Thyroid Labs Guide

Before you read

The “optimal functional” ranges in this handout are proposed targets, not universal diagnostic cutoffs. Being outside them does not by itself mean you have thyroid disease. We interpret results using your lab’s reference ranges, symptoms, medications, and history. Reverse T3 does not diagnose hypothyroidism in healthy outpatients and is not routinely useful for that purpose. A full panel is not necessary for everyone; we select tests for your situation.

Reference: https://www.thyroid.org/thyroid-function-tests/



Thyroid Labs *Guide*

WHAT TO ASK
FOR & HOW TO
UNDERSTAND
YOUR RESULTS

WHY CHECK YOUR THYROID?

What to know

Your thyroid is a small, butterfly shaped gland that lives in your neck. It acts like a gas pedal, releasing hormones that regulate your metabolism and energy. The main hormones being T3 (Triiodothyronine) and T4 (Thyroxine).



These hormones affect a slew of bodily functions, like your heart rate, breathing, body temperature, digestion, fertility, nervous system, and more.

That's why if your thyroid hormones get out of balance, a lot can go wrong. Sometimes the thyroid becomes underactive and doesn't produce enough thyroid hormone. This is known as **hypothyroidism**. Other times, the thyroid becomes overactive, and produces too much thyroid hormone. This is known as **hyperthyroidism.**

So how you do know your thyroid is off? Here are some symptoms to look out for:

Signs of Thyroid Imbalance

Hypothryoidism

- Fatigue
- Sensitivity to cold
- Dry skin
- Constipation
- Weight gain
- Depression
- Heavy or irregular cycles
- Brain fog
- Hair loss
- Muscle aches & weakness
- Hoarse voice
- Slowed heart rate

Hyperthyroidism

- Tiredness
- Sensitivity to heat
- Warm, moist skin
- Pooping more often or diarrhea
- Weight loss
- Anxiety
- Lighter or missed periods
- Insomnia
- Tremors
- Goiter
- Bulging eyes
- Fast heart rate



THYROID PANELS

Common problems

Roughly 20 million Americans suffer from a thyroid condition. But up to 60% of them are undiagnosed.

Why? Well, most doctors don't run comprehensive thyroid panels. And even if they do, not all docs interpret results the same. So, unfortunately, a lot can fall through the cracks.

Here are the top three reasons most thyroid panels miss the mark:

#1 **Most docs only test TSH.** If your doctor suspects you have a thyroid issue, TSH is usually the first thing they check. TSH, short for thyroid-stimulating hormone, is a hormone produced by your pituitary gland. As the name suggests, it stimulates the thyroid to make hormones. While TSH is important, it doesn't provide a full picture of how your thyroid is working.

#2 **You can have "normal" labs and feel awful.** Even if your TSH is "normal," you can still feel terrible. That's because not all doctors use the same ranges to interpret thyroid labs. Conventional docs use broad ranges based on the average population (*including* folks with thyroid issues). Functional medicine docs use narrower ranges to detect early signs of dysfunction - *before* disease sets in.

#3 **A full thyroid panel can help find the real issue.** Having more data makes it easier to pinpoint what's going on. For example, some people's thyroid issues may be due to autoimmunity. Others may have trouble converting T4 into T3. A full panel can help suss this out.

FULL THYROID PANEL

What it includes

Curious what a comprehensive panel covers? Here are some markers measured on a full thyroid panel:

Test	What It Measures	Why It Matters
TSH (Thyroid-stimulating hormone)	Chemical messenger that tells your thyroid to make hormones	Elevated TSH can signal low thyroid function, while low TSH can signal overactive thyroid. But it doesn't show the full picture on its own.
Free T4	The inactive form of thyroid hormone in your bloodstream	T4 makes up about 90% of the hormones your thyroid produces. To be usable, it must be converted into T3.
Free T3	The main, active form of thyroid hormone in your bloodstream	Responsible for energy, mood, metabolism, and body temperature. It's the form your cells actually use.
Reverse T3 (rT3)	Inactive form of T3 that blocks free T3	Can indicate "thyroid hormone resistance" when too high. May become elevated by stress, inflammation, nutrient deficiencies, illness, and more.
TPO & TG Antibodies	Signs the immune system is attacking the thyroid	Reveal if symptoms are caused by Hashimoto's thyroiditis (autoimmune thyroid disease), even if TSH if normal.

NOTE: Most of these markers aren't typically included on routine lab tests. So you may need to ask for them specifically.

THYROID LAB RANGES

What's normal?

Lab Marker	Conventional Range	Optimal Functional Range
TSH	0.45 - 4.5 mIU/L	0.5 - 2.5 mIU/L
Free T4	0.8 - 1.8 ng/dL	1.0 - 1.7 ng/dL
Free T3	2.0 - 4.4 pg/mL	3.0 - 4.0 pg/mL
Reverse T3	9 - 24 ng/dL	Less than 15 ng/dL
TPO Antibodies (Thyroid peroxidase)	0 - 34 IU/mL (Labcorp) < 9 IU/mL (Quest)	Ideally under 2 IU/mL
TG Antibodies (Thyroglobulin)	0 - 4.0 IU/mL (Labcorp) < 1 IU/mL (Quest)	Ideally under 2 IU/mL

NOTE: As you can tell from the chart, ranges may vary by lab. Always consult with your healthcare provider for interpretation.

INTERPRETING YOUR LABS

At a glance

TSH	Free T4	Free T3	Interpretation
Normal	Normal	Normal	Normal thyroid function
Normal	Low	Low	Central hypothyroidism - thyroid & pituitary aren't communicating properly
High	Normal	Normal	Subclinical hypothyroidism - thyroid is having trouble making enough thyroid hormone
High	Low	Low	Hypothyroidism - thyroid isn't producing enough thyroid hormone
Low	Normal	Normal	Subclinical hyperthyroidism - also known as mild hyperthyroidism
Low	High	High	Hyperthyroidism - thyroid gland is producing too much thyroid hormone

Other Possible Results

- High TPO or TG antibodies ⟶ Hashimoto's thyroiditis
- High Reverse T3 ⟶ Suggests inflammation, stress, illness, or malnutrition

HOW TO REQUEST A FULL PANEL

Top Tips

Feeling nervous about asking your doc for a full panel? That's totally normal. It can feel awkward or uncomfortable to advocate for your health. But it's worth it in the long run.

Here's a sample script you can use to request a full thyroid panel:

"*I'm having* _____ (list symptoms) *and would like a more comprehensive look at my thyroid health.*

Could you order a full panel with TSH, Free T3, Free T4, Reverse T3, and thyroid antibodies?"



NOTE: If you have a family history of thyroid issues, mention that too!

What to Do If You Get Pushback

If you request a full panel, but your insurance or doc refuses, here are a few options:

- **Find another doctor.** If your doc turns you down, you may want to switch to a new doctor to get a second opinion.
- **Get out-of-pocket testing.** Many labs offer direct-to-consumer tests you can order on your own. These are a great option if your MD or insurance pushes back.
- **Go to a functional medicine doctor.** They tend to do more comprehensive testing, and use optimal ranges too.

THYROID LAB TRACKER

Spot your trends

Date	TSH	Free T4	Free T3	RT3	Antibodies	Medications	Dose

DIRECTIONS: Use this printable chart to track your thyroid lab results over time. Record the date of each test, your lab values, any thyroid medication taken, and the dose. Having all your data in one place can help your healthcare provider spot trends and identify what's working. That way, they can adjust your medication, diet, or supplements accordingly. Feel free to use it in tandem with the symptom tracker on the next page.

SYMPTOM TRACKER

Spot your trends

SYMPTOM

DAY 1	○	○	○	○	○	○	○	○	○	○	○
DAY 2	○	○	○	○	○	○	○	○	○	○	○
DAY 3	○	○	○	○	○	○	○	○	○	○	○
DAY 4	○	○	○	○	○	○	○	○	○	○	○
DAY 5	○	○	○	○	○	○	○	○	○	○	○
DAY 6	○	○	○	○	○	○	○	○	○	○	○
DAY 7	○	○	○	○	○	○	○	○	○	○	○
DAY 8	○	○	○	○	○	○	○	○	○	○	○
DAY 9	○	○	○	○	○	○	○	○	○	○	○
DAY 10	○	○	○	○	○	○	○	○	○	○	○
DAY 11	○	○	○	○	○	○	○	○	○	○	○
DAY 12	○	○	○	○	○	○	○	○	○	○	○
DAY 13	○	○	○	○	○	○	○	○	○	○	○
DAY 14	○	○	○	○	○	○	○	○	○	○	○



THYROID LABS

Action Steps

Use this checklist to take action and get answers:

- [ ] **Gather your most recent labs:** Track down past labs so you have a baseline to compare to.

- [ ] **Compare your results to functional ranges.** Remember, functional ranges suggest your thyroid is working optimally. If you're outside this range, it's worth looking into.

- [ ] **Fill in the lab tracker.** Record your lab values in your tracker, along with any thyroid meds taken.

- [ ] **Note any symptoms or recent changes.** Keep tabs on your symptoms with the tracker on page 9 to watch for any trends.

- [ ] **Bring your charts to your next appointment.** Share your data with your healthcare provider at your next appointment. The more prepared you are, the more productive the visit will be.

- [ ] **Advocate for a full thyroid panel.** If you're having symptoms of thyroid dysfunction, ask your doctor for a comprehensive panel (see script on page 7). If they push back, consider finding a new doc, or getting a panel on your own through a direct-to-consumer lab like Everywell or True Health Labs.