

THE 6 BEST SUPPLEMENTS FOR TEENS

GET BIGGER AND STRONGER
WITH THESE KEY NUTRIENTS

Research Says...

- **Training** and **nutrition** are essential for making gains in muscle mass and strength.
- **Supplementation** is another critical component for any aged individual to make gains in mass and strength.
- Truth of the matter is most supplements are effective and safe for teens, only those that alter hormone levels are not advised.
- There are six “nutritional extras” that are recommended for active teens – all proven safe by scientific research and studies.

1. The Foundation: Vitamins and Minerals

- Hard training teens definitely need to keep their micronutrient levels at an optimum.
- Teens aren't likely to eat a perfect diet and micronutrients help with muscle recovery and can enhance overall health.
- Taking a **multivitamin** and minerals every day is important ensuring you won't be deficient in any critical vitamins and minerals that could hamper your muscle and strength gains.

1. The Foundation: Vitamins and Minerals

- **HOW MUCH:** one dose of a multivitamin supplement with a meal since they are absorbed best with food.
 - Extra B-vitamins which are important for proper protein and fat metabolism.
 - Extra antioxidant vitamins C and E, which destroy free radicals that can damage your muscles.
 - As for minerals, stick with individual dosing.
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- **PARENTS/COACHES:** vitamins and minerals are safe for teens as long as the established tolerable limits isn't exceeded.
 - Visit www.fnict.nal.usda.gov for downloadable list of micronutrients and limits.

2. The Workout Shake: Whey Protein

- Most of your protein should come from food, but there are certain times of day when a protein shake / bar is a much better option than whole food choices.
- Right before and after you workout are windows of opportunity that must be taking advantage of.
- Prior to workout, whey protein (fast digesting protein) is the best choice since it quickly delivers amino acids to your body for energy while preventing muscle breakdown.
- Whey is rich in aminos and other small proteins that that boost muscle growth, increase blood flow to muscles, and enhance delivery of these critical aminos to muscles.
- After workouts you need a fast digesting protein like whey (aminos aid muscle recovery and kick start muscle growth to get you ready for your next workout).

2. The Workout Shake: Whey Protein

- **HOW MUCH:** 10-20 g of whey protein within 30 minutes before you work out and about 20-30 of protein immediately after you workout.

- *Whey appears in your bloodstream 15 mins after you consume it.

- **PARENTS/COACHES:** Whey is simply a type of protein that comes from milk and is perfectly safe. This is true of whey isolates, peptides and other forms of whey. Whey supplements are easy since you can buy in bulk, put in a shaker, throw in the gym bag, and mix it with water once you need to.

- Another safe and great alternative to whey protein is milk.

- **Best Buy: Shamrock Farms Rockin' Refuel 100% Real Milk Sports Recovery Drink** with 20 grams of protein, 300 calories, 9 essential nutrients, natural electrolytes, and low glycemic index.

3. The Bedtime Shake: Casein Protein

- Why do I need another protein if I have whey? Whey makes up 20% of protein in milk, and casein makes up the 80% rest. Casein, unlike whey, is very slow digesting which makes it a perfect bedtime drink or snack while you are going 5-8 hours without eating.
- It provides you with a steady supply of aminos throughout the day or night when body is in a fasting state. This protects muscle mass from being broken down and used for fuel while you sleep or go hours without eating.
- Casein is also a good between-the-meal shake for teens trying to pack on more mass since teens go hours without eating throughout the normal school day.

3. The Bedtime Shake: Casein Protein

- **HOW MUCH:** 20-30 grams of casein protein prior to bedtime or throughout the day when you're fasting.
- **PARENTS/COACHES:** Like whey, casein is a type of protein from milk, minus the lactose (sugar) and fat. It is perfectly safe in all its forms.
- **Best Buy:** **CytoSport's Muscle Milk** with 32 g of protein (per serving) 300 calories, and rich with vitamins and minerals for additional muscle recovery and growth.

4. The Muscle Maker: BCAAs

- **Branched-chain amino acids** are the most important amino acids for the manufacture, maintenance and repair of muscle tissue.
- They are simply a group of 3 amino acids (leucine, isoleucine and valine) that are found in high concentrations in many of the foods you normally eat including animal meats, dairy products, chicken, fish and eggs.
- BCAAs stimulate protein synthesis, the process in muscles cells that builds up muscle protein and therefore, creates muscle growth.
- BCAAs have a positive effect on strength, size and even fat loss. They even halt muscle fatigue meaning you can train harder and longer in the gym or on the field.

4. The Muscle Maker: BCAAs

- **HOW MUCH:** 3-5 grams of BCAAs with breakfast or early meal during day, and within 30 minutes before and after workouts.
- **PARENTS/COACHES:** Believe it or note, some people hear the word “acids” and freak out. Amino acids are the building blocks of life and are necessary. BCAAs are simply a concentrated form of what you already get from animal meats. They usually come in a pill form and easily taken with water or any drink. It’s another perfectly safe supplement.

5. The Secret Weapon: Creatine

- **Creating is one of the most effective** supplements you can purchase. Research confirms taking creatine can help you gain as much as 10 lb of lean muscle and at least 10% more strength.
- It makes you stronger by keeping your muscles saturated with the fast energy they need to perform rep after rep in the gym or on the field.
- It also makes muscles bigger by pulling more water into the muscles cells, making them fuller and leads to long-term muscle growth.
- Creatine has also been found to boost muscle growth through increasing the levels of insulin-like growth factor-I (IGF-I) in muscle.

5. The Secret Weapon: Creatine

- **HOW MUCH:** Add 3-5 g of creatine to your pre-workout and post-workout shakes or supplements.
- **PARENTS/COACHES:** Misinformation about the safety of creatine has diminished over the years, but it is still out there. The truth is that creatine is very safe for teens, even over long periods of supplementation. It's one of the most rigorously studied supplements in history. Keep in mind that creatine supplements are simply a concentrated form of amino acids found in meats like fish and beef. It's safe and very effective for athletes and those looking to build lean muscle.

6. Extra Credit: HMB

- **HMB** (beta-hydroxy-beta-methylbutyrate) is a great supplement for teens.
- It is a metabolite of leucine, one of the BCAAS.
- It has been found to prevent muscle breakdown and stimulate muscle growth, boost strength gains, and enhance fat burning.

6. Extra Credit: HMB

- **HOW MUCH:** 1-3 g of HMB with food in the morning, before and after workouts and before bedtime.
- **PARENTS/COACHES:** despite its intimidating scientific name, HMB is a perfectly safe amino acid metabolite that has been on the market for years with a spotless safety record. Studies have proven its perfectly safe.

Nutrition Cheat Sheet

1. Eat 6 Times a Day

- *Eat every 2-3 hours to keep a steady supply of aminos, vitamins, and minerals going through your bloodstream. (i.e.: fruit, nutritional bar, sandwich, protein shake, and so on all would count as a meal).*

Nutrition Cheat Sheet

2. Ingest 2 - 3 g of Carbs Per Pound of Body Weight

- *Carbs are important for muscle strength and gains. Stored in muscles as glycogen, they fuel your muscles for training. For a 150 lb teen, this equates to 300-450 g of carbs per day.*

Nutrition Cheat Sheet

3. Ingest .5 - 1 g of Protein Per Pound of Body Weight*

- Protein is so critical for muscle and strength gains you need to make sure you're getting enough. For a 150 lb teen, this equates to 75 - 150 g of protein per day.

* DEPENDS ON TYPE OF ACTIVITY BEING PERFORMED, SIZE OF INDIVIDUAL, AND TYPE OF PROTEINS BEING EATEN.

Nutrition Cheat Sheet

4. Ingest at Least 20 g of Protein Per Meal

- Best whole food sources include beef, fish, poultry, eggs and dairy products. Try to eat a protein source at every meal if possible.

Nutrition Cheat Sheet

5. Fats Should Be 20 - 30% of Your Daily Diet

- You need dietary fat to make muscle gains. Certain types of fat keep testosterone levels elevated and can help with muscle recovery and growth. Good sources of saturated fat are red meats and good sources of unsaturated fats are peanut butter, mixed nuts, olives, and olive oil. Fish, flaxseed oil and walnuts are essential fatty acids you should try to eat.

Nutrition Cheat Sheet

6. Ingest 18 - 20 Calories Per Pound of Body Weight

- if you train hard you need to keep your body full of the right amount of calories, so make sure it adds up.

** 25-35% Protein*

** 40-55% Carbs*

** 20-30% Fats*

Nutrition Cheat Sheet

7. Eat 20 - 40 g of Protein Before Bed

- Sleep is deprivation, but essential to recovery, growth, and overall health.

During sleep, your body is in a fasting state, therefore it is primed to start cannibalizing your muscles when nutrients in the bloodstream are not available. This is when you need casein, or another slow digesting protein. Grow while you sleep!

THE BOTTOM LINE!

- There are 4 key periods each day you need fuel:
1) breakfast 2) pre-workout 3) post-workout 4) bedtime
Fuel your muscles at these times!
- Supplementation and nutrition pre and post-exercise has been proven to promote recovery for athletes and has been shown to increase strength and muscle mass in athletes who participate in resistance-type exercises.
- Timing, composition and amount of pre and post-exercise food or supplements is dependent upon the individual, timing of the next exercise session, and the activity being performed.

THE DOWNSIDE!

- For the most parts, most supplements are safe and effective. Still, some can have negative side effects. Supplements that affect hormone levels in the body can have potential dangerous effects on the body and are illegal for the most part. Always talk with a doctor, expert, or someone you trust about certain supplements prior to use.
- As well, supplements are not cheap and do not last that long if taken by the recommended dosage. The cost, amount taken, and how long they last are areas you need to research and identify what is best for you.
- Remember, you can get most of the effects of the supplements through whole food choices. But, since it is hard to eat a four-course meal 5-6 times a day, supplements are time efficient and convenient (especially for teens, workout junkies, and those who are busy throughout the day).

THE TRUTH!

1. **You need more!** Not only for muscle building but protein dulls hunger, and prevents many serious diseases.
2. **It is not all the same!** Animal proteins give you more of the benefits than plant based proteins. Make room for the lean proteins: eggs, milk, yogurt, lean meat and fish.
3. **Timing is everything!** All day, even rest, your body is breaking down and building protein. When you eat 30 g of protein, you trigger a burst of protein synthesis that lasts about 3 hours. Spread the wealth – eat protein at each meal and 2-3x during day snacking on protein.
4. **Workouts require fuel!** When you workout, your muscles are primed to respond to protein. 30 min before 10-20 g with some carbs so you don't use protein for energy source. 20 grams after workout (you lift and don't consume protein, it is almost counterproductive)
5. **Powders are for everyone!** Not just muscleheads...quick hit of aminos provided by protein supplement, bar, or shake activates muscle building response. Whey is fast-absorbing, high quality; Casein is slow-absorbing but more sustained source. ***Grow while you sleep***

GYM-FRIENDLY PROTEIN ALL-STARS

- Chicken, Turkey, or Tuna
 - 14-22 g of protein, 60-100 calories, okay with bread
- Eggs (3 of them)
 - 19g of protein, 232 calories, hard-boiled eggs, the fat is healthy and filling
- Chocolate Milk
 - 15-20 g of protein, 300 calories, refresh and rebuild, Journal of American College of Nutrition = “the ideal post-workout beverage for building muscle”
- Whey/Casein Powder
 - 20-30 g of protein, 100-200 calories, find a protein powder with both whey and casein.
- Yogurt
 - 10-15 g of protein, 80-100 calories, easy to carry, packed with good mix of nutrients

RESOURCES

- Stiefel, Steven (2010). *The 6 Best Supplements for Teens*, Muscle & Body, April issue.
- Steiman, Adina (2010). *The Truth About Protein*, Men's Health, March issue.