

# Common diabetes drug associated with risk of low levels of thyroid hormone

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Metformin, a commonly used drug for treating type 2 diabetes, is linked to an increased risk of low thyroid-stimulating hormone (TSH) levels in patients with underactive thyroids (hypothyroidism), according to a study in *CMAJ* (*Canadian Medical Association Journal*). Low levels of TSH can cause harm, such as cardiovascular conditions and fractures.

**More information:** *Canadian Medical Association Journal*,  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.140688](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.140688)

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Metformin is used to lower [blood glucose levels](#) by reducing [glucose production](#) in the liver. However, some previous studies have raised concerns that metformin may lower thyroid-stimulating hormone levels.

Researchers looked at data on 74 300 patient who received metformin and sulfonylurea, another common diabetes drug, over a 25-year study period. Of these people, 5689 had treated hypothyroidism, and 59 937 had normal thyroid function. In the group with hypothyroidism, there were 495 incidences of low thyroid-stimulating hormone (119.7 per 1000) per year compared with 322 in the normal group (4.5 per 1000).

In patients with treated hypothyroidism, metformin monotherapy was associated with a 55% increased risk of low TSH levels compared with treatment with sulfonylurea. Metformin therapy did not appear to affect people with normal thyroid function.

"The results of this longitudinal study confirmed that the use of metformin was associated with an increased risk of low TSH levels in patients with treated [hypothyroidism](#)," says Dr. Laurent Azoulay, Lady Davis Institute, Jewish General Hospital and the Department of Oncology, McGill University, Montréal, Quebec.

"Given the relatively high incidence of low TSH levels in patients taking [metformin](#), it is imperative that future studies assess the clinical consequences of this effect."

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