

# Guide to Thyroid Function and Wellness

## BRIEF SYNOPSIS:

- › Your thyroid is the master regulator of your body's metabolism, influencing energy production, digestion, sleep, hormones, and more. Optimized thyroid function provides the energy your body needs to thrive systemically
- › Low energy states trigger survival mechanisms, downregulating "nonessential" processes like hair and nail growth to conserve resources. This is not a malfunction but a protective adaptation of the body
- › Common symptoms of low thyroid function include weight management issues, digestive challenges, cognitive changes, and reduced detoxification capacity
- › Measuring body temperature and pulse offers a simple, effective way to track thyroid and metabolic health. Consistently low readings may indicate metabolic dysfunction requiring attention
- › Key strategies for supporting thyroid health include adequate calorie and carbohydrate intake, balanced protein sources, low PUFA consumption, and addressing factors like stress and estrogen dominance

**Your thyroid system is the master control center of your body's metabolism, yet it's often misunderstood and overlooked when addressing health concerns.**

**Thyroid hormone, particularly active thyroid hormone T3, acts as your body's master metabolic regulator. Think of it as the spark plug for your cellular power plants – the**

mitochondria. Every cell in your body relies on thyroid hormone to regulate its metabolism, which is why thyroid function impacts systemic function of the body. The body can only do so much, and that depends on how much total energy we produce.

When energy production decreases, your body shifts its focus to essential survival functions – keeping you alive takes priority. Nonessential tasks, like maintaining strong hair and nails, are considered "optional features" and are only supported when there's sufficient energy to spare.

This isn't a malfunction – it's a highly sophisticated protective mechanism. Just as you wouldn't drive at high speeds when running low on fuel, your body instinctively reduces energy expenditure when resources are limited.

With improved thyroid function and a healthy metabolism, your body experiences a generalized increase in activity across all systems. You'll enjoy better energy levels, clearer thinking, optimized digestion, improved sleep, and balanced hormones.

Why? Because increased systemic energy production provides the necessary resources for your body to function at its best. A sluggish thyroid isn't a sign that your body is "broken." Instead, it's an intelligent adaptation to conserve energy when resources are scarce or when energy-producing systems require repair.

When your body operates in a low-energy state due to a sluggish metabolism, it affects enzymatic activity throughout your systems. Common manifestations include:

Digestive challenges	Food sensitivities	Compromised immune function
Weight management difficulties	Insulin resistance	Cognitive changes
Reduced detoxification capacity	Elevated cholesterol levels	Altered endothelial function

An important observation from Dr. Broda Barnes highlights the complexity of thyroid issues: "No single symptom has been found which would apply to every person with low metabolism." Symptoms vary significantly from person to person, typically manifesting at each individual's unique point of vulnerability.

The good news? This state can often be reversed through targeted lifestyle and dietary changes – what's known as a pro-metabolic approach. As Dr. Ray Peat wisely stated:

*"Keeping the metabolic rate up is the main thing, and there are lots of ways to do it."*

Remember: The body has an innate capacity for healing. Through appropriate support and care, metabolic function can be restored and optimized.

So in this comprehensive guide, let's explore why thyroid health is crucial for your overall well-being, how to properly assess if you are improving thyroid health, and most importantly, how to optimize your thyroid function naturally.

## **Understanding the Thyroid System: More Than Just a Gland**

But first, what is the thyroid? When most people think about thyroid health, they picture a butterfly-shaped gland in the neck. However, the thyroid system is far more complex and far-reaching than just the single thyroid gland. It's an intricate network that affects every cell in your body, serving as the master metabolic regulator that determines how effectively your body produces and uses energy.

Think of your thyroid system as a sophisticated factory with four essential departments: The production department, conversion centers, a transportation network, and end users.

- 1. Production department (thyroid gland)** – The thyroid gland contains structures called follicles, which are responsible for producing and storing thyroid hormones. These follicles use iodine from the bloodstream and combine it with the amino acid tyrosine to produce thyroid hormones.

The hormone primarily produced in the thyroid gland is T4 (thyroxine), which is considered an inactive form of thyroid hormone because it has minimal direct biological activity. The production and release of T4 are regulated by thyroid-stimulating hormone (TSH), which is secreted by the pituitary gland in response to signals from the hypothalamus.

**2. Conversion centers (primarily liver)** – T4 functions as a prohormone – essentially a precursor molecule that must be converted to its active form (T3) to exert metabolic effects. After the thyroid gland produces and releases T4 into the bloodstream, various tissues, particularly the liver, transform it into more active forms. T4 can follow two main conversion routes:

- **Active pathway** – Conversion to T3 (active thyroid hormone)
- **Inactive pathway** – Conversion to reverse T3 (rT3, anti-thyroid hormone)

While both processes occur simultaneously, the balance between them is crucial. Higher T3 levels promote energy production, while increased rT3 signals metabolic downregulation. This balance significantly influences body weight regulation, as a downregulated metabolism tends to promote weight gain. T3 plays a key role in cellular energy production:

- Enhances expression of genes involved in the electron transport chain (ETC)
- Increases activity of ETC enzymes, particularly complexes I, III, and IV
- Optimizes mitochondrial function for improved ATP production

Roughly 20% of T3 is produced directly by the thyroid gland, and 80% is created in peripheral tissues through enzymatic conversion of T4 into T3.

**3. Transportation network (bloodstream)** – While producing thyroid hormones is crucial, their effectiveness depends entirely on proper transport throughout the body. Think of it as a sophisticated delivery system – it's not enough to just

manufacture T3 and T4; they need to reach their cellular destinations to fulfill their metabolic roles.

The real magic of thyroid hormones happens when T3 binds to nuclear receptors inside cells. Special protein transporters act as molecular shuttles, controlling how much thyroid hormone enters each cell. These transporters effectively determine the hormone's bioavailability – or how much active hormone is actually available for cells to use.

Think of it this way: You could have optimal thyroid hormone production, but without proper transport, it's like having a warehouse full of supplies but no delivery trucks to distribute them where they're needed.

The transport system serves as a critical checkpoint in thyroid hormone function, directly influencing how effectively your cells can access and use these vital metabolic regulators.

**4. End users (your cells) –** While producing adequate thyroid hormone is essential, the real measure of thyroid health lies in how effectively your cells utilize T3. It's the amount of T3 actually entering and being used by your cells that drives:

- Increased metabolic rate
- Enhanced energy production
- Improved cellular function

Various factors can influence how well your cells respond to circulating thyroid hormone. For instance, polyunsaturated fatty acids (PUFAs) can affect cellular T3 utilization – a topic we'll explore in detail later.

Remember: Optimal thyroid function isn't just about production – it's about cellular response. Even with perfect thyroid hormone levels in your blood, if your cells can't effectively use T3, you won't experience the full benefits of proper thyroid function.

# Assessing Your Thyroid Health: Beyond Standard Blood Tests

While blood tests provide useful information, they don't tell the complete story of cellular thyroid function. You might have "normal" thyroid levels in your bloodwork while still experiencing impaired metabolic function at the cellular level.

Most physicians rely heavily on TSH (Thyroid Stimulating Hormone) testing. The conventional wisdom suggests that a high TSH implies your thyroid can't keep up with the demand, and that a normal TSH demonstrates adequate thyroid function. However, this oversimplified approach misses crucial factors:

- T4 must be converted to active T3 for use
- Poor T4-to-T3 conversion can occur even with "normal" TSH
- Low TSH doesn't automatically rule out hypothyroidism

Preferably, a full thyroid panel is performed with TSH, T3, T4 and rT3 levels. Ideally, your comprehensive thyroid assessment should show:

- Low TSH
- T3 levels in the upper range
- rT3 levels in the lower range
- Moderate T4 levels

However, even "normal" results across all these markers do not guarantee optimal thyroid function. For example – research shows that blood T3 levels can differ significantly from tissue T3 levels. Plus, multiple factors can affect your bloodwork on any given day including illness or infection, poor sleep and stress.

Two metrics that can help one assess if the thyroid system is out of balance and needs support are rT3 and cholesterol. Reverse T3 levels can provide valuable insights into thyroid function. Small amounts are normal and act as a natural buffer against thyroid overactivity. Elevated rT3 is problematic because it competes with T3 for cellular receptors, blocks T3's metabolic effects, and reduces overall metabolic rate.

Elevated cholesterol often signals suboptimal thyroid function, a connection recognized for over a century before Big Pharma and statins. As Dr. Ray Peat notes, "The accumulation of cholesterol clearly indicates the failure to convert it to steroids, so elevated cholesterol is a fairly reliable diagnostic indicator of hypothyroidism." Proper cholesterol metabolism requires:

- Active T3
- Fat-soluble vitamins
- Optimal thyroid function

This complex relationship between cholesterol and thyroid function offers another tool for assessing metabolic health beyond standard thyroid panels.

## The Temperature and Pulse Method

The simplest and most effective way to assess your metabolic rate – and determine if active thyroid hormone is reaching your cells – is by tracking your body temperature with a simple basal body thermometer and measuring your pulse using either your fingertips or a pulse oximeter. These simple metrics offer valuable insights into your overall metabolic health.

A higher metabolic rate typically results in a higher body temperature because heat is a natural byproduct of energy production. When your metabolism is thriving, your body temperature will reflect that. Simply put: You want to be HOT! Conversely, chronically low body temperature and pulse are indicators of a slowing metabolism and decreased cellular function.

### Optimal metrics for a healthy metabolism

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- **Body temperature** – 97.8 degrees F to 98.6 degrees F (36.5 degrees C to 37 degrees C)
  - **Pulse rate** – 75 to 90 bpm
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The optimal body temperature for most of your body's systems is 98.6 degrees F (37 degrees C). Why? Temperature directly influences the function of enzymes, which are crucial for almost every chemical reaction in the body. At low temperatures, enzymes become too rigid, slowing reaction rates. The optimal temperature allows for the fastest and most efficient chemical reactions, supporting peak performance.

While humans can survive with suboptimal body temperatures, lower-than-ideal readings mean the body isn't functioning at its best. Nonessential processes – those not critical for immediate survival – will often be downregulated.

Your pulse rate reflects how efficiently blood is transported around the body, delivering hormones and nutrients, including thyroid hormone, to your cells. A slower pulse rate may indicate reduced cellular nutrient and hormone delivery, which can impair metabolic function.

Before modern medicine shifted its focus to symptom management with pharmaceuticals, basic health metrics like body temperature and pulse were cornerstones of health assessment. In the 1930s, health evaluations commonly included:

Pulse rate	Body temperature
Serum cholesterol levels	Carotenemia (skin pigmentation related to diet)
Bowel function	Hair and skin quality

Many of these markers relate directly to thyroid and metabolic health. To get an accurate picture of your metabolic health, it's important to measure body temperature and pulse at different times of the day. Stress hormones, such as cortisol, can keep your morning temperature elevated, masking underlying issues. Ideally you measure your body temperature a few times throughout the day:

- **Morning (upon waking)** – Record your baseline.

- **Post-breakfast (30 to 45 minutes after eating)** – Look for a rise in temperature as your body uses food to produce energy.
- **Midday** – Temperatures should peak around 98.6 degrees F.
- **Evening** – Expect a gradual decline as your body prepares for rest.

Record the following for body temp & pulse

- Upon waking
- 40 min after breakfast
- 40 min after lunch

What are body temp trends? Rising?  
 Do you reach close to 98.6 deg F mid day?  
 Is your pulse in the 70-90/95 BPM range?



But remember, we are not robots and we aren't looking for perfection. Fluctuations and occasional dips in body temperature are normal. Your body temperature measurement can be lowered following a night of alcohol consumption or poor sleep, a large increase in life stress, strenuous exercise, and an infection or illness.

So, you will not be at 98.6 degrees F midday every day of the year! However, consistent low readings (and never seeing 98.6 degrees F) can indicate metabolic dysfunction. In addition to tracking body temperature and pulse, you can evaluate your metabolic health through symptoms. A strong metabolic rate is often associated with:

Regular bowel movements (1 to 3 times daily)

Good sleep quality

Healthy hair growth and strong nails

Clear skin

Stable mood and good energy levels

Strong libido

By regularly monitoring these signs and metrics, you can gain a clearer understanding of your metabolic and thyroid health and take proactive steps toward optimization.

## How to Improve Metabolic Health and Restore Thyroid Function

After working with hundreds of individuals, I've found that improving metabolic health and restoring thyroid function typically involves two key steps: 1) removing metabolic blocks and 2) providing the body with the right tools. When these steps are implemented consistently, most people see significant improvement.

- **Step 1: Address the root causes** — The first and most critical step is making targeted dietary and lifestyle changes. You need to address the underlying reasons why your body is suppressing T3 (the active thyroid hormone). Consider these examples:
  - **Poor diet** — You can't fuel your body with low-quality, nutrient-poor food and expect thyroid hormone supplementation to compensate.
  - **Caloric restriction** — Undereating or chronically restricting calories won't support optimal thyroid function, even with supplementation. It's like stepping on the gas pedal in a car without having enough fuel — it simply won't work. Chronically under eating 1800 to 2000 calories is not optimal for long term health!

To truly support your thyroid and metabolic health, you must remove the factors that inhibit energy production and provide the body with what it needs to thrive.

- **Step 2: Equip your body with the right tools** — The next step is to supply your body with the proper resources to optimize metabolic function. This includes nutrient-dense foods, adequate calorie intake, stress management, quality sleep, and regular exercise.

By consistently applying these principles, you can remove the roadblocks to energy production and create an environment where your thyroid system can function optimally. Let's dive into the specifics of how to implement these strategies effectively.

## **Proper Tools**

### **1. Sufficient calorie and micronutrient intake – are you providing enough fuel? –**

Adequate calories are essential to meet your body's energy needs and to support thyroid function. It's also easier to meet your Recommended Dietary Allowance (RDA) for essential micronutrients – like vitamins and minerals – when you consume enough calories.

Thyroid hormones rely on sufficient levels of minerals (e.g., selenium, iodine, and zinc) and vitamins (e.g., B vitamins and fat soluble vitamins) to function effectively. However, this process also requires sufficient energy intake.

**Why calories matter:** The body uses electrons from the food you consume to move through the electron transport chain and produce ATP (your body's primary energy currency). Without enough calories, this process becomes inefficient, negatively impacting your metabolism and thyroid function.

Undereating or chronically restricting calories won't support optimal thyroid function, even with supplementation. It's like stepping on the gas pedal in a car without having enough fuel – it simply won't work. Chronically under eating 1800 to 2000 calories is not optimal for long term health!

You have to meet your body where it is at currently, and you can't add calories in too quickly. Those with a poor metabolic rate will have to eat low calorie to maintain their weight. But not consuming enough calories for your needs chronically will downregulate metabolism.

So, if currently under eating, slowly increase calories over time while ensuring sufficient activity (8,000 to 10,000 steps per day and 2 to 3 workouts per week),

plus implementing the other dietary tips in this guide.

- 2. Dietary carbohydrates** – Carbohydrates are crucial for converting inactive T4 into the active thyroid hormone T3. Low carb intake or chronically low blood sugar slows this conversion, leading to higher production of reverse T3 (rT3), which competes with T3 and inhibits its effects.

When carb intake is insufficient, your body perceives it as a sign of starvation, triggering protective mechanisms that downregulate thyroid function to conserve energy.

#### Low T<sub>3</sub> States

Starvation, and more precisely carbohydrate deprivation, appears to rapidly inhibit deiodination of T<sub>4</sub> to T<sub>3</sub> by type 1 iodothyronine deiodinase in the liver, thus inhibiting generation of T<sub>3</sub> and preventing metabolism of reverse T<sub>3</sub> (rT<sub>3</sub>).<sup>10</sup> Consequently there is a drop in serum T<sub>3</sub> and elevation of reverse T<sub>3</sub>. Since starvation induces a decrease in basal metabolic rate,<sup>11</sup> it has been argued, teleologically, that this decrease in thyroid hormone represents an adaptive response by the body to spare calories and protein by inducing some degree of hypothyroidism. Patients who have

Image from [MDText.com, Inc.](https://www.mdtext.com/) 2000

The solution: Incorporate carbohydrates that you digest well into your diet every day. Consistent carb intake supports optimal thyroid hormone conversion and energy production.

- 3. Balanced amino acid intake** – While protein is essential, consuming excessive amounts of muscle meat alone (for example – just chicken breast) can be counterproductive. This is due to high levels of amino acids like tryptophan, methionine, and cysteine, which in large quantities can suppress thyroid function.

Muscle meat is *\*not\** "bad" by any means, but it is important to balance those amino acids by including anti-inflammatory, pro-metabolic amino acids, such as glycine, into your diet.

So, you should certainly consume nutrient-dense sources like eggs, dairy, and some beef daily for B vitamins, fat-soluble vitamins, and other essential nutrients. But you should also incorporate the following protein sources to ensure a balanced amino acid profile:

- Collagen or gelatin powder
- Bone broth
- Choosing gelatin-rich cuts of meat (like oxtail, beef shank or beef cheek)

These sources provide glycine and other beneficial amino acids that support metabolic and thyroid health.

By ensuring you meet these three foundational needs – adequate calories and micronutrients, sufficient carbohydrates, and balanced protein intake – you'll provide your body with the tools it needs to optimize metabolic function and support healthy thyroid activity.

## Metabolic Breaks

To optimize metabolic health and help T3 reach your cells, it's crucial to identify and reduce factors that act as metabolic "brakes." These are elements that hinder energy production and disrupt thyroid function. Here's how to address them:

- 1. Manage stress** – Stress is an unavoidable part of life, and some stress, like exercise, can be beneficial. However, chronic stress or unnecessary stressors (e.g., over-exercising, under-fueling, constant fasting, or daily ice baths) can negatively impact your thyroid.
  - **The impact of chronic stress** – Prolonged stress activates the hypothalamic-pituitary-adrenal (HPA) axis, increasing cortisol production. Elevated cortisol inhibits T4-to-T3 conversion and increases reverse T3 (rT3), which blocks T3's cellular effects.
  - **Solution** – Focus on reducing unnecessary stressors and make time for recovery and activities that help you enter a 'rest and digest' (parasympathetic) state. This can significantly improve your thyroid and metabolic health.

**2. Limit polyunsaturated fatty acids (PUFAs)** – Your dietary fat sources play a vital role in metabolic health. PUFAs, particularly linoleic acid (omega-6), act as metabolic brakes by interfering with thyroid hormone utilization at the cellular level.

- **How PUFAs impact thyroid function**

- Block thyroid hormone carrier proteins (TBG, TTR, albumin), reducing T3 delivery to cells.
- Disrupt estrogen detoxification pathways, increasing estrogen dominance, which further impairs thyroid function.

- **Foods to limit**

- Vegetable/seed oils
- Nuts and seeds
- Chicken and pork from conventional confinement operations. Chickens and pigs are monogastric animals. So the types of fat in their fat tissue is directly impacted by the types of fat in their diet. Most chickens and pigs are fed high-PUFA (especially Linoleic Acid) diets!

- **Foods to prioritize**

- Dairy fat, butter, tallow, coconut oil
- Beef fat
- Pasture-raised eggs, chicken, and pork from animals fed a quality diet

If high-quality, lower PUFA options for eggs/chicken meat/pork are unavailable, limit egg consumption to two per day and choose lean cuts of chicken and pork.

**3. Address estrogen dominance** – There is a bidirectional relationship between estrogen dominance and thyroid dysfunction. Excess estrogen increases thyroxine-

binding globulin (TBG), which binds more T3 and reduces free T3 levels.

Elevated TBG leads to less biologically active T3 available for cells, even if total T3 levels appear normal in bloodwork. Most people with thyroid dysfunction, especially women, are estrogen dominant due to dietary and environmental factors.

We are experiencing an estrogen dominant epidemic in modern times – Breast cancer is on the rise, infertility rates are through the roof, and testosterone levels are plummeting. Reduce estrogen exposure by:

- Limiting exposure to environmental endocrine disruptors (For example: Pesticides in food, and being aware of ingredients in personal care products that are used regularly)
- Avoiding high-PUFA and phytoestrogen-rich diets (which is described more in section 4)

Unfortunately, high-PUFA diets make estrogen dominance worse since PUFAs destroy the body's natural estrogen detoxification pathway. Estrogens are stored in the fat but are detoxified via 2-hydroxylation. This process makes the estrogen molecules more water soluble and thus more easily excreted from the body.

"[H]igh intake of the linoleic acid and arachidonic acid inhibits the detoxification of oestrogens by 2-hydroxylation and increases 16-alpha-hydroxylation, resulting in metabolites that can undergo redox cycling and generate hydroxyl radicals."

Keeping PUFA intake (especially linoleic acid) low is vital for optimizing metabolic and hormonal health!

- 4. Reduce phytoestrogen intake** – Phytoestrogens are plant compounds that mimic estrogen in the body. A diet high in phytoestrogens can exacerbate estrogen dominance and impair thyroid function. Some studies have observed a decrease in progesterone levels with high phytoestrogen consumption, which is not ideal since progesterone helps keep estrogen in balance.

High-phytoestrogen diets have been shown to increase rT3 levels. Animal studies suggest that soy isoflavones (a type of phytoestrogen) interfere with thyroid function by inhibiting thyroid peroxidase (TPO), an enzyme essential for thyroid hormone synthesis.

Additionally, isoflavones may disrupt deiodinase enzyme activities, which play a crucial role in converting T4 to the active T3, thereby affecting thyroid hormone metabolism outside the thyroid gland, including increasing rT3 levels.

Isoflavones may also displace thyroid hormones from their carrier proteins in the blood, such as thyroxine-binding globulin (TBG), further disrupting thyroid hormone availability and function.

High phytoestrogen exposure can have profound hormonal and metabolic effects! Recently researchers in Japan managed to turn a male catfish into females using soy. Foods high in phytoestrogens:

- Soy products (soy milk, tofu, dairy-free alternatives)
- Flaxseeds (often in supplements, breads, and grain products)

Even animal products (eggs, chicken, pork) from livestock fed phytoestrogen-rich diets can contain higher phytoestrogen levels. While lower than direct sources like soy and flax, regular consumption can contribute to cumulative effects. The accumulation of eating these phytoestrogen sources day after day, week after week, month after month – can really add up!

Limiting phytoestrogen intake can reduce exogenous estrogen exposure and improve hormonal balance.

For those insistent on phytoestrogen intake, many of the studies are convoluted and flawed. Dive into the work of Dr. Hobbins and Dr. Ray Peat to really question if dietary phytoestrogens are truly good for you.

Supporting local farms, instead of confinement animal feeding operations (CAFOs) can help improve dietary fat and phytoestrogen exposure. There are also farms and cooperatives who are diligently paying attention to PUFAs and phytoestrogens, such as [Angel Acres eggs](#) and [Nourish Food Club](#), who feed their livestock low-PUFA phytoestrogen feed, and ship all over the US.

**5. Improve gut health** – Up to 20% of T4-to-T3 conversion occurs in the gut. Poor gut health or increased endotoxin load can hinder this process and lead to higher rT3 production. Steps to support gut health:

- Avoid hard-to-digest foods, preservatives, gums, and additives.
- Prioritize foods and cooking preparations that work well for YOU!
- Minimize processed and preservative-laden foods.
- Opt for simple, whole foods to support digestion and metabolic function.

**6. Review medications** – Some prescription medications can negatively impact thyroid function by increasing the T4 to rT3 conversion pathway and reducing T3 production. (Not what we want!) Work with your doctor to assess what meds could be negatively impact T3 production, and actionable steps to safely wean off the medications.

Moreover, T4-only medications (e.g., thyroxine) may have anti-thyroid effects for some people.<sup>18</sup> High T4 levels can lead to excessive rT3 production, counteracting T3's benefits. Work with your doctor to explore alternatives, such as desiccated thyroid, which provides a combination of T4 and T3.

By addressing these metabolic brakes, you can create an environment that supports optimal thyroid function and energy production, helping T3 reach your cells effectively.

## Summary

Optimizing thyroid function is a comprehensive process that requires attention to multiple factors. Success comes from understanding both the science and practical application of thyroid health principles. Remember that this is a marathon, not a sprint – sustainable improvements come from consistent application of these principles over time.

The key is to start where you are, implement changes gradually, and pay attention to your body's responses. With patience and persistence, most people can achieve significant improvements in their thyroid function and overall metabolic health.

Also keep in mind that restrictive approaches, like avoiding carbs or frequent fasting that are promoted in many diet camps, may feel beneficial compared to a standard American diet. However, these methods come with long-term consequences.

When following low-carb diets or extreme fasting protocols, monitoring your body temperature and pulse will likely reveal low readings over time, indicating a downregulated metabolism. This can lead to hindered bodily functions – a clear sign that your body is in survival mode, not thriving. To support your thyroid and metabolic health, focus on the following:

**Eat sufficient calories and carbohydrates** to meet your energy needs.

**Consume animal protein daily** for essential B vitamins and other nutrients.

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**Include a collagen source daily**, such as bone broth, collagen, or gelatin powder.

**Minimize dietary PUFAs**, especially linoleic acid (an omega-6 PUFA).

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**Limit phytoestrogens** and reduce exposure to environmental toxins known for endocrine disruption.

**Work with your doctor** to taper off estrogen supplements, hormone therapies, or prescription medications if appropriate.

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**Eat balanced meals every 3 to 6 hours** to avoid prolonged fasting and support stable energy levels.

**Remain active** by hitting 8,000 to 10,000 steps per day and exercising 2 to 4 days per week in a form that is sustainable for you!

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By consistently implementing these strategies (providing your body the tools it needs and removing the metabolic breaks), you can promote long-term metabolic and thyroid health, allowing your body to truly thrive!

