



BUILDING MUSCLE IN YOUNG ATHLETES: MAKING NUTRITION COUNT

Young athletes who are involved in strength-based and power sports may desire to increase their muscle mass. Those who are at the appropriate developmental stage should be able to achieve his or her goals by following the guidelines below, and without nutritional supplements.

Before setting any goals, it is important to understand that young athletes will not gain muscle mass like an adult. A young, pre-pubertal athlete can still build muscle, but the level of hormones needed to support larger gains in muscle, like those often desired by young males, will not be present until after puberty.

What builds muscle?

Necessary components for building muscle:

1. **Adequate calories:** Getting enough calories or increasing daily calorie intake is essential to building muscle.

Ways to increase calories:

- Increase the number of meals or snacks eaten per day. Most young athletes need a minimum of 3 meals and 2 snacks per day.
- Add spreads, such as avocado, hummus, pesto or mayonnaise to sandwiches and wraps.
- Choose heartier or thicker slices of bread.
- Include oatmeal or fresh smoothies with breakfast or snacks. Include items such as milk, yogurt, peanut butter, almond butter, honey, fruit, flax or chia seeds.
- Choose nutrient-dense cereals such as granola, Raisin Bran[®], shredded wheats or Grape-Nuts[®].

2. **Protein:** Protein is the key nutrient for building muscle and should be included in all meals and some snacks.

Ways to increase protein:

- Add an egg or Greek yogurt with breakfast.
- Choose granola bars that contain whole grains, nuts or seeds.
- Include string cheese with a snack.
- Add a glass of milk or chocolate milk with meals or snacks.
- Include beans, nuts and seeds in salads.

3. **Carbohydrates:** Carbohydrate is the main source of energy for working muscles and the brain. It should be present in all meals and snacks, to provide energy while allowing protein to build desired muscle mass.



Carbohydrates suggestions:

- Whole grain bagels or English muffins.
- Fresh or dried fruits.
- Starchy vegetables like white potatoes, sweet potatoes, peas, corn or winter squash.
- Rice, pasta, quinoa, couscous, etc.
- Milk or yogurt (also great sources of protein and calcium).
- Whole grain crackers, cereals, granola bars.

4. **Resistance training:** Exercises like lifting, pushing and pulling an outside force create changes within the muscle that result in longer, stronger and bigger muscles. These should be developmentally appropriate and initiated with the help of a licensed professional.

Keys to success:

- **Be realistic:** Young, pre-pubertal athletes will not gain muscle mass like an adult.
- **Work on body composition changes during the off-season.** Trying to make big changes during the season could lead to decreased performance or injury.
- **Plan for gradual weight gain.** Include a well-balanced diet and a developmentally appropriate strengthening program.
- **Remember the overall goal is optimal performance.** Measure improvements in performance (jumping height, running distance, etc.), not a number on the scale.
- **Focus on real food:** Rely on healthy calorie and nutrient-rich foods instead of supplements and protein powders.
- **Get enough sleep and manage stress.** These are very important parts of achieving body composition goals.

If you need help getting started, ask your clinic team for a consult with the Scottish Rite sports dietitian who can help you create a plan, recommend products and support you as you work towards your goals.



What does a day of muscle building meals & snacks look like?

Specific foods and portion sizes may vary based on an athlete's size, age, sport and training demands.

Here is a general example:

Lower Energy-Dense Meals & Snacks		Higher Energy-Dense Meals & Snacks
Instead of these options...		...try these options!
Cheerios with skim milk	BREAKFAST	• Granola • 2% Milk • 1 Egg
Snack bag of cheese crackers	SNACK	Nature Valley granola bar with peanut butter
• Turkey sandwich on white bread with 1 slice of cheese • Apple • Snack bag of baked chips	LUNCH	• Turkey sandwich on hearty whole-grain bread with 2 slices of cheese and avocado • Apple • Snack bag of baked chips
Sliced strawberries	SNACK	Greek yogurt • Sliced strawberries
Grilled chicken • Steamed broccoli • Baked potato with butter • Water or unsweet tea	DINNER	Grilled chicken • Broccoli roasted in olive oil • Baked potato topped with butter and extra shredded cheese • Glass of milk
Nothing	SNACK	Snack-size bag of homemade trail mix (includes: cereal, almond and dark chocolate chips)