

Practice Guidelines

Treatment of Subclinical Hypothyroidism: BMJ Rapid Recommendation

Key Points for Practice

- Thyroid hormones do not improve quality of life or thyroid-related symptoms in patients with subclinical hypothyroidism.
- In older patients, treatment of subclinical hypothyroidism does not improve muscle strength or cognitive function, but could increase mortality.
- In patients who are pregnant and in those with a TSH level greater than 20 mIU per L, severe symptoms, or age 30 years or younger, the benefit of subclinical hypothyroidism treatment is unknown.

From the *AFP* Editors

Subclinical hypothyroidism is a state of contradiction, with an elevated thyroid-stimulating hormone (TSH) level suggesting hypothyroidism but a normal free thyroxine level. Symptoms that suggest hypothyroidism may or may not be present. Treatment of subclinical hypothyroidism has long been controversial because of normal increases in TSH with age, variability between TSH measurements, and concerns for harm from treatment.

Previous guidelines suggested that levothyroxine treatment may be appropriate with hypothyroid symptoms or a TSH level exceeding 10 mIU

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This series is coordinated by Michael J. Arnold, MD, contributing editor.

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CME **This clinical content** conforms to *AAFP* criteria for CME. See CME Quiz on page 267.

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per L based on limited evidence. A recent large trial in older adults suggests that treatment shows no benefit in many areas and possible harm. The BMJ/MAGIC Group sought to determine whether treatment of subclinical hypothyroidism increases quality of life measures, improves symptoms, or induces harm.

People 65 Years and Older

Studies of subclinical hypothyroidism primarily include older people. Substantial evidence demonstrates that levothyroxine is not beneficial for patients 65 years and older. Symptoms suggesting hypothyroidism, such as fatigue and depression, are not improved with supplementation more than with placebo. Quality of life and body mass index are unchanged. Muscle strength and cognitive function are not enhanced. Harms such as cardiovascular events and mortality are not more frequent, although data suggest that larger studies may demonstrate these risks. With no benefit and concern for harm, the group recommends against treatment.

People Younger than 65 Years

Although fewer younger people have been studied, levothyroxine shows a similar lack of benefit for subclinical hypothyroidism. Treatment does not improve thyroid-related symptoms, quality of life, body mass index, muscle strength, or cognitive function. Because few deaths of younger patients were reported, the effect of treatment is unclear. The lack of benefit suggests that lifelong medication use and mistaking mood disorders for subclinical hypothyroidism could represent further harms.

Exceptions

The BMJ/MAGIC Group states that any benefit from treating subclinical hypothyroidism remains unknown in some patients. Subclinical hypothyroidism increases adverse pregnancy outcomes in retrospective analyses, but evidence

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is lacking on whether treatment reduces these harms. Patients with TSH levels greater than 20 mIU per L, which suggests overt hypothyroidism, and those with severe symptoms were not included in the studies. These studies included few people 30 years or younger, focusing more on an older population.

Editor's Note: The U.S. Preventive Services Task Force recommends against screening for thyroid disease based on lack of evidence of benefit. Even without screening, many patients present with symptoms of possible thyroid disease. Treatment has been suggested when TSH levels exceed 10 mIU per mL, but with little supporting evidence. The systematic review with this guideline provides the strongest evidence that levothyroxine treatment is not beneficial for sub-clinical hypothyroidism, and may be harmful for older people.—Michael J. Arnold, MD, contributing editor

Guideline source: BMJ/MAGIC Group

Evidence rating system used? Yes

Systematic literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? Yes

Recommendations based on patient-oriented outcomes? Yes

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