Temple University
College of Public Health

Healthy Eating For Athletes

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Written For Virtual Teaching

AUDIENCE

High School Athletes

TOPIC

Healthy Eating

TIME NEEDED

60 minutes

LEARNING OBJECTIVES

By the completion of the program,

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.

MATERIALS NEEDED

- Powerpoint Presentation
- Internet with Wifi connection
- Access to Zoom with breakout rooms & chatbox enabled
- Healthy Eating Tips for Young Athletes
- Activity 1- Appendix A Worksheet

PREPARATION

Prior to the session set up a zoom meeting and send out the zoom link to the intended audience. Next, load powerpoint slides, Activity 1 worksheets on to the computer, and have breakout rooms set up for the start of the lesson. Check to be sure chat boxes are enabled and internet connection is strong.

PROCEDURE:

1. ***Introduction***

Powerpoint Slides 1,2,3 (10 minutes)

1) Begin the lecture with a slide that contains the title of the lesson plan as well as the author's name.
    a) Self introduction to the audience and state the topic this lecture will be discussing which is healthy eating for high school athletes.

2) State the objectives for the lesson.
    a) Participants will be able to recall the recommended nutritional eating pattern designed for athletes on a worksheet.
    b) Participants will be able to identify the most important macronutrients to consume after exertion on a worksheet.

3) Introduce an icebreaker activity.
    a) Before dividing students into breakout rooms; discuss the brainstorming activity:
        i) Introduce themselves and name one favorite meal and beverage that they consume on the day of their sport.
        ii) After self introduction, and naming your favorite meal, discuss when you like to consume that meal on the day of your sport and why.
    b) After the two minutes, bring students back into the main room.

2. *Definitions & Importance*

Powerpoint Slides 4 & 5 (5 minutes)

1. Ask students the following question to begin,
    a. **“**What is one word that comes to mind when thinking of healthy eating for a student athlete?”
2. After 3 minutes, continue the lesson with the definition of healthy eating.
    c) Definition: Healthy Eating means eating a variety of foods that give you the nutrients you need to maintain your health, feel good, and have energy (Breast Cancer, 2020).

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

3. *Healthy Eating For Student Athlete*

Powerpoint Slides 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17 (15 minutes)

4) Discuss and explain why it is important for student athletes to make smart food choices in their diet.
    a) A well-balanced diet is essential for growth and development in athletes and important for maintaining optimal performance.
    b) Three macronutrients
        i) Protein
        ii) Carbohydrates
        iii) Fats
    c) Macronutrients
        i) Vitamins and minerals

Slide 7 list the 3 macronutrients already mentioned above so go straight to the transition:

5) Transition: Now we will discuss some of the important nutritional components for Athletic Fuel for Peak Performances

Slide 8:

6) Carbohydrates
    a) The key source of energy for athletic performance are carbohydrates. It should make up about 45% of an athlete's total calories. It provides muscular energy and brain function. Some carbohydrates are much better than others so it's important to choose carbohydrates that are rich in quality.
    b) Foods that are high in carbohydrates includes: (Harvard T.H. Chan., n.d.).
        i) whole grain (rice, quinoa, oats, whole grain pasta and bread)
        ii) Starchy vegetables like peas, potatoes, beans, and corn
        iii) Fruits
        iv) Vegetables

v) Dairy (low-fat or non-fat)

c) It is important for athletes to consume carbohydrates during and before as it will aid in helping restore glycogen or in other words, energy.

Slide 9

7) Protein (pt1)
   a) Proteins contribute to maintaining muscle growth and repair body cells and muscles.
   b) Protein comes from a variety of sources including both animal and plant.
   c) Protein sources (Castle, 2020).
      i) Chicken, turkey, fish, eggs, tofu, peanuts, hummus/chickpeas, almonds, green peas, and soy milk.
      ii) While protein is important for building new muscles, eating the *right* amount of protein is key for athletic performance. According to the Academy of Nutrition and Dietetics, Dietitians of Canada and the American College of Sports Medicine recommend (2020), 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 (Academy of Nutrition and Dietetics, Dietitians of Canada and the American College of Sports Medicine, 2020).

Slide 10

8) Protein Supplements
   a) 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.
   b) Will not receive micronutrients through supplements and powders as an athlete would through food.
   c) The cost of supplements and powders outweigh the amount of protein you can receive from natural protein food sources like chicken, beans, and milk.

Slide 11

9) Fats (USDA, n.d.).
   a) For athletes, fats is the primary fuel that provides valuable metabolic fuel 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 which are

fats that are easy to digest; whereas unhealthy fats which are saturated and trans fat are harder to digest.

Slide 12

10) Fats (cont.)
    a) Saturated fats are most often found in animal products
    b) Sources of saturated fats include
        i) fatty pieces of meat such as beef and lamb
        ii) dairy products including cream, whole milk, butter, shortening, and cheese
        iii) some pork and chicken products
    c) Unsaturated fats are also known as oils due to their loose chemical property. There are two types of saturated fats: Monounsaturated fats and Polyunsaturated fats.
        i) Monounsaturated fats are sources such as
            (1) Olive oil
            (2) Peanut oil
            (3) Avocadoes
            (4) Nuts (most of them)
        ii) Polyunsaturated fats are important because they aid in muscle movement and prevent blood clots. Since our body doesn't naturally make this source of fat, it is important that we eat food that contains this form of fat. Which are;
            (1) Fatty fish-tuna, salmon, sardines
            (2) Soybeans
            (3) Walnuts
            (4) Sunflower seeds
            (5) Chia seeds
            (6) Oysters.

Slide 13

11) Fats (cont.)
    a) Remember to avoid fats that are high in calories and rather eat fat in moderation and choose the "good" fats – polyunsaturated and monounsaturated fats. Athletes should only consume 20 to 35 percent of their calories from fat (USADA, 2020).
    b) Avoiding fried foods is important
        i) Because fried foods take long to digest, which can leave an athlete feeling drowsy and stomach-heavy.

Slide 14:

12) Show and explain the table on substitutions for reducing fat intake. This table just gives an idea on how you can substitute certain foods that are high in fat with foods that have fewer fat intake. For example; instead of fried chicken, try out baked chicken because it has less grease (USADA, n.d.).

Slide 15:

13) Transition to now discussing micronutrients: vitamins and minerals.

Slide 16:

14) Vitamins & Minerals
    a) Benefits (Klemm, 2018).
        i) Helps provide energy
        ii) Helps to break down food from bigger nutrients, such as carbohydrates and fatty acids
        iii) Helps turn food into fuel
    b) Many athletes will take vitamins and minerals in supplements form, most vitamins and minerals are food in foods consumption. It is important that young athletes learn that 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 as a substitute.

Slide 17:

15) Show and explain the table on the variety of macronutrient sources. (USADA, n.d.).
    a) After discussing the table, transition into the video

4. *Video*

Powerpoint Slide 18, 19 (5 minutes)

1. Include video: Healthy Eating Tips for Young Athletes by Ascension Michigan (Youtube link) https://www.youtube.com/watch?v=2e7t-SzPGU8 (1 minute)
2. After the video, ask students to respond to questions by writing answers in the chat:
    b) Question 1: What was one tip that Dr. DeGraw mentioned how to help maintain energy throughout athletes performance for during and after games and events?
    c) Wait for about 1 minutes for responses and after 1 minute start to discuss the student's response.

d) Transition from key foods to key hydration techniques and important beverages for student athletes.

5. *Hydration & Dehydration*

Powerpoint Slides 20, 21, 22, 23, 24 (7 minutes)

1. Hydration
    a. Eating is only half of a healthy diet. Staying hydrated during and after exertion is important for optimal performance.
    b. Benefits (Children's Hospital Association, n.d.)
        i) There are many benefits to staying hydrated such as; increases in energy, improves muscle function, helps to regulate blood pressure, and improves circulation of blood flow, delivery of oxygen and nutrients to the working muscles.

2. Dehydration

a. Failing to stay hydrated during and after exertion can lead to dehydration.
b. Definition**:** Dehydration is a 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.).
c. Symptoms associated of dehydration
    - It can cause heat-related illness or heat stroke
    - Nausea/vomiting
    - Fatigue
    - Headache
    - Muscle cramp

3. Dehydration (cont.)
    a. Preventive Factor for dehydration:
        i. 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.

4. Hydration (cont.)

a. Fluid intake recommendations for athletes are (NCAA, 2013).
    i. Before exetersion two to three hours before 16 ounces (about 1 water bottle) 15 minutes before: 8 ounces
    ii. During exertion: 4 ounces of fluid every 15 to 20 minutes (2 to 3 large gulps)

iii. After exertion: 16 to 20 ounces of fluid for every pound lost (1 to 1.5 water bottles per pound lost)

5. Sports Drinks

a. So What About Sport Drinks?
   i. Benefits:
      1. Sport drinks help to rehydrate
      2. Provide energy
      3. Replenish electrolytes lost in the body.
   ii. Sport drinks are more beneficial when engaged in intensive exercise for longer than 60 minutes. If an athlete is exercising longer than 60 minutes, it is recommended that sport drinks every 15 to 20 minutes can help maintain energy and electrolyte levels. (NCAA, 2013)

6. *When to Eat?*

Powerpoint Slides 25, 26, 27, 28 (8 minutes)

1. When to Eat?
   a. **Before**:
      i. Eat meals 3-4 hours prior to physical activity.
      ii. Meals should be high in complex carbohydrates which will allow your body to digest your meal, prevent discomfort and enhance and store energy.
      iii. If hungry before an event, eat small simple carbohydrates and lower in calories (Bananas, Peanut butter, Protein bar) 30 minutes - 1 hour before for fast acting energy.
      iv. Stay hydrated throughout the day and during physical activity. Preferably water, but sport drinks are also recommended.
   a. **During**:
      i. During physical activity, make sure to keep meals low in calories and higher in simple carbohydrates and fats
      ii. Banana, protein bar, crackers, peanuts, seeds

c. After

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

ii) Protein is the most important macronutrient to consume after exertion.
iii) Eat meals high in carbohydrates to help replenish muscle glycogen.
iv) grill chicken, rice, and broccoli.

7. ***Activity 1 Worksheet(Appendix A)***

Powerpoint Slides 29, 30 (5 Minutes)

1. Share Appendix A with Activity 1 through zoombox and have students fill out the document.

8. ***Conclusion***

Powerpoint Slides 31, 32, 33, 34 (5 minutes)

1. Mention what the objectives were for this lesson.
    a. **Objective 1:** At the completion of this lesson, 90% of participants will be able to obtain the concept of a specific nutritional eating pattern designed for athletes through the completion of the kahoot quiz.
    b. **Objective 2:** At the completion of this lesson, 90% of participants will be able to identify at least 1 healthy tip from watching the video "Healthy Eating Tips for Young Athletes".
        i. The importance of this topic and hopefully what they've learned from this lesson

2. Conclusion (cont.)

a. "Maintaining a healthy eating pattern is vital for optimal performance in an athlete.
b. Consuming a healthy and well-balanced diet will provide the energy and nutrition an athlete needs in order to grow and perform well.
c. 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."

3. Any Questions?

a. Ask students these questions:

    1. What: What does a specific nutritional eating pattern look like for a student athlete?
    2. So What: What is the importance of having a student athlete balance their diet?
    3. What Now: What dietary habits will include from here on out to maximize your performance?

Lesson Extension/Plan B (optional)

Problem Solving Situation:

Jimmy woke up at 8 am the morning of his big state championship football game that started at 1:00 pm. He went to the kitchen and decided to get something to eat. What should Jimmy eat?

A: eggs, oatmeal, toast, fruits, with water all acceptable answers.

At 10:00 am, Jimmy had to report to the field to start warm ups. What should Jimmy eat?

A:eggs, chicken, beef, rice, pasta, oatmeal, toast, fruit, water, smaller meals all acceptable.

During the game, Jimmy realizes he is a little out of breath and feels lightheaded, what should Jimmy do?

A: Rehydrate himself, have a small calorie snack like fruit or protein bar.

After the game, Jimmy feels sore and tired. What should Jimmy eat to recover?

A: lean meat, chicken, turkey, beef, vegetables, rice, pasta.

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Appendix A Worksheet

Activity 1

1. Polyunsaturated and Monounsaturated are which form of fats?
    a. Saturated
    b. Unsaturated
    c. Trans fat
2. Which of the following is **not** a symptom associated with dehydration?
    a. Vomiting
    b. Nausea
    c. Headache
    d. Slow heart rate
3. How many hours prior physical activity should you eat a meal?
    a. 1-2
    b. 3-4
    c. 5-6
    d. 1 hour
4. What percentage of an athlete's total calories should be coming from carbohydrates?
    a. 30%
    b. 15%
    c. 20%
    d. 45%
5. True or False; Protein comes from a variety of sources both animals and plants?
    a. True
    b. False
6. True or False: After exertion the recommended amount of fluid intake is two gallons of water?
    a. True
    b. False
7. Which of the following is a benefit of vitamins and minerals?
    e. Provides energy
    f. Helps break down food
    g. Turns food into fuel
    h. All the above
8. What are the most important macronutrients to consume after exertion?
    a. Protein
    b. Carbohydrates
    c. Fats
    d. KFC

9. T/F Sport drinks help replenish electrolytes.
    a. True
    b. False
10. T/F A well-balanced diet is essential for growth and development in athletes in order to maintain optimal performances and proper growth.
    a. True
    b. False

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Appendix A

Activity 1 Worksheet (Answer Sheet)

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10. T/F A well-balanced diet is essential for growth and development in athletes in order to maintain optimal performances and proper growth.
    a. True
    b. False