and independent confirmation. The new study by Intermountain Medical Center Heart Institute researchers establishes the link between fT4 level and atrial fibrillation in patients treated in the United States.

"The next step for researchers is to conduct a randomized trial to see if targeting a lower versus a higher upper range of fT4 in patients receiving thyroid hormone replacement therapy leads to a lower risk of [atrial fibrillation](#) and stroke along with other possible heart-related issues, like atherosclerosis," Dr. Anderson said.

Provided by Intermountain Medical Center

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