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How Excess Iodine Is Undermining Thyroid Health and What to Do About It

Analysis by Dr. Joseph Mercola | March 22, 2026

STORY AT-A-GLANCE

- While iodine fortification in salt was introduced in the 1920s to prevent goiters, this intervention led to a dramatic increase in thyroid disease
- Modern food production and industry has created widespread iodine overload through multiple sources — iodized animal feed, dairy cleaning practices, processed foods, personal care products, and supplements
- High iodine intake has been linked to increased breast cancer risk, particularly in populations with overexpressed sodium iodide symporters, contrary to earlier beliefs about iodine's protective effects
- Thyroid antibodies are more predictive of thyroid symptoms than T4 or TSH levels alone, and genetic variations significantly influence how individuals metabolize iodine across generations
- To reduce iodine exposure, limit processed foods, choose dairy and eggs from non-iodine-supplemented sources, review your personal care products, and track your overall iodine intake

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I interviewed Dr. Alan Christianson, widely regarded as a premier expert on thyroid issues, and Ashley Armstrong, a regenerative farmer and founder of Angel Acres. Our discussion explored the intricate relationship between iodine intake and thyroid health,

uncovering a paradox that has significant implications for your health.

To understand the current iodine dilemma, we need to rewind to the early 20th century. In the 1920s, iodine was added to table salt as a public health measure to prevent goiters — a swelling of the thyroid gland. Christianson explained that before iodine fortification, autoimmune thyroid disease was a rarity in medicine. However, within a decade of adding iodine to foods, rates among adult women skyrocketed, increasing up to 26-fold.

This historical intervention, intended to correct deficiencies, inadvertently set the stage for widespread thyroid issues. Armstrong emphasized the interconnectedness of iodine fortification across the food chain, including the mistaken belief that "if humans are deficient in iodine, then animals must be deficient too."[1] So, iodine was added not just to human salt but also to animal feed, resulting in significantly higher iodine levels in animal products and processed foods.

Iodine Overload Is a Modern Epidemic

Fast forward to today, and the narrative around iodine has taken a troubling turn. While there was once a legitimate concern about iodine deficiency, modern food production systems have transformed iodine into a stealthy toxin.

- **Excess iodine is disrupting thyroid health —** Armstrong highlighted, “The iodine content, which impacts thyroid health, has significantly increased in our food production system over the last 20 to 30 years.” This over-supplementation has led to an epidemic of thyroid dysfunction, including autoimmune thyroid disease, where your body attacks its own thyroid gland.

- **Iodine accumulation is a growing crisis —** Christianson added, “Iodine accumulation is a really big problem that our nation is facing. It’s one of those government interventions — oops — that have unintended consequences.”[2] The excessive iodine intake is pervasive, stemming from various sources beyond fortified salt, making it difficult for individuals to control their iodine levels.

To learn more about the connection between iodine and thyroid health, read "**Unmasking Thyroid Health via the Iodine Connection**."

5 Sources of Excess Iodine Beyond Table Salt

The underlying sources of modern iodine overload isn't limited to fortified table salt. Christianson and Armstrong shed light on various sources contributing to excessive iodine intake:

1. **Animal feed —** Conventionally raised livestock are routinely supplemented with iodine, significantly increasing iodine levels in animal products. Armstrong emphasized that if animals are supplemented with iodine, the iodine levels in products like eggs increase five to 10-fold.

2. **Dairy cleaning practices —** The dairy industry commonly uses iodine-based disinfectants to clean teats and equipment. Although a hot water rinse helps mitigate iodine residues, the pervasive use of iodine teat dips introduces an additional, often unnoticed source of iodine into dairy products.

3. **Processed foods —** Iodine additives in processed grains and salt heavily fortify the food supply, making it challenging to control individual iodine intake if you consume processed foods. Christianson noted that many processed grains contain iodized dough conditioners. Even those that don't explicitly list iodine often have significant levels when tested.

4. **Personal care products —** Iodine is prevalent in numerous personal care products, including some acne treatments, contributing to daily iodine exposure without consumers' awareness. Armstrong pointed out, "Many common acne treatments contain a lot of iodine because of its antifungal and antimicrobial properties."

5. **Seafood and kelp supplements —** While ocean-based seafood is a natural iodine source, fishmeal is also a common protein source for cattle feed, which increases iodine levels in eggs and dairy products.

These hidden sources of iodine make it increasingly difficult to regulate intake, contributing to widespread overexposure that negatively impacts your thyroid health.

What Are the Benefits and Risks of Thyroid Hormone Supplementation?

The conversation naturally transitioned to thyroid hormone supplementation, a common treatment for hypothyroidism. Christianson provided an important perspective that taking thyroid hormones from outside your body, even in bioidentical forms, isn't the same as your body producing them naturally. As a result, this often leads to long-term complications.

- **T4-only vs. combination therapies —** Christianson distinguished between T4-only medications and combination therapies (T4 plus T3), noting that the latter often yield better patient outcomes. However, both forms present challenges, especially given the variability in iodine content of natural desiccated thyroid products.
- **The impact of iodine levels on natural desiccated thyroid —** Armstrong raised concerns about historical and modern practices, including the fact that in the early 1900s, cattle weren't supplemented with iodine, so their thyroids had low levels.
- **Regulatory concerns with NDT supplements —** Today, livestock are overloaded with iodine, making natural desiccated thyroid supplements likely much higher in iodine than historical counterparts. Christianson explained the regulatory landscape, in that prescription forms of natural desiccated thyroid are standardized for iodine content, but over-the-counter versions often lack this quality control, leading to unpredictable iodine levels.

To explore ways to improve thyroid function without relying on thyroid hormone supplements, check out "Key Nutrients to Support Optimal Thyroid Health."

What's the Connection Between Iodine and Breast Health?

Our discussion also touched upon the role of iodine in breast tissue health. Christianson elaborated on studies linking high iodine intake to increased breast cancer risk, particularly in populations with overexpressed sodium iodide symporters in breast tissue.

- **Iodine overexpression and cellular damage —** He explained that in pathologic breast tissue, the sodium iodide symporter is overexpressed, leading to heightened iodine uptake and cellular damage. This overexpression correlates with higher breast cancer rates, debunking earlier theories that iodine supplementation might be protective.

- **Iodine supplementation is not a protective factor —** Christianson clarified that while high-dose iodine temporarily reduces iodine uptake in fibroadenomatous breast disease, population studies indicate that higher iodine intake is associated with increased breast cancer risk. Thus, iodine is not a protective factor for breast tissue. He explains:

  > *"In the case of breast cancers, there have been assays looking at Japanese women and contrasting their iodine excretion, their urinary iodine in groups with their overall breast cancer risk. And those in the highest quintiles and quartiles have proportionately higher risks for breast cancer. And there's a linear relationship. So, the more they're consuming, the greater their risks are."*

These findings debunk the myth that iodine protects breast health and emphasize the need to reevaluate iodine intake in the context of disease risk.

What's the Link Between Thyroid Antibodies, Autoimmunity, and Epigenetics?

Our conversation also focused on the role of thyroid antibodies in autoimmune thyroid disease. Christianson emphasized that thyroid antibodies, such as antithyroid peroxidase and antithyroglobulin, are more predictive of thyroid symptoms and risks

than T4 or thyroid-stimulating hormone (TSH) levels alone.

- **Thyroid antibodies indicate autoimmunity —** Elevated thyroid antibodies indicate an autoimmune response, which is the primary driver of thyroid dysfunction today.

- **Epigenetics and generational iodine exposure —** Epigenetics are also involved, as early iodine exposure affects thyroid health across generations. Armstrong noted, imagine being born into a womb with higher iodine levels, then supplementing with iodine throughout life and consuming a high-iodine diet. This exposure leads to accumulated iodine generation over generation.

- **Genetic variations impact iodine metabolism —** Christianson agreed, explaining that genetic variations significantly influence how individuals metabolize iodine. Those adapted to lower iodine environments are particularly susceptible to thyroid dysfunction when exposed to excess iodine. This epigenetic and genetic interplay complicates the iodine-thyroid relationship.

- **Basal body temperature as a thyroid metric —** The conversation also addressed basal body temperature, which is sometimes used as a metric for **thyroid health**, a practice championed by Dr. Broda Barnes. However, Christianson pointed out that the development of high-sensitive TSH assays and understanding of T3 metabolism shifted thyroid assessment away from basal body temperature.

  While it's true that many overtly hypothyroid individuals have lower body temperatures, the relationship isn't as linear or reliable as once thought. Christianson noted:[3]

  > *"Since Barnes' time, we've learned that the thyroid basal body temperature connections are very real, but they're not as linear, they're not as tight as one might think. So many who are overtly hypothyroid will have a lower basal body temperature.*

And during hyperthyroid storm, people often elicit a febrile response, but there's not a linear increase in basal body temperature as one moves further into hyperthyroidism. That wasn't understood during Barnes' time."

To dive deeper into the complexities of thyroid function and autoimmunity, read "**Unraveling the Mysteries of Thyroid Health**."

How Does Cellular Energy Impact Thyroid Function?

Armstrong emphasized a holistic view of thyroid health, highlighting the multiple steps involved in cellular energy production:

- **Thyroid hormone utilization involves four key steps —** The process doesn't stop at the thyroid gland. After T4 is produced, it needs to be transported, converted, and utilized at the cellular level.

  "Metabolic health and cellular energy aren't just about the thyroid gland. There are four different steps after the thyroid produces thyroid hormones — T4 is produced. Then there's transporter proteins that have to take those thyroid hormones throughout the body.

  That T4 must be converted to T3, cells must be able to accept that T3 and utilize it as the spark plug for energy production. So, there are a number of things that get in the way of cellular utilization of active thyroid hormone. Even if your thyroid is functioning well, using active thyroid hormone at various other parts of your body can be hindered."

- **Thyroid function varies at the cellular level —** Christianson expanded on this, explaining that different body tissues have their own thyroid hormone ecosystem with different balances of thyronamines. This means that thyroid function at the cellular level is highly individualized and influenced by various factors like insulin levels, stress, and nutrient intake.

- **Dietary factors impact thyroid hormone metabolism —** Armstrong connected this to modern dietary practices, explaining that low-carb diets downregulate thyroid hormones, increasing reverse T3, and impairing cellular utilization of T3. High omega-6 polyunsaturated fatty acid (PUFA) consumption and stress further complicate this picture, reducing your body's ability to use thyroid hormones effectively.

- **Thyroid health is deeply interconnected with metabolic function —** Thyroid hormone metabolism is influenced by many factors, including insulin levels, nutrient availability, and overall metabolic health. So, addressing thyroid issues requires a comprehensive approach that considers these interconnected systems.

- **Photobiomodulation as a thyroid support tool —** In a personal revelation, I also discussed my use of photobiomodulation (previously known as low-level laser therapy) to support thyroid health during my transition off thyroid medication. Christianson acknowledged the benefits, explaining that photobiomodulation helps improve antioxidant status in your thyroid, which is necessary for processing iodine without cellular damage.

Learn more about how photobiomodulation supports overall health and cellular function in "How Red Light Therapy Benefits Neuropathy, Myopathy and More."

Managing Iodine Intake Is Key to Thyroid Health

The interplay between iodine intake and thyroid function is complex and often misunderstood. Excess iodine, a byproduct of historical fortification efforts and modern agricultural practices, poses a significant threat to thyroid health, contributing to autoimmune diseases and other dysfunctions.

- **The role of a low-iodine reset in thyroid recovery —** Christianson wrote "The Thyroid Reset Diet," emphasizing a low-iodine regimen for one to three months to detoxify your body.

While Armstrong shared her concerns about maintaining nutritional balance during this phase, particularly regarding nutrients like choline, biotin, and calcium, Christianson suggested that selecting high-quality eggs and dairy that are low in iodine helps meet these nutritional needs without introducing excess iodine.

- **Strategies to reduce iodine intake —** Armstrong elaborated on practical strategies to reduce your iodine intake, stating:

  > *"Don't eat out as much, don't eat food with an ingredient list, prioritize home-cooked meals … assess your supplements, stop iodine supplementation and evaluate your personal care products."*

By implementing strategic dietary changes, choosing high-quality food sources, and staying informed about iodine's role in your body, you reclaim your ability to reach optimal thyroid health.

5 Practical Tips to Avoid Excess Iodine

Here are additional practical strategies to avoid excess iodine and protect your thyroid health:

1. **Limit processed foods —** Processed grains and packaged foods often contain high levels of iodine due to salt iodization and iodine-based additives. Prioritize whole, unprocessed foods to better control iodine intake. Further, a balanced diet rich in the right carbohydrates — and free of processed foods — supports cellular energy production, which is necessary for thyroid health.

   Excess PUFA intake, including **linoleic acid** in seed oils, is a major culprit, as PUFAs interfere with your cell's ability to use active thyroid hormone.

2. **Choose high-quality dairy and eggs —** Source dairy and eggs from farmers who do not supplement livestock with iodine or use iodine-based disinfectants. Pasture-raised and organic options are more likely to have lower iodine levels.

Armstrong noted that eggs from pasture-raised chickens without iodine in their diet have as low as 5 micrograms per egg, compared to eggs from chickens supplemented with iodine, which have up to 100 micrograms per egg.

3. **Assess personal care products, supplements, and medications —** Review all supplements and medications for iodine content. Avoid iodine-rich supplements unless medically necessary. Many personal care items, such as acne treatments, contain iodine. Opt for iodine-free alternatives to reduce iodine exposure.

4. **Conduct an iodine inventory —** Utilize tools like Christianson's iodineinventory.com to track your iodine intake from all sources, including diet, supplements, and personal care products.

5. **Explore additional therapies —** Consider therapies like photobiomodulation to support thyroid health in conjunction with dietary adjustments.

Frequently Asked Questions (FAQs) About Iodine and Thyroid Health

Q: How does iodine affect thyroid health?

A: While iodine is essential for thyroid function, excessive intake leads to thyroid dysfunction, including autoimmune thyroid disease. Research shows that iodine fortification, initially meant to prevent goiters, has contributed to a rise in thyroid disorders.

Q: What are the hidden sources of excess iodine?

A: Beyond iodized salt, common sources include conventionally raised animal products, dairy (due to iodine-based disinfectants), processed foods, personal care products, and seafood or kelp supplements. These sources contribute to

widespread iodine overexposure.

Q: Is there a link between iodine and breast cancer?

A: Studies suggest that high iodine intake may increase breast cancer risk, especially in individuals with certain genetic factors. Excess iodine leads to cellular damage in breast tissue.

Q: How do I lower my iodine intake?

A: Reduce or remove processed foods from your diet, choose dairy and eggs from farms that don't supplement with iodine, check supplements and personal care products for iodine, and focus on whole, home-cooked meals.

Sources and References

- [1, 2, 3] YouTube, Dr. Mercola, How Excess Iodine Is Undermining Thyroid Health — Interview with Dr. Christianson and Ashley Armstrong