

Thyroid Gradient: Assessing T4 to T3

Use this tool to help determine whether your body is effectively converting T4 (inactive thyroid hormone) into T3 (active thyroid hormone). While this is not a diagnostic tool, it can help guide conversations with your healthcare provider.

Step 1: Gather Your Labs

Make sure you have the following lab results:

- Free T4 (FT4)
 - Free T3 (FT3)
 - (Optional but helpful: TSH, reverse T3, ferritin, selenium, zinc, vitamin D)
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Step 2: Plug Your Numbers Into the Gradient

1. Plug the bottom of the Free T4 reference range on the left side of the FT4 “rainbow,” and the top of the reference range on the right side of the FT4 “rainbow.”
2. Plug in your actual test Free T4 results on the top of the rainbow. Make an arrow connecting from the bottom middle to the test results.
3. Then, plug the bottom of the Free T3 reference range on the left side of the FT3 “rainbow,” and the top of the reference range on the right side of the FT3 “rainbow.”
4. Plug in your actual Free T3 test results on the top of the rainbow. Make an arrow connecting from the bottom middle to the test results.
5. Compare the two arrows. Are they both in the top half?
6. If you are converting properly, both should be pointing roughly in the same direction.

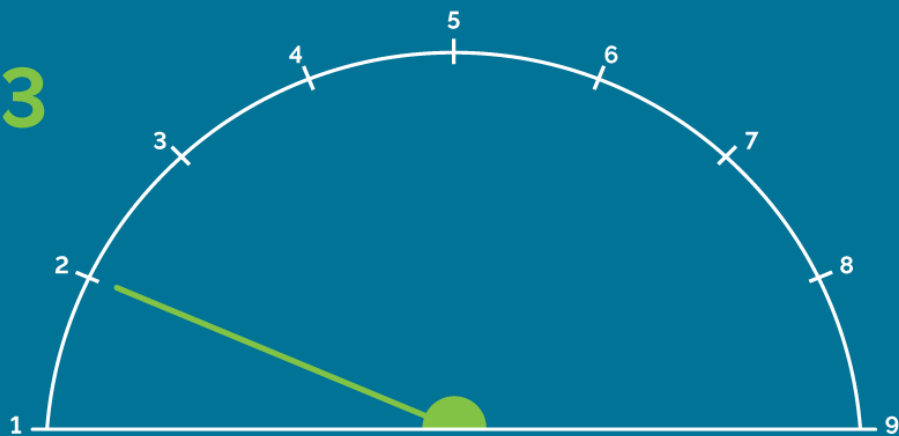
Example of a Filled-Out Gradient

Thyroid Gradient: Assessing T4 to T3 Conversion

EXAMPLE:

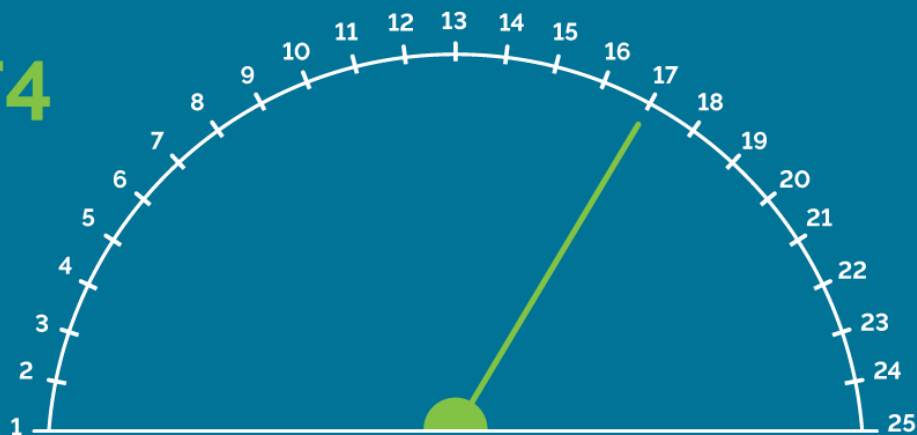
If FT3 is relatively low compared to FT4, then you have a less than normal rate of conversion of T4 to T3. If FT4 was at "1:00 pm" on the dial, and FT3 was at "10:00 am" on the dial, this would indicate a less than normal rate of conversion. The example illustrated in this graphic does NOT show optimal levels. It is an example of someone with suboptimal FT3 levels.

FT3



Optimal T3 reference range: 5-7 pmol/L

FT4



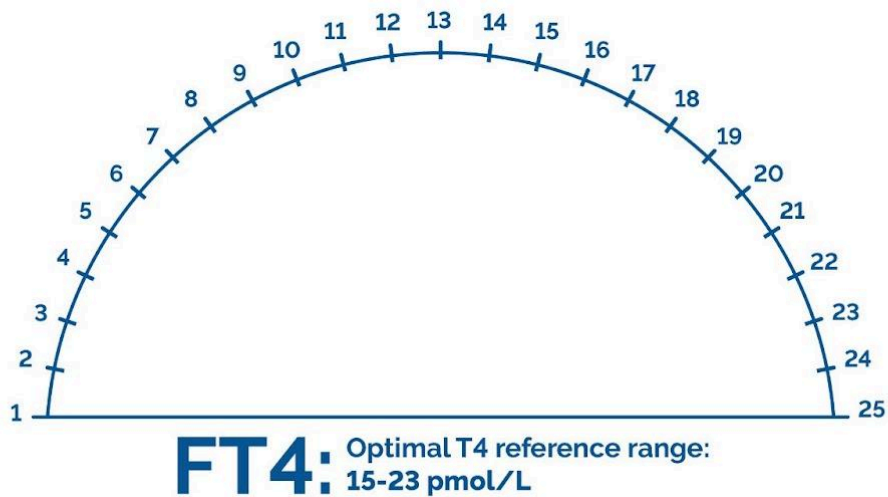
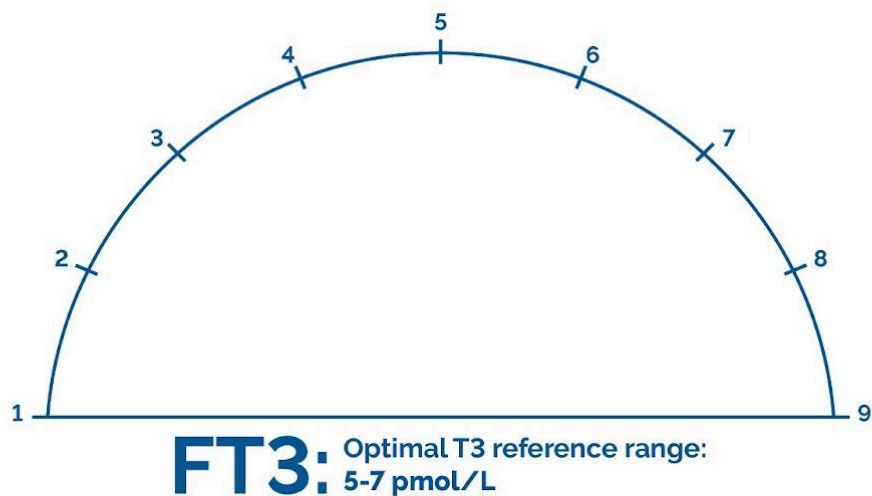
Optimal T4 reference range: 15-23 pmol/L



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We'll calculate the *T4:T3 ratio* and use the following general guidelines:

T4:T3 Conversion Gradient Table

Free T4 (ng/dL)	Free T3 (pg/mL)	Possible Interpretation
Middle-top half of reference range	Bottom-middle of the reference range	Poor T4 to T3 conversion
Within range	Under range	Impaired T4 to T3 conversion
Under reference range or bottom half of the reference range	Under reference range or bottom half of the reference range	Thyroid under-function, possible deficiency
Top half of reference range	Top half of reference range	Likely optimal, converting well
Bottom to middle of reference range	Top half of reference range	Efficient conversion, possibly overactive, overdosed on T3, need more T4 (common pattern in pregnancy)

Step 3: Additional Clues for Impaired Conversion

- Elevated [reverse T3](#)
 - Low [ferritin](#), or [vitamin D](#)
 - Inflammation or chronic illness
 - High cortisol or chronic stress
 - [Liver dysfunction](#) or [estrogen dominance](#)
 - High [Hashimoto's antibodies](#) – may benefit from [selenium](#)
 - Gut inflammation – may benefit from [zinc](#)
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Step 4: What You Can Do

- Ensure that you have optimal levels of key nutrients like selenium, zinc, iron, magnesium, vitamin A, and vitamin D.
- Support liver health and reduce inflammation.
- Consider adaptogens for adrenal balance.
- If needed, talk to your provider about T3-containing medications.
- Consider a product like [T4 to T3 Conversion Support](#) which contains key nutrients, adaptogens, and herbs that support T4 to T3 conversion.



Disclaimer: These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

The information contained herein is for informational purposes only and should not be construed as medical advice. Please consult your physician about any health problems and before making any medical or lifestyle changes.

Lifestyle changes can result in improved thyroid function and/or increased absorption of thyroid hormone medications, leading to a lower required dose and possible symptoms of hyperthyroidism at a dose that was previously stable. Please discuss lifestyle changes with your physician and ensure that your thyroid function is monitored every 6-8 weeks while making lifestyle changes. Symptoms of overmedication include, but are not limited to: rapid or irregular heartbeat, nervousness, irritability or mood swings, muscle weakness or tremors, diarrhea, menstrual irregularities, hair loss, weight loss, insomnia, chest pain, and excessive sweating. Do not start, change, increase, decrease or discontinue your medications without consulting with your physician.

