

Active thyroid may raise risk of depression in older individuals

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When older individuals' thyroid glands are more active than average, it may be a risk factor for depression, according to new research accepted for publication in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

Beyond its role in regulating the body's metabolism, the [thyroid gland](#) also can influence mental health. Past research has found links between an increased risk of [depression](#) and both over- and underactive [thyroid](#) glands. This study is the first to find an association between depression and thyroid activity variations within the normal range.

To determine how active the thyroid gland was, researchers measured levels of thyroid-stimulating hormone (TSH), which is the body's signal to the thyroid gland to release more hormones. When TSH levels are low, this suggests the thyroid gland is active and producing plenty of thyroid hormones. Researchers also measured levels of the actual thyroid hormones at a later point in time and confirmed these subjects had increased thyroid activity.

"We found that older individuals with thyroid activity at the high end of the normal range had a substantially increased risk of developing depression over the course of an eight-year period compared to individuals who had less thyroid activity within the normal range," said one of the study's authors, Marco Medici, MD, of the Erasmus Medical Center in Rotterdam, the Netherlands. "This suggests that people with even minor changes in thyroid function may experience similar mental

health effects as those with overt thyroid disorders, including hypothyroidism and hyperthyroidism."

The population-based cohort study analyzed data from a group of 1,503 people with an average age of 70. At the outset of the study, researchers measured participants' TSH levels and gauged their [depression symptoms](#) using a questionnaire. Participants included in the study displayed no depression symptoms at the first visit. During follow-up visits over the course of eight years, on average, researchers assessed participants for the development of depression symptoms.

The study divided participants into three groups based on their TSH levels. Study participants with TSH levels at the low end of the normal range – signaling they had more active thyroid glands – were more likely to have depression symptoms emerge during the course of the study.

"These results provide insight into the powerful effects thyroid activity can have on emotions and [mental health](#)," Medici said. "This information could influence the process of diagnosing and treating depression, as well as treatments for individuals with thyroid conditions."

More information: [dx.doi.org/10.1016/j.stemcr.2014.01.008](https://doi.org/10.1016/j.stemcr.2014.01.008)

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