

# Salt, calcium and vitamin D. Do you get enough, or too much?

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What you eat and drink, as well as how much sunlight you get on your skin, all affect your micronutrient levels—and in turn the health of your body and mind.

So what is a micronutrient? A micronutrient is a nutrient that your body needs in small quantities.

They include vitamins, such as vitamins A and D, and minerals, such as iron and calcium. Getting them into your body via what you eat and drink—except for [vitamin D](#), which your skin can produce when the sun shines on it—is essential for health and well-being.

## **Micronutrient imbalances in our diets**

Anyone's diet can be unbalanced in one or more micronutrients. However, I am going to focus here on those micronutrients that were reportedly too low or too high in the diets of a large sample of Australian adults and children in the most recent governmental [Australian Health Survey](#) (AHS) in 2011–12. The AHS data is highlighted in the Australian Institute of Health and Welfare (AIHW)'s 2018 report, "Nutrition across the life stages." I doubt that the story would be much different today, a decade later.

First, the "24-hour diet recall" results suggested that we consumed too much sodium, commonly called salt, and not enough calcium. I use the word "suggest," here, because micronutrient intake numbers were obtained from a sample of people "recalling" what they ate and drank over the previous day with trained interviewers, which is never 100% accurate. Regardless, inadequate calcium intake figures, for example, were very high for some groups, for example, 71% in boys and 90% in girls aged 14–18, and 63% in men and 91% in women aged 51–70.

Consuming too much salt is, unfortunately, easy in our modern diet. It's added to many processed foods, including bread, breakfast cereals (yes, even when they taste sweet), sauces, cheese and meat products. Excess dietary salt can increase [blood pressure](#), which can in turn increase the risk of heart and blood vessel disease.

Recall results also indicated that Australians didn't consume enough of the dairy "and alternative" food group (which includes milk, yogurt and cheese—obtained from cows, as well as plant-based alternatives, such as [soy milk](#)). This would contribute to the low calcium intakes reported in many people. Low calcium can be associated with impaired [bone development](#) in children, and lower bone mineral density and therefore a higher risk of osteoporosis and fractures in older people.

Second, the [blood and urine analyses](#) indicated that vitamin D was the micronutrient that posed the greatest population health risk, with about one-quarter of Australian adults showing deficiency.

We are actually very lucky that we have adequate intakes of most micronutrients. One, most of us have access to a plentiful and varied food supply. Two, certain micronutrients are added to some foods during their 'paddock to plate' journey, for example folate to bread flour and iodine to salt, in a process called 'fortification'. We have this process to partly thank for most of us getting enough of these nutrients in our diets (except for iodine, with one in five women of childbearing age having an iodine deficiency in the [2011–2012 biomarker analysis](#)).

## **How to address salt, calcium and vitamin D problems**

### **Salt:**

- Consider the [Suggested Dietary Target](#) of 2000mg/day of sodium for adults (about 1 teaspoon of salt). Estimate how much you might eat on an average day by looking at the nutrition information labels on the processed things you eat, and note how much salt you add to cooking and meals. The average hamburger can get you to half of the daily target! (We will just assume in this case that all of the sodium that you eat gets absorbed through your gut). The Heart Foundation has an [online converter](#) for

sodium to and from salt, if you need it.

- Choose reduced salt versions of processed products, for example tomato sauce.
- Reduce or remove the salt that you add during cooking or at the table. This is hard, I know, because our [taste buds](#) are used to higher levels of salt in our meals. But remember, even a small reduction can help, for example one teaspoon to three-quarters of a teaspoon.

## Calcium:

- Fill in this online calculator to see how much calcium is recommended for you. As a 43-year-old female who is not pregnant or breastfeeding, my Recommended Dietary Intake (RDI) is 1000mg per day (we each need different amounts of nutrients depending on factors including sex, age and pregnancy).
- Again, look at the nutrition information listed on the packets of the processed foods you consume, and work out how much calcium you might get in a day from those sources (for example dairy, cheese, fortified oat milk, tinned sardines or salmon, tofu, and some nuts and seeds).
- Then, consider the calcium you might get from non-packaged/-labeled fresh foods, such as leafy green vegetables. Think broccoli, cabbage, bok choy, spinach, and so on. Food Standards Australia New Zealand has an [online search tool](#) where you can find out what nutrients a food or drink contains. The problem with calcium is that our gut doesn't absorb all of it from foods and drinks. We absorb about 30% of the calcium in milk, 50% in bok choy, and only 5% in spinach—because spinach has something called oxalates in it that bind to the calcium in the gut, preventing its absorption. This doesn't mean that spinach isn't a good food overall though. Note that having enough vitamin D in the body enhances the gut's ability to absorb calcium, so if you

are low in both calcium and vitamin D, your bones will particularly suffer.

- Make sure you eat and drink enough from the [dairy and/or alternatives group](#). For example, I am meant to consume at least two and a half serves from this group per day. You can be vegetarian or vegan and get enough calcium, but you must be particularly careful if you are vegan.
- Make sure you choose alternative milks that have calcium added to them, for example oat milk with added calcium.

## Vitamin D:

- It's almost impossible to obtain enough vitamin D from diet alone—the main dietary sources for Australians are fortified margarine, oily fish and eggs.
- Did you know that if you put mushrooms in sunlight, they'll produce more vitamin D? How cool is that? Only 15 minutes of mushroom "sunbathing" is required, preferably with their gills facing up.
- It's important to get enough sunlight on your skin (in a safe way—it is important not to get sunburnt). In summer in Australia, a few minutes mid-morning or mid-afternoon is all that is needed for your skin to produce enough vitamin D. In some winter months in the more southern parts of Australia, it's two to three hours per week. See this map for vitamin D and bone health.
- People who are at particular risk of vitamin D deficiency are those with dark skin, who keep their skin mostly covered with clothing, and who spend large amounts of time indoors.

## A word on supplements

It's best to try to get enough [calcium](#) and vitamin D into your lovely body through what you eat and drink, and via sunshine on your skin. However, if you can't (or won't), then supplements might help. It's best to consume supplements with food and be aware of any side effects. Also, be mindful of the amounts you take—you don't want to ingest toxic levels of any micronutrients.

Provided by University of New South Wales

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