High School

Sports Nutrition and Performance
Project Sponsors

- USDA Project funded through the Supplemental Nutrition Assistance Program (SNAP)
- School District of Philadelphia
- Department of Nutrition Sciences, Drexel University

Funded by the Pennsylvania (PA) Department of Human Services (DHS) through PA Nutrition Education Tracks, a part of USDA’s Supplemental Nutrition Assistance Program (SNAP). To find out how SNAP can help you buy healthy foods, contact the DHS toll-free Helpline at 800-692-7462 or 215-430-0556. USDA is an equal opportunity provider and employer.
Today’s Topics

- Review of MyPlate
- Adequate Fueling
  - Carbohydrates
  - Protein
- Healthy Food Choices
- Hydration
- Supplements
Why Does Nutrition Matter?

- Good nutrition is important for peak athletic performance
  - Fuel
  - Repair and Rebuilding
MyPlate: Let’s Eat for the health of it!

- Build a healthy plate
- Eat the right amount of calories for you
- Cut back on foods high in solid fats, added sugars and salt
- Be physically active your way
Review of MyPlate

- **Balancing Calories**
  - Enjoy your food, but eat less.
  - Avoid oversized portions.

- **Foods to Increase**
  - Make half your plate fruits & vegetables.
  - Make at least half your grains whole.
  - Switch to low-fat (1%) or fat-free (skim) milk.

- **Foods to Reduce**
  - Choose foods that have less sodium.
  - Drink water instead of sugary drinks.
Physical Activity

- Teens need 60 minutes most days of the week
- For best performance an athlete should have high cardiovascular functioning
  - Strengthens your heart
- Combination of aerobic and anaerobic activity
How do we get energy?

- Energy comes from food and is measured in calories.

- Nutrients that give us calories are:
  - Carbohydrates
  - Protein
  - Fat

- Nutrients that do not give us energy are:
  - Vitamins
  - Minerals
  - Water
Energy for the Athlete

- The most important source of energy for athletes is carbohydrates.
- Carbohydrates can be stored in our muscles as glycogen, and used for quick energy.
- After exercise, we need to replace the used glycogen.
Carbohydrates

- Eat a diet rich in carbohydrates – 60% of calories should come from carbohydrates
- Foods high in carbohydrates are whole grains, fruits, vegetables, dairy, and beans

<table>
<thead>
<tr>
<th>Total Calories</th>
<th>60% Carbohydrates (grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>300 grams</td>
</tr>
<tr>
<td>2500</td>
<td>375 grams</td>
</tr>
<tr>
<td>3000</td>
<td>450 grams</td>
</tr>
<tr>
<td>3500</td>
<td>525 grams</td>
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</tbody>
</table>
## Carbohydrate Sources

<table>
<thead>
<tr>
<th>Food</th>
<th>Grams of Carb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 cup pasta</td>
<td>20</td>
</tr>
<tr>
<td>1 slice of bread</td>
<td>13</td>
</tr>
<tr>
<td>Large baked potato</td>
<td>30-50</td>
</tr>
<tr>
<td>Banana</td>
<td>27</td>
</tr>
<tr>
<td>1 cup low-fat milk</td>
<td>12</td>
</tr>
<tr>
<td>1 cup of most beans</td>
<td>40-45</td>
</tr>
</tbody>
</table>
Protein

- Needed for muscle growth and repair
- Extra protein that is not needed in the body is stored as fat
- An athlete’s diet should be about 10 – 20% protein
- Protein from food provides us with a more balanced diet than protein supplements
Protein Sources

- Milk
- Meat Sources
  - Chicken, Beef, Pork, Fish
- Nuts
- Beans
- Meat Alternatives
  - Soy Products

- 60-80 grams (or 5.5 ounces) of protein/day is sufficient!
Eat to Compete

- It takes 1-4 hours for food to leave your stomach
  - High carbohydrate foods leave your stomach the fastest, and give you quick energy
  - Foods high in fat can stay in your stomach for more than 4 hours

🌟 The best choice for pre-game meals is something high in carbs, that is easy to digest, and becomes quick energy!
When to Eat

- In order to avoid hunger, delay fatigue, and minimize abdominal cramping
  - Eat a meal 3-4 hours prior to the event
  - A small snack about an hour before the event
  - A snack within 30 minutes of completing the event
    • Waiting too long will slow recovery
  - A meal within 2 hours of finishing
What to Choose: Meals

- Choose carbohydrates with protein and a vegetable
  - Pasta with a salad and glass of milk
  - Grilled chicken with rice and broccoli
What to Choose: Snacks

- Granola or breakfast bars
- Bagels with peanut butter
- Cheese and crackers
- Fresh fruit like apples, oranges, or bananas
- Carrots or celery
- Raisins, nuts, or trail mix
- Low-fat yogurt
If you have to choose fast food for a quick bite on the way to a game...

- Mexican Place - bean burrito and low fat chips and salsa
- Pizza Place - 2 slices of thin crust pizza with a veggie topping or a side salad with breadsticks
- Convenience Store - turkey and cheese hoagie and a piece of fruit
- Burger Joint - plain burger or grilled chicken sandwich and low fat milk
Eating Breakfast

- Breakfast is still the most important meal of the day!
- Choose carbohydrates, protein, and healthy fats
  - Cereal with banana
  - Oatmeal
  - Toast with peanut butter
  - English muffin with egg and cheese

A High Energy Breakfast = A High Energy Day
Vitamins and Minerals

- Vitamins and minerals do not provide energy, but are important for peak performance
  - Sodium and Potassium: Important for body fluid balance
  - Antioxidants: Anti-inflammatory, can help prevent muscle soreness
  - Calcium: Strong bones!
  - Iron, Zinc, B12: Muscle function and recovery

Bottom Line: Eat plenty of fruits and veggies and get a variety of foods!
Hydration

- The best way to stay well hydrated for exercise is to drink
  - Before
  - During
  - After
- Remember, drink whether you are thirsty or not!
## How Much and When?

<table>
<thead>
<tr>
<th>Way Before</th>
<th>Right Before</th>
<th>During</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 cups of fluid 2 to 3 hours before playing</td>
<td>1 cup of fluid 10 to 20 minutes before playing</td>
<td>1 cup of fluid every 15 minutes</td>
<td>At least 2 cups</td>
</tr>
</tbody>
</table>
Water vs. Sports Drinks

- Water is the best form of hydration prior to an event.
- If the event lasts longer than 1 hr, use sports drinks to replace electrolytes.
  - Mix ½ sports drink with ½ water if the sugar content upsets your stomach.
- If sports drinks are unavailable, drink water and have a salty snack like pretzels.
Review

- Eat small, frequent meals high in carbohydrates
- Eat a variety of foods for vitamins and minerals
- Stay well hydrated
  - Before, during, and after exercise
- Avoid sports supplements
Questions?