

Pre workout Products

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“Pre-workout” is any supplement, usually a powder drink mix, that claims to boost workout performance if you consume it beforehand. First of all, it’s important to realize that virtually every supplement and exercise nutrition brand out there has its own pre-workout formula, meaning that no two tubs contain the same—or even similar—ingredients. “There’s really no good definition of what a pre-workout supplement is—and a lot of companies are just slapping it on products because it’s „in” right now—but in general, it’s a product that’s intended to boost energy levels, generally though a combination of B vitamins, carbs, and antioxidants.

Pre-workout supplements have carbs, or are carb- and calorie-free. Others contain caffeine, beet juice, or amino acids such as arginine, citrulline, and ornithine to rev up your “fight or flight” response, dilate your blood vessels, and increase blood flow to your muscles, she says. Some supplements even contain absurd ingredients like deer antler velvet to increase levels of insulin growth factor-1, a hormone that your body natural produces in response to resistance training to increase muscle and tissue growth.

Some pre-workout ingredients are well-studied and can actually help improve your performance—but the majority probably won’t. Carbohydrates, caffeine, beetroot juice, and creatine monohydrate (a popular muscle-building supplement) are all common pre-workout supplement ingredients that have been shown to improve exercise performance.

Carbs are pretty obvious—they’re your body’s go-to source of energy and what experts recommend eating before a workout to properly fuel. “Evidence supports a range of carbohydrate uses for various athletic applications, from taking in 30 to 60 grams per hour during endurance events to simply rinsing the mouth with a carbohydrate solution before sprint events.

After all, when exercising—especially at high intensities with bootcamps, indoor cycling classes, and lifting sessions—your body uses blood glucose and glycogen (stored carbs) as its main energy source. So topping off your levels before you start your workout can help increase energy availability and performance, she says.

Meanwhile, caffeine obviously is a stimulant known for boosting energy and alertness, and research shows it can help improve sports performance, too. Many of the studies have been done on small sample sizes, but there’s actually a lot of research backing caffeine’s ability to increase energy and decrease how hard you feel like you’re working—the theory is that caffeine helps muscles burn more fat for fuel upfront and preserves glycogen, thereby letting you work out harder and longer before you use up all your energy stores and tucker out. Other studies suggest it may help improve muscle’s ability to generate power.

Beetroot juice is a little less researched, but a 2017 review on relevant studies found that it has consistently been shown to increase the body’s levels of nitric oxide and improve cardiovascular performance. Beetroot juice actually contains inorganic nitrates, which convert in the body to nitric oxide. A natural vasodilator, nitric oxide expands the body’s blood vessels, increasing blood flow and decreasing how hard your heart has to work during any given workout. A 2016 study out of Wake Forest University even found that when heart failure patients drank beetroot juice every day for one week, it helped improve their aerobic endurance by 24 percent. While it’s important to note that research on beets is still pretty young, and most studies are small, so far all of them show promising results. Lastly, it’s important to note that creatine monohydrate is often included in pre-workout formulas. Creatine is a derivative of three amino acids that’s naturally produced in the body and stored in the muscles as a source of quick energy. While studies show supplementing with high doses does help build muscle mass and increase strength over time, “you can take creatine monohydrate pre-workout, post-workout, or at 8:49 P.M.,” Fear says.

Some research even suggests that creatine monohydrate is actually more effective at boosting exercise performance if you take it after each workout as opposed to before—your body might be more apt to absorb and store it after workouts when your natural stores are at their lowest. “Most of the other ingredients in pre-workout supplements are unlikely to make a meaningful difference,” Fear says. “Trials that are funded by the supplement companies often find positive results for their product, which isn’t surprising, but unbiased trials show that if there is a performance benefit, it’s minimal.” For example,

one 2017 International Journal of Exercise Science study on 21 exercisers found that, compared to placebo, pre-workouts increase strength by a mere 4 to 8 percent, with the greatest benefits in those pre-workout supplements that contain caffeine. Another 2016 study on 31 exercisers from Oklahoma State University researchers found that when it comes to push-ups, commercially available pre-workout energy drinks provide no benefit compared to placebos. All workout-performance questions aside, safety is a big concern here since pre-workout supplements are not regulated by the FDA.

Like all supplements, pre-workout formulae are not regulated by the FDA for safety, so products can be stocked on shelves and sold until there's a reason for the FDA to pull them (e.g., enough people report concerns). The only way to guarantee that a given product contains what it says it contains—and nothing it doesn't—is to find a product that is certified through a third-party regulatory body such as NSF or Informed-Choice. Both of these organizations follow a strict vetting process to verify the quality and purity of supplements. Learn more about the guidelines [here](#) and [here](#). Seriously, pre-workout nutrition can (and should!) be that easy. tastes way better than anything you'll find in a tub.

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