

Do Cruciferous Vegetables Harm the Thyroid?



Cruciferous vegetables contain compounds called glucosinolates; which are metabolized into isothiocyanates (ITC). These compounds have powerful protective effects against many cancers, including breast, prostate, colorectal, bladder and lung cancers.¹⁻⁶ (To learn more, read "[Anti-Cancer Foods: Cruciferous Vegetables](#)") In fact, cruciferous vegetables are protective against thyroid cancer.^{7,8} Concerns about potential effects of cruciferous vegetables on thyroid function arose from animal studies, followed by findings suggesting that certain breakdown products of glucosinolates could interfere with thyroid hormone synthesis or compete with iodine for uptake by the thyroid. However, this is

only a hypothetical issue. The scientific consensus is that cruciferous vegetables could only be detrimental to thyroid function in cases of iodine deficiency or insufficient iodine intake.⁹

Iodine deficiency is a concern for those who follow a healthful, plant-based diet since it is not naturally abundant in foods, except for seafood and seaweeds. Iodized salt is the chief source of iodine in the Western diet. Vegans and others on mostly plant-based diets may have low iodine intake without supplementation, especially if they avoid salt, suggesting that [supplementation](#) is appropriate.^{10,11} Also, pregnant women may require a greater amount of iodine than the general population because of the iodine needs of the fetus.¹²

Animal studies suggested the hypothetical thyroid issue from eating very large amounts of cruciferous vegetables years ago.⁹ However, no human study has demonstrated a deficiency in thyroid function from consuming cruciferous vegetables.¹³ Only one such study seems to have been conducted as of yet; in that study, no effects on thyroid function were observed in subjects eating 150 grams of cooked Brussels sprouts daily for 4 weeks.¹⁴ Raw cruciferous vegetables have not been investigated, however the only case report relating cruciferous vegetables to thyroid harm suggests that it would be almost impossible to consume enough cruciferous to harm the thyroid. This case was that of an 88-year old woman who developed hypothyroidism after eating 1-1.5 kg (4-5 pounds) of raw bok choy every day for several months; an excessive and unreasonable intake of raw cruciferous.¹⁵ In other words, a person would have to consume an insane amount of raw cruciferous to have a negative effect on thyroid function.

Recent results from the Adventist Health Study revealed that vegan Adventists were less likely than omnivore Adventists to have hypothyroidism.¹³ Similarly, a 2011 study of Boston area vegetarians and vegans found that vegans had higher urinary thiocyanate (indicative of higher cruciferous intake) and lower iodine intake, but no difference in thyroid function, which was within the normal range.¹¹

The fear (circulating the internet by some authors) of eating cruciferous vegetables or that those with hypothyroidism should reduce or avoid the consumption of kale or other cruciferous vegetables is unfounded and does a disservice to the community. Whether you have normal thyroid function or hypothyroidism, there is no benefit for you to avoid or restrict your intake of cruciferous vegetables. Eating [cruciferous vegetables](#) is not optional; they have numerous [anti-cancer benefits](#), a high [micronutrient to calorie ratio](#) and an association with reduced risk of premature death.¹⁶ An effectively functioning immune system is dependent on their consumption,¹⁷ and these benefits clearly outweigh the risk of a modest decrease in thyroid function, which could only occur if the amount of raw cruciferous intake was at an insanely high level or a person was significantly iodine deficient. Eat one or two servings of cruciferous vegetables daily, in the context of a healthful variety of vegetables, beans, fruit, nuts and seeds; and be sure to get adequate [iodine](#), too.

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