PHIPPS

Fueling Your Workouts with Food

Maris Altieri, RD

Class Outline:

1. Overview of Macronutrients
2. Protein Myths and Facts
3. Pre-workout Snacking
4. Nutrition During Exercise
5. Post-Workout Recovery
6. A Word on Sports Drinks
7. Q & A

PHIPPS

What are your go-to snacks?

Macronutrient #1: Carbohydrates

- Provides body with glucose, which is converted to energy
- Primary fuel source burned for energy during exercise
- Important for endurance and stamina
- Largest part of diet: 45-65% of total calories

Simple carbohydrates:

- Digested quickly and sends immediate burst of glucose to blood stream
- Juice, white bread, saltines, refined sugars

Complex carbohydrates:

- Digested more slowly and supplies a lower, steady release of glucose to blood stream
- Starchy vegetables, whole grains, legumes, fiber

PHIPPS

Macronutrient #2: Fat

- Help the body absorb vitamins A, D, E, and K
- Cushion and protects your bones, heart and other vital organs
- Prolongs satiety by slowing down digestion
- Provides insulation and warmth
- Involved in many physiological processes such as blood clotting, wound healing and inflammation
- Major fuel/energy source for low-moderate intensity activity
- Makes up 20-35% of diet, based on activity levels

PHIPPS

Macronutrient #3: Protein

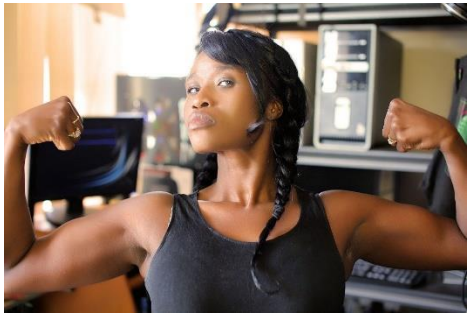
- Essential for repair, maintenance, and growth of body tissues/muscles
- Makes up red blood cells and essential enzymes
- May increase satiety levels=fuller for longer
- Protein **deficiency** symptoms: weakened system, brittle hair and nails, loss of muscle mass, edema
- Makes up 10-35% of diet, based on activity levels

Protein sources:

- Eggs, legumes, nuts/seeds, dairy, soy, poultry, seafood, whole grains, vegetables

PHIPPS

Protein Myths



Myth 1: There is no such thing as too much protein

- Excess protein does not = increased muscle mass and strength
- Excess protein is stored as fat
- Excess protein can lead to dehydration, indigestion, joint pain, fatigue

Myth 2: Vegans and Vegetarians don't get enough protein

- Being plant-based is not associated with protein deficiency
- Frequent consumption of protein sources high in saturated fat is associated with increased risk of cardiovascular disease

Myth 3: Protein powder is necessary for building muscle

- Drinking high protein shakes does not guarantee muscle growth
- Body can use only 20-25 grams of protein at a time
- Does not bulk up muscles without exercise

PHIPPS

So how much protein do I need?

0.8-1.2 grams of protein/ kilogram of body weight

- General healthy adults 0.8-1 gram/kg body weight
- Athletes may eat up to 2 g/kg body weight

Steps to calculate protein needs:

1. Divide weight in lb by 2.2 = kg of body weight
2. Multiply that number by 0.8-1.2 = grams of protein per day

PHIPPS

Pre-Workout Snacks:

Enjoy balanced meal 2-3 hours pre-workout

- Rich in complex carbohydrates (>30 g) to fuel muscles and brain, reduce hunger, and stabilize blood sugar levels
- Moderate amounts of lean protein (15 g for resistance, 7 g for endurance) to maximize anabolic response, delay hunger, and prevent muscle breakdown
- Low in fat and fiber -> gentle on digestive system

Early morning workout

- Try to eat 30 minutes before activity
- Focus on eating carbohydrate rich snack that is easy to digest

PHIPPS

Pre-Workout Snack Examples:

Protein:	+	Carbohydrate:	=	Lasting Energy!
Hummus		10 baby carrots		
Peanut Butter		1 apple		
Greek Yogurt		1 cup berries		
Boiled Eggs		1 slice W.G. Toast		
String Cheese		1 banana		
¼ cup almonds		1 cup oatmeal		
Turkey slices		¼ cup dried fruit		

PHIPPS

Nutrition During Exercise:

Snack needed only if exercising > 1 hour

- Needed to replenish glycogen stores to extend endurance, increase power output, and maintain normal blood sugar levels
- Eat approximately 30-60 grams of carbohydrate/hour (varies)

Examples:

- 5 dates
- 1 large banana
- Dry cereal
- Granola bar

PHIPPS

The Five R's of Recovery:

1. **Replenish** carbohydrate burned during exercise
2. **Repair** damage done to lean muscle mass
3. **Rehydrate** your body
4. **Reduce** muscle soreness
5. **Rejuvenate** through antioxidants

PHIPPS

Timing of Recovery Snack

Eat a small snack high in carbohydrates within 60 minutes after your activity

- Examples: chocolate milk, oranges, dried mango slices, handful of grapes
- Serving size varies upon length of activity

Eat a meal rich in complex carbohydrates and protein within 2 hours of exercise

- Scrambled eggs with veggies on whole wheat English muffin
- Whole wheat pita with sliced cucumbers and hummus
- Avocado toast with poached egg
- Black bean, spinach and cheese quesadilla
- Peanut butter banana smoothie
- Tuna salad on whole grain bread
- Greek yogurt with berries and cashews

PHIPPS

Do I NEED a Sports Drink when I exercise?

Sports drinks can provide a substantial amount of added sugars and calories

American College of Sports Medicine:
"Electrolytes and carbohydrates in sports drinks are beneficial for individuals who engage in prolonged vigorous physical activity, particularly in warm to hot temperatures."

Examples of vigorous activities- football, marathon training and races, competitive soccer and tennis matches, long distance biking/cycling, basketball

American Academy of Pediatrics:
"If children are participating in prolonged vigorous physical activity in hot, humid conditions for more than one hour, small amounts of sports drinks may be appropriate. However, for the typical child or adolescent engaging in routine physical activity for less than three hours in normal weather conditions, the use of sports drinks in place of water is unnecessary."

PHIPPS

Questions?

References:

1. Thomas DT, Erdman KA, Burke LM. American College of Sports Medicine Joint Position Statement. Nutrition and athletic performance., Academy of Nutrition and Dietetics, and Dietitians of Canada. ***Med Sci Sports Exerc***. 2016;48(3):543-568.
2. Paddon-Jones D, Coss-Bu JA, Morris CR, Phillips SM, Wernerman J. Variation in protein origin and utilization: research and clinical application. ***Nutr Clin Pract***. 2017;32(1_suppl):48S-57S.
3. Marinangeli CPF, House JD. Potential impact of the digestible indispensable amino acid score as a measure of protein quality on dietary regulations and health. ***Nutr Rev***. 2017;75(8):658-667.
4. Story M, Klein L. Consumption of Sports Drinks by Children and Adolescents. Healthy Eating Research. June 2012. Accessed 12 November 2018. http://healthyeatingresearch.org/wp-content/uploads/2013/12/HER-Sports-Drinks-Research-Review-6-2012.pdf.
5. Arentson-Lantz E, Clairmont S, Paddon-Jones D, Tremblay A, Elango R. Protein: a nutrient in focus. ***Appl Physiol Nutr Metab***. 2015;40(8):755-761.

PHIPPS

Thanks!

Any questions?

You can find us at:

Email: letsmove@phipps.conservatory.org

Website: letsmovepittsburgh.org

Facebook: facebook.com/letsmovepittsburgh/

PHIPPS