

1 **Dr. Brenda C. Buffington, EP-C, NBC-HWC**
Co-Director; Health & Wellness Innovation in Healthcare
Assistant Professor; College of Nursing
Buckeye Wellness Program Manager
The Ohio State University

2 **EMPOWER YOUR ATHLETES!**

“When they KNOW BETTER, they’ll DO BETTER!”

- EMPOWER YOUR ATHLETES
- What & How much to Eat/Drink
- When to Eat/Drink
- Ergogenic Aids

3 **What is YOUR Weakest Link?**

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5 **WHAT AND HOW MUCH TO EAT & DRINK:**
(Nutrient Dense vs Calorie Dense)

Carbohydrates (CHO) ~ 55% - 65%

(Key Fuel Source)

➤ Complex CHOs include:

- * Starchy vegetables like peas, corn, lima beans and potatoes
- * Dried beans, lentils and peas such as pinto beans, kidney beans, & peas
- * Grains like oats, barley and rice, therefore, pasta, breads and crackers

➤ Simple CHOs include:

- * Fruits, milk products, and sugary processed foods

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6 **Importance of Carbohydrates**

- Key fuel source for exercise, especially during prolonged continuous or high-intensity exercise
- Limited storage: Glycogen in liver/muscles
- Inadequate stores result in:
 - Fatigue (staleness)
 - Reduced ability to train hard
 - Impaired competition performance

- Reduction in immune system function
- Increased risk of injury

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7 **How Much CHO?**

- Sprinters & Throwers = 6 - 10 grams/kg of body weight
(In reality: Males = 3.3-5.4 g / kg Females = 2.9-3.4 g / kg)

- * Moderate days = 6-8 g / kg
- * High Intensity days = 8-10 g / kg

WHY?

Because they believe the myth that CHOs are BAD, they make you FAT

CHOs are GOOD, they give you ENERGY, they make you BETTER.

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8 **Carbohydrate Needs**

Banana/Apple = 15-45g Pasta (1 cup) = 35-45g
Bagel = 30-60g Potato or Sweet Potato = 30-45g

9 **How Much PRO?**

Recommendation:

- The General Population = 0.8 g / kg
- Strength Athletes = 1.6 – 2.0 g / kg

A serving of beef or poultry = 25 g of PRO
vs

A serving of grains or veggies = 2 g PRO

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11 **Protein & Performance**

12 Daily Requirements

(Male example; RMR= 2,420, Weight=200 lbs / 91 kg)

Activity Level: 1.375= 3,328 calories/day

Activity Level: 1.55= 3,751 calories/day

Activity Level: 1.725 = 4,148 calories/day

Activity Level: 1.55 = 3,751 calories/day

(training day for a 200 lb./ 91 kg Sprinter / Thrower)

- CHO: 728 g / day or 2912 calories/day
- Protein: 163 g/ day or 652 calories/day
- Fat: 21 g /day or 187 calories/day

13 14 **Snack**15 16 **Snack**17 18 **Snack**19 **Healthy Snack Ideas**

1 Try to aim for 200-300 calorie snacks:

- Juices (esp. cherry juice)
- Low-fat yogurt
- Fresh Veggies w/ Hummus
- Fig Newtons
- Whole grain pretzels/crackers
- Fruit/Dried fruit
- Apple/Banana w/ Peanut Butter
- Low-fat granola bars
- Cereal and milk topped with banana
- Oatmeal
- Trail mix (in moderation)
- Air-popped popcorn (sprinkle with cinnamon or parmesan cheese)
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20 **WHEN TO EAT & DRINK:**
(Nutrient Timing)

Daily Nutrient Timing:

Breakfast= 70 % CHO = High
20% PRO = Low

Lunch= 60 % CHO = Medium
30 % PRO = Medium

Dinner= 30 % CHO = Low
60 % PRO = High

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22 **Intuitive Eating:**

Belly Hunger vs Head Hunger

- Belly Hunger= true hunger, your stomach is grumbling, this is when your body truly needs nourishment (biological hunger).
- Head Hunger= when you see, smell or think about food, a craving for food/drink when you are not truly hungry (emotional & habitual hunger).

23 **Before an Intense Workout or Competition:**

- 3 – 4 hours before = CHO: 1-2 g / kg PRO: 0.15 – 0.25 g / kg
- 2 hours before = Water and /or Sports Drink 17
– 20 ounces
- 10 to 20 minutes before = 10 ounces of water
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24 **Recovery Fuel:**

(Recovery: Within 30 Minutes Post Workout or Competition)

“Although many factors have an impact on performance, an athlete’s ability to recover and adapt to training and competition represents a defining predictive factor of success.”

“Recovery needs to be integrated on a daily basis & thought of as equally important as the training itself.”

“In the period immediately following exercise, a substantial increase in rates of muscle PRO synthesis occurs in trained athlete.”

“If delayed by 2 hours, there is a decrease of 50% in production of glycogen.”

25 **Research Says:**

CHO and PRO (4 to 1 ratio)

(38 % greater rate of Glycogen Synthesis than CHO only)

* 20 - 30 grams of CHO and 6 – 15 grams of PRO *

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26 **NEWEST SECRET WEAPON:**

3) CHO and CAFFEINE

CHO = 1 gram / kg of body weight

CAFFEINE = 4 mg / kg of body weight

27 **IRON and BLOOD:**

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• So what if I'm low?

Examples:

(3% decrease)

155'6" thrower= 150'

41'3" thrower= 40'

28 **Got Iron?**

• Chances are good that you're low in iron if you are:

– A female, teenager, an athlete (esp. those who strike the foot and jar organs of the body repeatedly) live at moderate to high altitude or a vegetarian.

• CBC (Complete Blood Count):

– Hemoglobin- (amount of RBC in a blood sample) = 11.0 – 16.0 gm/dL.

– Hematocrit Levels- (% of RBC in a blood sample) = 38% - 46%.

– Serum Ferritin Levels- (a protein marker in blood) = >50 ng/ml.

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29 **Should Athletes Supplement Their Diet?**

- This mineral is needed in every nerve cell transmission, every muscle contraction and for bone and teeth formation _____

Answer = CALCIUM

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30 **Calcium needs for Athletes:
(1300 mg/day)**Selected Food Sources of Calcium

<u>Food</u>	<u>Milligrams/serving</u>
• Broccoli, 1 cup	91 mg
• Mozzarella, part skim, 1.5 ounces	333 mg
• Yogurt, fruit, low fat, 8 ounces	384 mg
• Cheddar cheese, 1.5 ounces	307 mg
• Dark Leafy Greens	100 mg
• Soymilk or Almond Milk, calcium-fortified, 8 ounces	299 mg
• Milk, reduced-fat (2% milk fat), 8 ounces	293 mg
• Calcium Supplement	630 mg

31 **CAFFEINE - Central nervous system stimulant, makes you feel more energetic, opens the vessels for better circulation.**

- Pros = Helps you burn fat and protect carbohydrate stores, makes you feel energized, helps with mental sharpness, decreases perceived exertion.
- Cons = Diuretic effects. A banned substance by the NCAA if amount too high in urine.
- Dosage = 3-9 mg/kg of body weight, or 1-3 mugs of coffee one hour prior to work out or competition.

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32 **CREATINE - Found in muscles and used for short term (30 to 90 seconds) of energy production.**

- Pros = Improve high-intensity exercise performance, increases strength, increases lean body mass, and aids with recovery.
- Cons = Some athletes are non-responders. Side effects are weight gain, diarrhea, muscle cramps, and dehydration. Can damage kidneys.
- Dosage = Take 5 grams 4 times per day for 6 days followed by 3 grams per day.

33 **Alcohol's affect on athletes:**

- Diminishes PRO synthesis, therefore, decreases muscle hypertrophy (impairs muscle growth).
- Decreases the secretion of HGH as much as 70%.
- Diminishes production of testosterone.
- Promotes dehydration, thus, alters the production of ATP (muscle's source of energy).
- Slows the body's ability to heal/recover.

34 **Alcohol's affect on athletes:**

- Affects REM stage sleep, thus, memory formation.
- Females affected more due to less dehydrogenase, enzyme that met. alcohol.
- Very dense calorically (7 cal/gm) is treated as fat.
- Inhibits absorption of B1,B12,folic acid & zinc.
- Can affect the athlete for 3-5 days.

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36 **Contact Information:**

Dr. Brenda Buffington
Buffington.42@osu.edu
 (614) 441-5952