Thyroid Health From a Functional Medicine Perspective

Why the Thyroid Matters

Your thyroid is a small gland in the lower part of your neck, but it has a big job: it helps regulate how your body uses energy. Think of it as the body's **engine**—we want it running **smoothly and efficiently** (not too fast, not too slow).

Thyroid hormones influence:

- Energy and stamina
- Brain clarity (focus, memory, word-finding)
- Mood and motivation
- Weight regulation and metabolism
- Heart rate and circulation
- Temperature tolerance (cold/heat)
- Digestion and bowel regularity
- Skin, hair, and nail health
- Hormone balance (sex hormones, adrenal stress hormones)

Thyroid Problems Are Common (and Often Missed)

Thyroid issues are one of the most common hormonal problems, especially in women. Symptoms can develop slowly and overlap with stress, aging, perimenopause/menopause, and chronic illness—so many people go years without clear answers.

Important reminder: "Normal" labs do not always mean **optimal thyroid function at the cellular level.**

Symptoms to Pay Attention To

Common symptoms of low thyroid function

- Fatigue (especially on waking)
- Brain fog, low motivation, low mood
- Cold intolerance
- Constipation
- Muscle aches/cramps, joint stiffness
- Hair thinning or "straw-like" texture

- Lateral eyebrow thinning, eyelash thinning
- Lower heart rate
- Weight gain or weight-loss resistance
- Low libido

Symptoms more consistent with overactive thyroid

- Anxiety or irritability
- Trouble sleeping
- Unintentional weight loss
- Palpitations or fast heart rate
- Shakiness or muscle weakness

Conventional vs Functional Medicine: What's Different?

Conventional approach (typical)

- Often checks TSH (and sometimes T4)
- Diagnoses disease when labs cross a threshold
- Uses thyroid hormone replacement as the primary intervention
- Goal: labs within "normal" range

Functional approach

- Looks for the WHY behind dysfunction
- Considers:
    - Gut health and absorption
    - Nutrient deficiencies
    - Inflammation and insulin resistance
    - Stress physiology and nervous system state
    - Toxin and mold burden
    - Autoimmunity (Hashimoto's)
- Uses medication when needed plus lifestyle and root-cause strategies
- Goal: improved symptoms + better cellular thyroid function

balanced body FUNCTIONAL MEDICINE

Thyroid Basics: How It Works

A simple way to understand thyroid physiology:

1. **Pituitary releases TSH** (a "signal hormone")
2. TSH tells the thyroid to produce mostly **T4**
3. **T4 is mostly inactive**—it must convert into **T3**
4. **T3 is the active hormone** (the "quarterback") that turns on metabolism inside cells

Conversion matters

The body converts T4 → T3 using an enzyme called **5-deiodinase** (this process requires nutrients and is sensitive to stress and inflammation).

Reverse T3: The "Brake Pedal"

When the body is under prolonged stress, illness, inflammation, calorie restriction, or metabolic strain, it may shift more T4 into **Reverse T3 (rT3)** instead of active T3.

- Reverse T3 is like a **brake**
- It can **block thyroid receptors** so active T3 can't do its job
- This can cause hypothyroid symptoms even when TSH/T4 appear "normal"

Three Ways Thyroid Function Can Break Down

Many people feel hypothyroid due to one (or more) of these patterns:

A) **Production problem (low T4 production.** Common causes include:

- Hashimoto's thyroiditis
- Iodine deficiency (when appropriate)
- Thyroid removal surgery
- Radiation exposure
- Viral infections
- Certain medications

B) **Conversion problem (low T3.**)Common causes include:

- Aging (enzyme activity can decline)
- Insulin resistance / diabetes

- Chronic inflammation
- Obesity
- Autoimmune disease
- Chronic stress and nervous system dysregulation

Clinical observation: nervous system instability can help explain why some patients are stable for years on a dose, while others fluctuate frequently.

C) Blocking problem (high Reverse T3). Common causes include:

- Prolonged cortisol/stress response
- Inflammation or illness
- Vitamin/mineral deficiencies
- Liver or kidney dysfunction
- Surgery, injury, or severe illness
- Alcohol use
- Certain medications

Hashimoto's: The Most Common Root Cause

Hashimoto's thyroiditis is an **autoimmune condition** where the immune system mistakenly targets thyroid tissue. Key points:

- It often starts years before a person "meets criteria" for hypothyroidism
- Antibodies are a sign of immune activation
- Medication can replace hormone but may not address immune triggers

Gluten note: Some people with elevated thyroid antibodies (especially TPO antibodies) see improvement simply by avoiding gluten, likely because gluten can be a strong immune trigger in susceptible individuals.

Why Gut Health Matters So Much

The gut strongly influences thyroid health because it affects:

- Immune balance (autoimmunity risk)
- Nutrient absorption (iron, selenium, zinc, etc.)
- Inflammation levels
- Hormone conversion and signaling

Mold/mycotoxins can worsen the gut–thyroid axis. Mycotoxins can:

- Damage gut lining → increased permeability ("leaky gut")
- Increase inflammatory signaling
- Impair T4 → T3 conversion
- Make autoimmunity harder to calm down

Nutrients That Support Thyroid Function

Thyroid hormone production, conversion, and receptor function depend on nutrient status. Commonly important nutrients include:

- **Selenium** (conversion enzymes, thyroid protection)
- **Zinc** (conversion and immune support)
- **Iron** (hormone synthesis and energy)
- **Iodine** (hormone building block—individualized)
- **Vitamin D** (immune regulation)
- **Vitamin A** (immune and mucosal barrier support)
- **B vitamins** (energy metabolism)
- **CoQ10** (mitochondrial energy support)

Best practice: test when possible—avoid random supplement stacking.

Practical Actions You Can Start Now

These are "high-yield" steps that support thyroid function and reduce immune burden:

Nutrition

- Reduce ultra-processed foods and excess sugar
- Focus on whole foods: vegetables, quality protein, healthy fats
- Consider a structured elimination trial if appropriate (often gluten ± dairy)
- Add gut-supportive foods:
    - fermented vegetables
    - bone broth
    - quality probiotics (if tolerated)
    - lemon water / apple cider vinegar (if tolerated)

Toxin reduction

- Filter your drinking water
- Avoid heating food in plastic

- Choose cleaner personal care and cleaning products
- Eat more detox-supportive foods (fiber, crucifers, colorful plants)
- Hydrate consistently (steady daily intake supports elimination)

Lifestyle + nervous system support

- Aim for 8–9 hours of sleep
- Gentle movement most days (walking, strength, yoga)
- Use daily stress tools:
    - breathing (extended exhale, 4-7-8)
    - BrainTap / guided relaxation
    - connection and community support

Thyroid Medication: Personalized Options

Thyroid medication can be essential. Options may include:

- **T4-only** (levothyroxine)
- **T3** (liothyronine)
- **Combination therapy** (T4 + T3, often compounded)
- **Desiccated thyroid** (porcine-derived)

Why some patients do better with combination therapy:

- T4-only assumes excellent conversion to T3
- Stress, inflammation, gut and liver issues can impair conversion
- Reverse T3 can block receptor activation

Typical monitoring: symptoms + labs every 4–6 weeks when adjusting.

Key Takeaways

- The thyroid is your body's engine—cellular thyroid function matters
- You can feel hypothyroid even with "normal" TSH
- Problems may involve production, conversion, blocking, or all three
- Hashimoto's is immune-driven; triggers must be addressed
- Gut health, toxins, stress, and nutrients strongly influence outcomes
- Medication is often important—and works best when paired with root-cause support