

NUTRIENT TIMING

Nutrient timing is just as important throughout the day as it is around exercise. Athletes demand more fuel and hydration than the “average” person, putting a higher priority on the importance of multiple meals and snacks to fuel the day, as well as sports and activities. Plus, many teen athletes train or practice several times a day between athletics periods, before and after school practices, weight room training sessions, and club team workouts, which increases their caloric and fluid demand.

So, what does nutrient timing look like for you as a teen athlete?

Nutrient timing starts at breakfast! Breakfast means just that, break the overnight fast. Because a lot of times you are running out the door early to get to school and practice, proper nutrition is essential to give you energy.



After breakfast, the nutrient timing clock keeps ticking. Every 2-4 hours you should be eating meals and snacks that contain carbohydrate, protein, and fluid to keep your body fueled and hydrated. Depending on your school and workout schedule, you might need to bring multiple snacks to eat between classes and workouts.

BREAKFAST SHOULD CONSIST OF THE FOLLOWING:

- Carbohydrates for fuel
 - » Think oatmeal, whole wheat toast/bagel, and whole grain cereal
- Protein to help stabilize blood sugar
 - » Think eggs, lean protein, and dairy foods
- Good fat to help provide energy
 - » Think peanut butter, nuts, and seeds
- Fruit to provide nutrients and hydration
 - » Think fresh fruit, fruit in a smoothie, and 100% juice
- Fluid to rehydrate after not drinking all night
 - » Think water, milk, and smoothies

TOP 10 QUICK BREAKFASTS

1. Peanut butter and honey toast with banana, pre-made egg cups (see *Beef Sausage & Egg Muffin Cups recipe), and milk
2. Overnight oats made with milk, nuts and berries, hard-boiled eggs, and fruit
3. Breakfast pizza with whole grain crust (or pita bread), crumbled ground beef, veggies, and cheese with grapes and milk
4. Smoothie made with milk, Greek yogurt, berries, banana, peanut butter, and ice
5. Whole wheat breakfast tacos with eggs, cheese, and breakfast sausage paired with fruit, and chocolate milk
6. Pre-made energy bites made with oats, honey, peanut butter, protein powder, and your favorites nuts, seeds, and dried fruit with a side of fruit and milk
7. Whole grain cereal with milk, scrambled eggs, Greek yogurt, and apple slices
8. Beef Sausage Savory Oats (see *Beef Sausage Savory Oats recipe), berries, and milk
9. Large yogurt parfait with Greek yogurt, whole grain granola, fruit, and nuts
10. Whole grain avocado toast with fried eggs paired with a banana and Greek yogurt

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FUELING SNACKS:

SHELF-STABLE SNACKS	REFRIGERATED SNACKS
Beef jerky and a fruit	Apple slices with peanut butter-yogurt dip
Beef jerky and a granola bar	Hummus with pretzels and sliced veggies
Peanut butter filled pretzels with grapes	Cheese stick with apple slices
Nut mix with a banana	Whole grain crackers with turkey and cheese
Beef jerky trail mix with nuts and dried fruit	Greek yogurt with berries and granola
Blueberry muffin with almond butter	Hard-boiled egg and a fruit
Whole grain granola bar and nuts	Whole grain granola bar and hard-boiled egg
Whole grain crackers and peanut butter	Half roast beef/turkey and cheese sandwich
Popcorn trail mix with granola and nuts	Whole grain toast with ricotta cheese and jam
Energy bar and a fruit	Smoothie with milk, yogurt and fruit

At meals, shape your plate in relation to how much you are training throughout the day.
The more workout sessions, the more nutrition required.

MODERATE TRAINING	HARD TRAINING / RACE DAY	SIDE OPTIONS
		<p>BEVERAGES:</p> <ul style="list-style-type: none"> • Water • Dairy • 100% Fruit Juice • Flavored Drinks <p>FRUIT:</p> <ul style="list-style-type: none"> • Fresh Fruit • Dried Fruit • Canned Fruit <p>FATS:</p> <ul style="list-style-type: none"> • 1 Tbsp. oil • Avocado • Nuts and seeds <p>FLAVORS:</p> <ul style="list-style-type: none"> • Salt/Pepper • Herbs/Spices • Vinegar • Salsa • Mustard/ Ketchup

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Nutrient timing takes center stage around exercise. The goal is to be well-fueled and hydrated going into exercise, stay hydrated and fueled (if necessary) during exercise, then promote recovery with proper nutrition as soon as possible after a workout, but for sure within two hours.

Pre-workout nutrition is focused on fueling and hydrating the body for training and performance.

2-4 hours before exercise: Consume a pre-workout meal to provide your body with energy for training and competition. Note that many times, lunch is your pre-workout meal for after school training.

The meal should include:

- Rich in complex carbohydrates
 - » Think oatmeal, quinoa, or brown rice
- Moderate in lean protein
 - » Think eggs, lean beef, or dairy
- Low in fat and fiber
 - » Think nuts and oils for fats
 - » Think broccoli and cauliflower for fiber
- Consume plenty of fluids pre-workout, at least 16-20 ounces
 - » Think water and sports drinks
- Things to avoid: spicy foods, garlic, creamy foods, fried foods, and other foods that might cause individual gut distress

During exercise, the main focus is to stay hydrated.

- Consume 5-10 ounces of fluid every 15-20 minutes of consistent movement.
- For those exercising 0-90 minutes, water should be an appropriate way to hydrate.

For those who train 90 minutes or longer, the sports nutrition recommendation is to add 30-60 grams of carbohydrate per hour.

- If you know it will be a long practice or training session, start fueling with carbohydrates earlier in the workout to help prevent fatigue.
- A good rule of thumb for carbohydrate intake is to consume 20-25 grams of carbohydrate every 30 minutes.
- 20-30 grams of carbohydrate ideas:
 - » 1 gel or gu
 - » 4-6 energy bites/blocks
 - » 1 banana
 - » Crackers or pretzels
 - » 12-16 ounces sports drink



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**Post-workout nutrition is focused on recovery.
Think of recovery as having 3 R's:
Replenish, Rebuild and Rehydrate.**

- **Replenish:**

- » Carbohydrate is needed to replace what was burned off in exercise and help you replenish your glycogen stores (stored carbohydrate).

- **Rebuild:**

- » Protein is key.
- » Exercise causes muscle breakdown and requires high-quality protein to help rebuild and repair muscle fibers. The general recommendation is 15-25 grams of high-quality protein post-workout.

- **Rehydrate:**

- » Drink fluid to replace what was lost in sweat. The goal is to consume 16-24 ounces per pound of fluid lost during exercise or continue to consume fluid until your urine is pale yellow to clear in color.

When and what to eat post-workout:

- **0 - 45 minutes post-workout:**

- » The goal is to eat as quickly as you can post-workout, but definitely within 45 minutes. If you can do it faster, then great!
- » Simple carbohydrate is ideal immediately post-workout because it breaks down quickly and promotes recovery at a faster rate.
- » High-quality protein is essential immediately post-workout because it provides the amino acids necessary to promote repairing muscle fibers. While all proteins can fit in the post-workout snack, whey protein is the quickest digesting protein and naturally contains the highest content of leucine, a branched chain amino acid that independently has been shown to stimulate muscle protein synthesis after a workout.

- **45 minutes - 2 hours post-workout:**

- » Follow your post-workout snack with another snack or meal within 1-2 hours.
- » This meal should contain complex carbohydrates, lean protein, good fat, veggies (if appropriate), and fluid.



References:

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