

Intraworkout Nutrition: Why Drinking Your Nutrients DURING Your Workout Can Increase Muscle, Strength, and Fat Loss

As people who train and play hard, we spend a lot of time trying to perfectly construct our diet and training plans to the "T". We've all heard about how important fueling your body both before and after your workouts is, but no one really considers how getting in the right type of nutrients DURING training can really help to reach your goals, no matter what they are.

Now, you know me well by this point. Everything I share with you guys is based on SCIENCE and evidence. And it's through that important fact that you really get to the bottom of what's the real deal when it comes to actually seeing the progress you seek in the gym. With that in mind, consider the following study released by the Journal of the International Society of Sports Nutrition (JISSN) in 2009 that explores how consuming a beverage containing simple branch chained amino acids can help in increasing muscle mass and strength, as well as aid in fat loss.

Consuming a supplement containing branched-chain amino acids during a resistance-training program increases lean mass, muscle strength and fat loss

<http://www.jissn.com/content/6/S1/P1>

Background

A randomized, double-blind study was performed to evaluate the efficacy of consuming a supplement containing branched-chain amino acids (BCAAs) during an eight-week resistance-training program.

Methods

Thirty-six strength-trained males with a minimum of two years resistance-training experience (25.5 yrs, 177.7 cm, 85.2 kg and 9.3% body fat) were randomly assigned to receive either 14 grams of BCAAs (n = 12), 28 grams of whey protein (n = 12), or 28 grams of carbohydrates from a sports drink (n = 12) while performing an eight-week resistance-training program. Participants followed a periodized, whole-body training program that involved training all major muscle groups once per week using a four-day training split. Subjects body weight, body composition, and 10-rep max on the bench press and squat were determined before and after the eight-week training program. Subjects followed a standardized diet while following the program.

Results

All groups had a 100% compliance with the study protocol. The BCAA group experienced a significantly greater gain in body weight than the whey group (2 ± 1 kg vs. 1 ± 1 kg; $p < 0.02$) and the carbohydrate group (2 ± 1 kg vs. 1 ± 1 kg; $p < 0.01$). For lean mass, the BCAA group gained significantly greater lean mass than the whey group (4 ± 1 kg vs. 2 ± 1 kg; $p < 0.01$) and the carbohydrate group (4 ± 1 kg vs. 1 ± 1 kg; $p < 0.01$). The whey group also gained significantly more lean mass than the carbohydrate group (2 ± 1 kg vs. 1 ± 1 kg; $p < 0.02$). BCAA group decreased their percent body fat significantly more than the whey group ($2 \pm 1\%$ vs. $1 \pm 1\%$; $p = 0.039$) and the carbohydrate group ($2 \pm 1\%$ vs. $1 \pm 1\%$; $p < 0.01$). Muscular strength was significantly greater in the BCAA group on the 10-RM bench press than the whey group (6 ± 3 kg vs. 3 ± 2 kg; $p < 0.01$) and the carbohydrate group (6 ± 3 kg vs. 2 ± 2 kg; $p < 0.01$). For the squat, the BCAA group gained significantly more strength on their 10-RM than the whey group (11 ± 5 kg vs. 5 ± 3 kg; $p < 0.01$) and the carbohydrate group (11 ± 5 kg vs. 3 ± 2 kg; $p < 0.01$).

Conclusion

Ingestion of a supplement containing BCAAs while following an 8-week resistance training program resulted in a greater decrease in percent body fat, an increase in lean mass, and 10-RM strength gains on the bench press and squat vs. ingestion of a whey supplement or a sports drink. In addition, the ingestion of a whey protein supplement resulted in greater lean mass gains than ingestion of a sports drink.

Breaking This Down Into Plain English

So taking a deeper look at this study, 36 men who are experienced lifters (minimum of 2 years of experience) were put onto a periodized, whole body training plan over a 4 day split for 8 weeks.

Starting stats were taken as well as a 10 rep max test (how much weight they can push to failure for 10 reps) for the bench press and squat were also determined.

There were 3 products administered at random (as to whom received what during the experiment) and double blind (meaning neither the testers nor administrators knew who was getting what). Those three products were 14g of BCAAs given to 12 of the guys, 28g of whey protein given to 12 other guys, and 28g of a carbohydrate sports drink given to the other 12 remaining guys.

After following the program at 100% compliance, the BCAA group saw an increase of muscle mass, strength, and fat loss over the whey protein group and the carbohydrate group. Additionally, the whey group, although they saw less gains than the BCAA group, did see a greater increase in muscle, strength and fat loss than the carbohydrate group following the 8 week protocol.

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In addition to the study above, here are a few others that came to similar conclusions:

Daily L-leucine supplementation in novice trainees during a 12-week weight training program.

Ispoglou T, King RF, Polman RC, Zanker C.

Source

Carnegie Faculty of Sport and Education, Leeds Metropolitan University, Leeds, UK.

<http://www.ncbi.nlm.nih.gov/pubmed/21487148>

Branched-chain amino acids supplementation enhances exercise capacity and lipid oxidation during endurance exercise after muscle glycogen depletion.

Gualano AB, Bozza T, Lopes De Campos P, Roschel H, Dos Santos Costa A, Luiz Marquezi M, Benatti F, Herbert Lancha Junior A.

Source

School of Physical Education and Sport, University of Sao Paulo, Sao Paulo, SP, Brazil.

gualano@usp.br <http://www.ncbi.nlm.nih.gov/pubmed/21297567>

How to Apply This To Your Own Program

I'll be honest with you, I am pretty die hard when it comes to my own intra-workout nutrition, particularly because my sessions tend to be pretty high intensity and high volume. Coming from a sports background, it's been instilled in me from day one to keep the body fueled even while training to be able to maintain energy and to give the body some resources to work with as I grind it into the ground. My workouts also tend to go a little longer, sometimes hitting 1 hour to 1.5 hours, I'm basically done when I'm done. I don't watch the clock, I don't stop after a set amount of time.

Under those circumstances, it's important to me to insure I'm giving my body what it needs to perform.

I have some of my clients on this type of protocol as well, again though it's goal dependent. One of the best times I like to employ this strategy is for those who tend to train early in the morning. I always suggest that instead of training on an empty stomach, it's far wiser to give your body something to work with in the form of liquid nutrition. This can easily be accomplished by having a sports drink like Gatorade (to provide the body with some quick digesting carbs pre/intra-workout) mixed with 5-10g of BCAA. And that's really the general amount recommended for a pre and/or peri workout drink that satisfies the needs of both men or women. You can err on the side of more/less depending on your goals, weight, training intensity, and duration. Of course if you choose to mix it with a carbohydrate drink like Gatorade, you would have to include the calories in your daily totals.

As far as brands are concerned, there are so many on the market, and I've used them all. My personal favorite is Gaspari Nutrition's Aminolast. It comes in great flavors, and contains a whopping 10g of BCAAs per scoop. But I've also found that just plain ole' BCAA powder does the job just as well. You don't need anything fancy, there's really no magic to the equation other than you getting it in. You can drink your BCAA with plain water, or again mixed with Gatorade (which can give the added boost of having carbs available in your intraworkout drink as well, which is excellent for providing quick energy). When doing so, you can start to ingest it about 15-30 mins or so before beginning training, and then continue throughout.

Intelligently employing diet and training strategies that leave no stone unturned can mean the difference between seeing good gains and GREAT gains in the gym. No matter what your goal,

adding BCAA powder to your nutrition DURING your workouts can help to significantly sway your results in a positive direction.