

Glutamine ^[1]

Alice,

In various places, glutamine is sold. My questions are:

What are the side effects, if there are any, of using this product?

What happens while you are taking it?

What happens when you decide to stop taking it?

Thanks in advance,
Orestes

Answer

Dear Orestes,

There are many myths about the Greek figure ^[2] whose name you share, and similarly, there's a lot out there about the possible powers of glutamine. While research continues, we do know a few things about glutamine. Namely, there doesn't seem to be much risk for adverse side effects within the general population.

Glutamine is one of 20 amino acids, and is called "non-essential"—not because it's not important to your health (it is!), but because your body can synthesize it from food sources and other small molecules. Some amino acids are "essential", meaning that you need to get them from food sources because your body can't synthesize them independently. As you say, you can buy glutamine in supplement form, but you can also ingest it through foods like poultry, beef and pork, as well as dairy products (such as yogurt, milk, cottage and ricotta cheeses) and leafy greens like parsley, spinach, and cabbage. For those interested in a supplement, they are available in both prescription and non-prescription form and can be found in powder, capsule, tablet, or liquid varieties.

In your body, glutamine is one of the most abundant of the amino acids and is used for an enormous array of cellular and tissue-specific functions! It's a building block for all proteins which carry out all of our cellular processes, move molecules throughout the body, contributes to the building of muscles, and promotes gastrointestinal (GI) health. Glutamine can also be burned for

energy through processes called *deamination* and *transamination*. It helps to balance the acid/base chemistry of your kidneys and finally, as an amino acid, it's critical to the functioning of your muscles.

Although glutamine helps your body with many important processes, taking it as a supplement may not lead to any drastic changes, good or bad for the general population. However, in some specialized populations, such as critically ill hospitalized patients, patients undergoing invasive surgery, some cancer patients with mouth inflammation due to chemotherapy, or elite athletes (those who chronically over train, not just athletic individuals), glutamine enhancement has been shown to reduce morbidity, increase the rate of healing, reduce swelling, and possibly even ward off upper respiratory tract infections and reduce muscle recovery time. What these groups of people all have in common is high levels of stress on the body. If you're not extremely sick or training for the tour de France, then you may not see any changes if you take glutamine.

There are a few groups of people who health care providers typically recommend not take glutamine supplements — children under the age of ten, people with [Reye's syndrome](#) [3], or if you have kidney or liver disease. Also, if you are on any medications, are pregnant or breast feeding, it's best to talk with a health care provider before using glutamine. However, using the supplement doesn't seem likely to carry much risk for the general population. This is mostly because, unless you have a metabolic condition, when your body senses an excess of glutamine it doesn't need, it will simply convert the extra amino acid into something else it can use (like glucose for instant fuel, glycogen for fuel for later, fatty acids for even longer term fuel storage, or even *other* amino acids like alanine). Some of the more common side effects for using the supplement are cough, a frequent urge to defecate, and straining while pooping. If you're experiencing any of these, you may want to check in with your health care provider.

Of course, because your body needs glutamine all the time, if for some reason your glutamine levels get low (because your diet changes or your discontinue a glutamine supplement), your body will start making more of the molecule. So there's a buffered system in place to help make sure you have what you need. And while it's usually a good idea to check with a health care provider before starting or stopping any dietary supplements, the research suggests that use of a glutamine supplement without too much worry!

Alice!

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[3] <http://goaskalice.columbia.edu/reyes-syndrome>

[4] <https://goaskalice.columbia.edu/category/nutrition-physical-activity>

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