



Iodine

Dr. Karin Dina, D.C.

Iodine is important for the formation of thyroid hormones, T₄ and T₃

Controversy

- Isothiocyanates may inhibit iodine uptake by the thyroid gland.
- Isothiocyanates are only found in members of the cabbage family, NOT ALL LEAFY GREENS

Cabbage family:

- Kale
- Collard greens
- Arugula
- Watercress
- Mustard greens
- Bok choy
- Napa cabbage
- Cauliflower
- Broccoli
- Brussels sprouts
- Cabbage
- Others

Sunflower family does not contain isothiocyanates:

- Lettuce
- Escarole
- Frisée greens
- Dandelion greens
- Endive

The RDA for iodine is 150 mcg

The upper limit is 1,100 mcg

1 teaspoon kelp powder has 970% of the RDA for Iodine

- This is 1455 mcg
- ½ teaspoon provides 728 mcg
- ¼ teaspoon provides 364 mcg
- ⅓ teaspoon provides 182 mcg



1 teaspoon dulse flakes has 110% of the RDA for iodine

- This is 165 mcg
- ½ tsp provides 83 mcg

Dr. Rick Dina, D.C.

Iodine, iodeene. It does not matter how this mineral is pronounced. Many very well educated researchers and clinicians pronounce iodine the conventional way. As in “I would like to **dine** early tonight.” Or “Let’s go out to eat at the **Diner** tonight.” Such statements about the pronunciation of this mineral and the suggestion that those who don’t pronounce it a particular way don’t know what they are talking about is ridiculous, and in my opinion a lame attempt at putting others down to make themselves appear superior.

Iodine is a mineral that plays several important roles in the body

- Production of thyroid hormones
- Hearing
- Mental and cognitive functions
- Antimicrobial at levels beyond nutritional intake
- Improves fibrocystic breast disease beyond nutritional levels

Iodine deficiency may lead to a variety of issues

- Goiter
- Hypothyroidism
- Poor hearing
- Decreased IQ
 - 13 points on average in one study
- Severe iodine deficiency during pregnancy can result in permanent mental impairment in children

Iodine deficiency is very common around the world. Adding iodine to salt back in 1920’s resolved many of those iodine deficiency issues in the United States. Many people today are avoiding iodized salt, and sometimes all salt. Moderate to severe iodine deficiency has increased from 2.5% to 11% of the U.S. population from the 1970’s to the 1990’s.

Vegan diets are often low in iodine, but vegan diets that include sea vegetables tend to have an abundant amount of iodine in them.

By the way, if you were referring to iodized salt, would you need to pronounce it iodeezed?



Iodine Megadose Model

Spearheaded by David Brownstein, M.D.

- Recommends intakes of iodine far above the upper limits
- Up to 50mg per day to “load” the body
 - That’s nearly 50x the upper limit!
 - Maintenance dose is 12mg per day
- Safety supported by his estimate that Japanese consume an average of 13.8mg of iodine per day
 - Based on a 1967 study of the iodine content of dried sea vegetables compared to the dietary intake of sea vegetables in wet weight
- 1992 and 1994 studies estimate 330 – 500 mcg per day of iodine intake
 - Based on urinary excretion in Japanese populations
- A 2011 study estimated 1 – 3 mg per day.
 - Dietary records, food surveys, urine iodine analysis (both spot and 24-hour samples) and seaweed iodine content

Many studies from around the world have shown that consumption of iodine above the upper limits causes a variety of issues, including

- hyperthyroidism
- hypothyroidism
- acne
- skin rashes
- nausea
- diarrhea
- thinning hair

In studies from Japan, China, the UK, and Brazil, higher iodine intakes in populations showed

- More autoimmune thyroiditis
- Decreased T4 levels
- Increase in TSH (thyroid stimulating hormone)
- Increased goiter

compared to people in the same populations with lower iodine intakes.

In a Japanese study on patients with hypothyroidism, avoidance of high iodine foods (including sea vegetables) for 1 – 2 months showed a decrease in TSH

- Levels decreased from 21.9 mU/L to 5.3 mU/L



Dr. Rick has heard from several of his patients in the raw food community who have undergone megadose iodine therapy, and the (unsolicited) reports thus far are unanimous with the complications listed above found in the scientific literature.

In addition, I (Dr. Rick) have seen several patients who had normal thyroid panels, then underwent iodine megadose therapy, and afterwards developed hypothyroidism in one case and hashimoto's thyroiditis in another case.

Too much iodine is at least as dangerous as not enough!!

The Iodine Loading Test

Consume 50 mg of iodine

- Collect all urine for the next 24 hours
- Send a urine sample along with total urine excreted back to the lab for analysis
- See how much of the 50 mg you excreted
 - It is supposed to be 90%
 - Lower than that is considered deficient
 - Does 90% come out the first day? Not with me.
 - Does some excess iodine come out in the stool?
- Is it really necessary to load the body with so much iodine that it can't absorb any more?
- Should we have such high levels of all nutrients that we can't absorb any more of them?
- That's OK (but not necessary) when there is no toxicity, but too much iodine is toxic and even lethal when the intake becomes even more excessive.

Raw Cruciferous Vegetables and Thyroid Function

- Cruciferous vegetables contain glucosinolates
- Raw cruciferous vegetables also contain an enzyme known as myrosinase.
- Chewing these raw vegetables releases the enzyme myrosinase.
- Myrosinase converts the glucosinolates into isothiocyanates.
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- Both glucosinolates and isothiocyanates are considered to have anti-cancer properties, but isothiocyanates are thought to be even more cancer protective.
- These vegetables are more cancer protective when raw vs. when cooked!
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- Isothiocyanates are suggested to be "goitrogenic"
- They are said to block iodine uptake, and therefore have a negative effect on thyroid function.



- Therefore, according to the megadose model of iodine, these raw vegetables are bad for us and we should not consume them.

Dr. Rick Loves Raw Cauliflower!

- I consume one head of raw cauliflower most days, and have been doing so since 1987!
- Approximately 300 heads per year
- $300 \times 28 = 8,400!!$
- I also consume raw kale and/or collards almost daily.
- Recent thyroid panels show excellent status.
 - TSH, T4, T3, TPO

For more information, please watch my youtube video at <https://www.youtube.com/watch?v=CL3GsBUmIN8>.

There is no good reason for most people to limit their intake of these nutritional powerhouses over speculation. There is no evidence that these raw vegetables will cause any thyroid problems in those who do not already have a hypothyroid issue that is *caused by marginal iodine status*. There are many factors that can lead to thyroid issues, including too much iodine.

Raw food diets can seem limiting enough for people, especially at the beginning. Outrageous claims about iodine such as the recommendation that everyone should avoid incredibly nutritious vegetables such as the raw cruciferous ones limits health seekers and puts hurdles in the way of those trying to get healthy. Overloading people with iodine causes many issues that were not present prior to megadose therapy. Rational testing methods that employ several methods utilized by qualified clinicians can help determine if iodine supplementation or increased iodine in the diet is warranted. If so, moderate increases make much more sense than megadoses in Dr. Rick's research and clinical experience.