



# + EXTRA CREDIT

**WHETHER IT'S A VITAMIN C TABLET DURING WINTER OR A PROTEIN SHAKE POST SQUAT SESSION, RECENT RESEARCH ESTIMATES THAT OVER 60 PER CENT OF AUSTRALIANS ARE USING SOME FORM OF SUPPLEMENTATION. WITH PROMISES OF EVERYTHING FROM ACCELERATED FAT LOSS TO BOOSTED IMMUNE SYSTEM, ARE SUPPS WORTH THE PRETTY PENNY YOU ARE LIKELY TO SPEND? OR ARE WE BEING DUPED BY THE BIG-NAME MARKETING COMPANIES SO OFTEN SUPPORTING THEM?**

WORDS: FIONA TASSONE

## NEEDS BASIS

Ideally, a balanced diet should be providing you with all the nutrient goodness your body needs. Supplements, as the name suggests, are designed to do just that – *supplement* your existing nutrition. The problem is we don't live in an ideal world, with our modern lives often making it inconvenient to consume the levels of high-quality fruit, vegetables, healthy fats and lean proteins our bodies require for good health.

“Often the food we buy is lacking in crucial minerals due to the depletion of the soil our fruit and vegetables are grown in,” says clinical nutritionist and health coach Gabriella Ratner ([intuitivehealthhub.com.au](http://intuitivehealthhub.com.au)).

“Supplementation can also be particularly useful for people with absorption issues due to low stomach acid or malabsorption syndrome.”

Malabsorption occurs when the bowel is prevented from absorbing nutrients – including proteins, fats and vitamins – with conditions such as

coeliac disease, Crohn's disease, lactose intolerance or intestinal damage often the underlying culprits.

The prevalence of coeliac disease (1 in 100 people) and inflammatory bowel disease (1 in 250 people) is increasing rapidly, along with the use of some medications that prevent the absorption of nutrients – think weight loss drugs or medications to treat acid reflux. Be sure to check with your doctor about your specific needs.

In terms of body composition goals, personal trainer and sports nutritionist Shannon Smith (smithfit.com.au) says that supplements can be used to decrease recovery time and improve strength, aiding workout performance and so physique.

“Some supplements can also be useful from a convenience perspective. For example, using protein powders after a workout if ‘real’ food isn’t easily accessible,” adds accredited sports dietitian Chloe McLeod (chloemcleod.com).

## PRIME CANDIDATES

As long as you have the all-clear from your doctor, supplementation is unlikely to do much damage – other than, perhaps, to your wallet.

“Vitamin and mineral supplements can be most useful in people following restricted diets; for example, those with food intolerances who are in the elimination phase of determining their triggers,” says McLeod.

But for those who have their nutrition down pat and instead want the convenience of an ergogenic aid, protein powders and other sports supplements could be for you. McLeod recommends caffeine and the humble beetroot as a starting point.

And the suggestion is supported by the research. One study reported in *Science Daily* revealed that drinking beetroot juice boosts stamina and could increase your exercise time by 16 per cent. The nitrates in the juice lead to reduced oxygen uptake, which results in less feelings of fatigue.

## WHO SHOULD AVOID SUPPS?

Speak with a healthcare professional before taking any supplements, particularly if you are on any medication or are pregnant, warns McLeod. For example, large doses of vitamin A in early pregnancy can result in birth defects.

“Athletes competing in federation-tested sports need to be careful that the supplements they are taking meet WADA-approved standards. If you are a competing athlete, be sure to check WADA’s list of banned substances on their website,” says Smith.

Overdose is the number one risk factor for supplement use. Research has shown that large doses of vitamins A and D, for example, can build up in your body, resulting in nausea, vomiting and dizziness. Prolonged use of vitamin B-6 can cause nerve damage, while excess vitamin C can lead to diarrhoea.

Be careful of the level of mineral supplements you ingest too. Overdosing on iron, selenium or boron can induce headaches, vomiting and, when taken to the extreme, liver damage.

## BE CHOOSY

It’s important to note that dietary supplements are not regulated to the same standards as prescription drugs. Instead, they are managed by the

Therapeutic Goods Administration (TGA) under a risk-based approach; meaning that the risk of the side effects is weighed against the benefits of taking the medication. Bear in mind that international supplements bought online are not regulated by the TGA – so make sure you aren’t doing anything illegal before you add it to your cart.

McLeod recommends selecting supplements where a third party has tested the product. “Choose products that are certified by either Informed-Sport or HASTA to ensure you are getting a good-quality product,” she says.

It’s also important to pay attention to the ingredients. Keep an eye out for artificial sweeteners, milk solids, thickeners and fillers used to bulk up the product rather than contribute anything of use. These additions are particularly rife in the protein powder market.

“Look for brands that contain no more than four ingredients; a natural flavour such as vanilla bean, a natural sweetener such as stevia, a mixing agent like sunflower lecithin and, of course, the protein itself,” says Smith.

“I would also recommend you find a protein that has not been heat treated like the majority of whey protein supplements, as this process denatures the fats and proteins in the product.”

## TIMING IS EVERYTHING

» **First thing in the morning:** “B vitamins are quite stimulatory, so they are great in the morning. It’s also great to have fat-soluble vitamins (A,D,E,K) with some healthy fats for maximum absorption,” suggests Ratner. Probiotics designed to aid digestion should also be taken in the morning, says Smith.

» **Pre-workout:** Caffeine can help with energy production, aiding workout performance. Stick to the dosage on the label, but if you are particularly sensitive and find yourself having an adverse reaction such as anxiousness, experiment with drops in dosage.

» **Post-workout:** Protein powders – particularly whey protein – help to repair muscle micro-tears caused by training, aiding both recovery and muscle hypertrophy. “Protein powder, if being used for recovery, should be consumed within 30 minutes of finishing the activity,” says McLeod.

**Before bed:** Both Ratner and McLeod recommend calming minerals before bed. For example, magnesium, which helps to decrease cortisol or stress hormone. Calcium can also be beneficial before bed as it assists in the creation of melatonin, resulting in a deeper sleep.

## THE BOTTOM LINE

“Supplements should be used like the sprinkles on the icing on the cake; you need the right training, and the right nutrition first, then add the supplements in – like you would baking cupcakes: adding icing, then adding the sprinkles,” says McLeod.

“Supplementing with purpose rather than using as much as possible is a good rule of thumb to go by. To determine best performance and efficacy, aim to change one thing at a time.”

## ABSORPTION MATTERS

If your supplement intake is time sensitive, then you may need to consider the form in which it's taken:

» **Tablets** are built to be released at specific intervals, as formulated by the drug manufacturer. So the built-in time release combined with your individual digestive system means it's a tad unpredictable.

» **Capsules** are coated in a gelatin shell and release their contents when they come into contact with water. This generally means the contents will be absorbed quicker, especially if the content is liquid.

» **Liquids** are favoured due to their quick absorption time when compared to tablets and capsules. The downside is often the taste.

» **Powders** are mixed with water or milk and become a liquid. “Powders are great if you have a lot of supplements on your hands. You can mix them up and drink throughout the day for maximum absorption,” says Ratner.

» **Sprays** are the latest trend in supplementation. Sprayed directly into the mouth, they're quickly absorbed into the bloodstream via capillaries in the lining of your tongue and cheeks, rather than swallowed.

“Always take vitamins and minerals with food for better absorption. Other supplements such as amino acids are better taken without food,” says Ratner.

## SUPP BY GOAL

### FOR PERFORMANCE

» **B vitamin complex:** “B vitamins are important as they help your body pull energy from the nutrients you eat and help get oxygen to the muscle tissue. They are also necessary for metabolising food into energy,” says Ratner.

» **Espresso:** When consumed before a workout, coffee can cause fat cells to replace glycogen as your energy source. Additionally, the high amount of caffeine in an espresso will increase your metabolism throughout the day, says Smith.

### FOR MUSCLE GAIN AND MAINTENANCE

» **Glutamine:** “Glutamine is an amino acid that provides numerous benefits for gaining muscle, such as aiding muscle growth by increasing levels of leucine in muscle fibres, helping to decrease muscle breakdown. Glutamine taken before workouts can help decrease muscle fatigue and boost growth hormone levels. Additionally, glutamine can also play a role in fat loss by increasing the amount of

calories and fat burned at rest and during exercise,” says Ratner.

» **Creatine:** Creatine is another type of amino acid and occurs naturally in protein-rich foods. It assists with the production of energy, so taking a creatine supplement can aid energy stores and increase your workout output. “The only supplement that I can measure and have personally experienced that will help you build more muscle is creatine,” says Smith.

### FOR FAT LOSS

» **Alpha-lipoic acid:** “Alpha-lipoic acid is fatty acid present in the mitochondria (energy-producing portion of the cell). Originally used to assist with type 2 diabetes, it enhances our ability to metabolise food into energy,” says Ratner. A recent study showed ALA contributed to approximately two kilograms of extra weight loss over the course of 10 weeks.

“It is recommended that it be taken on an empty stomach or two hours after eating as food intake may reduce its bioavailability,” says Ratner.





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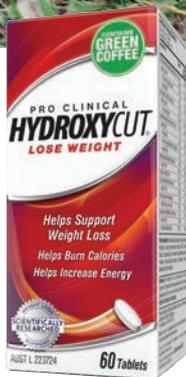
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