Temple University
College of Public Health

Healthy Eating For Athletes

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Learning Objectives

1. At the completion of this lesson, at least 90% of participants will be able to recall the recommended nutritional eating pattern designed for athletes on a worksheet.
2. At the completion of this lesson, at least 90% of participants will be able to identify the most important macronutrients to consume after exertion on a worksheet.

Break out rooms

Brainstorm for 2 minutes

1. Introduce yourself
2. Share what your favorite meal is to eat on the day of your sport/event.
3. Share if you like to consume the meal before, during, or after your sport/event.

After 2 minutes, we'll discuss with everyone

Ask students the following question to begin,

“What is one word that comes to mind when thinking of healthy eating for a student athlete?”

Healthy Eating

Healthy Eating: eating a variety of foods that give you the nutrients you need to maintain your health, feel good, and have energy (Breast Cancer, 2020).

Important for peak athletic performance and is vital to properly fuel, rebuild and repair the body.

Healthy Eating for Student Athletes

A well-balanced diet is essential for growth and development in athletes and important for maintaining optimal performance.

Well balanced diet = Macronutrients and Micronutrients

Macronutrients

Carbohydrates

Protein

Fats

Carbohydrates

- The key source of energy for athletic performance.
- Provides muscular energy and brain function.
- Foods that are high in carbohydrates that are rich in quality includes:
  - Whole grains (rice, quinoa, oats, whole grain pasta and whole-wheat bread)
  - Starchy vegetables like peas, potatoes, beans, and corn
  - Fruits
  - Vegetables
  - Dairy (low-fat or non-fat)
- Recommended Intake: 45% of your total calories should come from carbohydrates.

Proteins

- Contributes to maintain muscle growth and repair body cells as well as muscles.
- Comes in a variety of sources: animal and plant
- Protein sources:
  - Chicken, tukey, fish, eggs, tofu, peanuts, hummus (chickpeas), almonds.
- Eating the right amount of protein is key for athletic performance.
- Recommended Intake:
  - 1.2 to 2.0 grams of protein per kilogram of body weight per day for athletes, depending on training. Protein intake should be spaced throughout the day and after workouts.

Protein Supplements

- While some athletes may choose to take protein supplements it’s not necessary. Most athletes can usually meet the recommended amount of protein throughout the day as they increased food intake.
- Athletes would not receive micronutrients through powders and supplements as they would through foods.
- Cost effective

Fats

- A primary fuel that provides valuable metabolic energy for light to moderate intensity exercise.
- There are many sources of fat so choosing the right form of fat is key to providing efficient fuel of energy.
- Unsaturated fats are fats that is easily digestable whereas, saturated fats takes longer for the body to digest.

Fats cont.

Unsaturated sources are includes

- ➔ Fatty pieces of meat such as beef and lamb
- ➔ Dairy products including cream, whole milk, butter, cheese
- ➔ Some pork and chicken products

Saturated includes two types:

1. **Monounsaturated**
- Olive oil
- Peanut oil
- Avocadoes
- Nuts (most of them)

1. **Polyunsaturated**
- Fatty fish, tuna, salmon, sardines,
- Soybeans
- Walnuts
- Sunflower seeds
- Chia seeds
- Oysters.

Fats cont.

Reminders & Recommended Intake

- Avoid fats that are high in calories
  - Unsaturated fats
  - Saturated fats: polyunsaturated and monounsaturated
- Eat fats in moderation
- Choose “good” fats; polyunsaturated & monounsaturated fats
- Athletes should only consume 20 to 35 percent of their calories from fat. (USADA, 2020)

Table 10: SUBSTITUTIONS FOR REDUCING FAT INTAKE

Instead of:	Try:
Plain milk	Kefir, ultra-filtered milk
Ice cream	Higher protein ice cream, avocado ice cream, 100% real fruit popsicles
Butter or margarine	Avocado, nut butters, Greek yogurt, olive oil, hummus
Sour cream	Plain Greek yogurt
Bacon	Canadian or turkey bacon
Ground beef	Extra lean ground beef or ground turkey (at least 93% lean)
Fried chicken	Baked chicken
Doughnuts and pastries	Whole-grain breads, homemade breads
Apple pie	Baked or raw apple
Cookies, cakes, or brownies	Peanut butter pretzels, dried fruit, trail mix

United States Anti-Doping Agency. (n.d.). Fat as fuel- fat intake in athlete. United States Anti-Doping Agency. https://www.usada.org/athletes/substances/nutrition/fat/

Micronutrients

Vitamins

Minerals

Vitamins and Minerals

Benefits in Athletic Performance:

- Provides energy
- Helps in breaking down food from big nutrients such as carbohydrates and fatty acids into smaller units that the body will also use to turn the food into fuel.
- What about vitamins and mineral supplements?
    - vitamins and minerals supplements **do not** enhance performances
    - Improving diet with foods that are high in vitamins and minerals is always recommended first before using supplements.

United States Anti-Doping Agency. (n.d.) Vitamins, minerals, and other supplements. United States Anti-Doping Agency. https://www.usada.org/athletes/substances/nutrition/vitamins-minerals-and-other-supplements/

Table 11: MICRONUTRIENT SOURCES

Selected Micronutrients	B Vitamins	Calcium	Vitamin C	Vitamin D	Magnesium	Selenium	Iron
Vegetables	Leafy green vegetables Asparagus Cauliflower Sweet potatoes Mushrooms	Broccoli Kale Turnip greens	Tomatoes Potatoes Broccoli Red peppers Turnip greens Collard greens		Spinach Romaine Lettuce	Green beans Broccoli	Spinach
Fruits	Dried prunes Bananas Orange juice	Fortified Orange juice	Citrus fruits like oranges grapefruit and strawberries		Pineapple Banana	Banana	Raisins and dried apricots
Grains	Whole grain breads cereals pasta rice tortillas	Corn tortilla Flour tortilla	Fortified breakfast cereals	Fortified cereal	Whole grain cereals and oatmeal	Spaghetti Rice	Oatmeal Spaghetti Fortified cereals
Dairy	Milk Yogurt	Milk and dairy products		Milk and dairy products	Yogurt	Cottage cheese Cheddar cheese	
Meats eggs nuts and beans	Turkey, pork chicken salmon tuna soy	Soybeans	Tofu salmon	Tuna salmon sardines soy milk eggs	Almonds cashews peanuts baked beans chick peas	Lean beef ham chicken tuna nuts	Red meat dark meat poultry chick peas shrimp

Healthy Eating Tips for Young Athletes

Question

Take a couple minutes to answer this question:

What was one tip that Dr. DeGraw mentioned how to help maintain energy throughout athletes performance for during and after games and events?

- Write response in the chat please.

Hydration

- Staying hydrated before, during and after exercise or events is important for optimal performance.
- Benefits of staying hydrated:
  - Increase energy
  - Improve muscle function
  - Help regulate blood pressure
  - Improves circulation of
    - Blood flow
    - Delivery of oxygen
    - Nutrients to the muscles.

Dehydration

The consequence of not staying hydrated throughout physical activity lead to dehydration.

Dehydration is condition caused by the loss of too much fluid from the body. It happens when you are losing more fluids than you are taking in, and your body does not have enough fluids to work properly (Medline Plus, n.d.).

Symptoms associated with dehydrations

- nausea/vomiting
- Fatigue
- Headache
- Muscle cramp

Dehydration

Preventive factor:

The best way to prevent dehydration is to maintain body fluid levels by consuming plenty of fluids before, during, and after a workout or event.

Hydration cont.

Recommended Fluid Intake

Before Exertion
Two to three hours before 16 ounces: (about 1 water bottle)
15 minutes before: 8 ounces

During Exertion
Four ounces of fluid every 15 to 20 minutes (2 to 3 large gulps)

After Exertion
16 to 20 ounces of fluid for every pound lost (1 to 11/2 water bottles per pound lost)

What about sport drinks?

- Benefits
  - Helps rehydrate, provide energy, and replenish electrolytes lost during sweating specifically sodium.
- More beneficial with intense exercise that last longer than 60 minutes.
- If athlete is engaged in intense exercise longer than 60 minutes the recommended sport drink consumption is every 15 to 20 minutes

Examples: Gatorade and Vitamin Water

When Should I Eat?

Before Activity

Eat meals 3-4 hours prior to physical activity.

Meals should be high in complex carbohydrates which will allow your body to digest your meal, prevent discomfort and enhance and store energy.

Stay hydrated throughout the day and during physical activity. Preferably water, but sport drinks are also recommended.

Example:

1.5 - 2 cups of oats, egg omelette, and glass of water

During Activity

During physical activity, make sure to keep meals low in calories and higher in simple carbohydrates (fast acting for energy) and fats.

Examples:

Banana, protein bar, crackers, peanuts, seeds

After Activity

Eat high protein foods 30 minutes - 1 hour after physical activity to help muscles recover.

Protein is the most important macronutrient to consume after exertion.

Eat meals high in carbohydrates to help replenish muscle glycogen.

Example Meal:

grilled chicken, rice, and broccoli.

Activity A - Activity 1

After 5 minutes to complete worksheet, we will come back to discuss.

Conclusion

- At the completion of this lesson, 90% of participants will be able to recall the recommended nutritional eating pattern designed for athletes on a worksheet.
- At the completion of this lesson, 90% of participants will be able to identify the most important macronutrients to consume after exertion on a worksheet.

Conclusion

1. Maintaining a healthy eating pattern is vital for optimal performance in an athlete.

2. Consuming a healthy and well-balanced diet will provide the energy and nutrition an athlete needs in order to grow and perform well.

3. Athletes are better equipped to maintain and meet their maximal athletic potential when they consume the right foods and fluids needed to fuel the body.

Questions?

Questions

1. What does a specific nutritional eating pattern look like for a student athlete?

2. What is the importance of having a student athlete balance their diet?

3. What dietary habits will include from here on out to maximize your performance?

References

Academy of Nutrition and Dietetics Dietitians of Canada and the American College of Sports Medicine. (2020).

Ascension Michigan. (2011). Healthy eating tips for young athletes. Ascension Michigan. https://www.youtube.com/watch?v=2e7t-SzPGU8

Breast Cancer. 2020. What Does Healthy Eating Mean? Retrieved: https://www.breastcancer.org/tips/nutrition/healthy_eat

Children's Hospital

Association. (n.d.). The importance of hydration for young athletes. Children Hospital

Association. https://www.childrens.com/health-wellness/the-importance-of-hydration-for-young-athletes

Harvard T.H. Chan. (n.d.). Carbohydrates. Harvard T.H. Chan. https://www.hsph.harvard.edu/nutritionsource/carbohydrates/

Klemm, S. (2018). Vitamin needs of athletes. Retrieved https://www.eatright.org/food/vitamins-and-supplements/types-of-vitamins-and-nutrients/vitamin-needs-of-athletes

Medline Plus. (n.d.) Dehydration. Medline Plus. https://medlineplus.gov/dehydration.html

National Collegiate Athletic Association. 2013. Performance hydration. National Collegiate Athletic Association. https://www.ncaa.org/sites/default/files/Performance%20Hydration%20Fact%20Sheet.pdf

Reference cont.

Pros and Cons of Protein Powder. (2020). Ideal Nutrition. https://idealnutrition.com.au/pros-and-cons-of-protein-powder/

United States Anti-Doping Agency. (n.d.). Fat as fuel- fat intake in athlete. United States Anti-Doping Agency. https://www.usada.org/athletes/substances/nutrition/fat/

United States Anti-Doping Agency. (n.d.) Vitamins, minerals, and other supplements. United States Anti-Doping Agency. https://www.usada.org/athletes/substances/nutrition/vitamins-minerals-and-other-supplements/

United States Department of Agriculture. (n.d.). Saturated, unsaturated, and trans fats. *ChooseMyPlate.*https://www.choosemyplate.gov/node/5664

Ascension Michigan. (2011). Healthy eating tips for young athletes. Ascension Michigan. https://www.youtube.com/watch?v=2e7t-SzPGU8