

Sports Nutrition
*Differentiating Mainstream Weight-
Centric Nutrition vs. Sports Nutrition*

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Conflict of Interest

I have no actual or potential conflict of interest in relation to this presentation

Objectives



Understand the general principles of sports performance nutrition and how this differs from “weight-centric” nutrition



Summarize current fueling guidelines



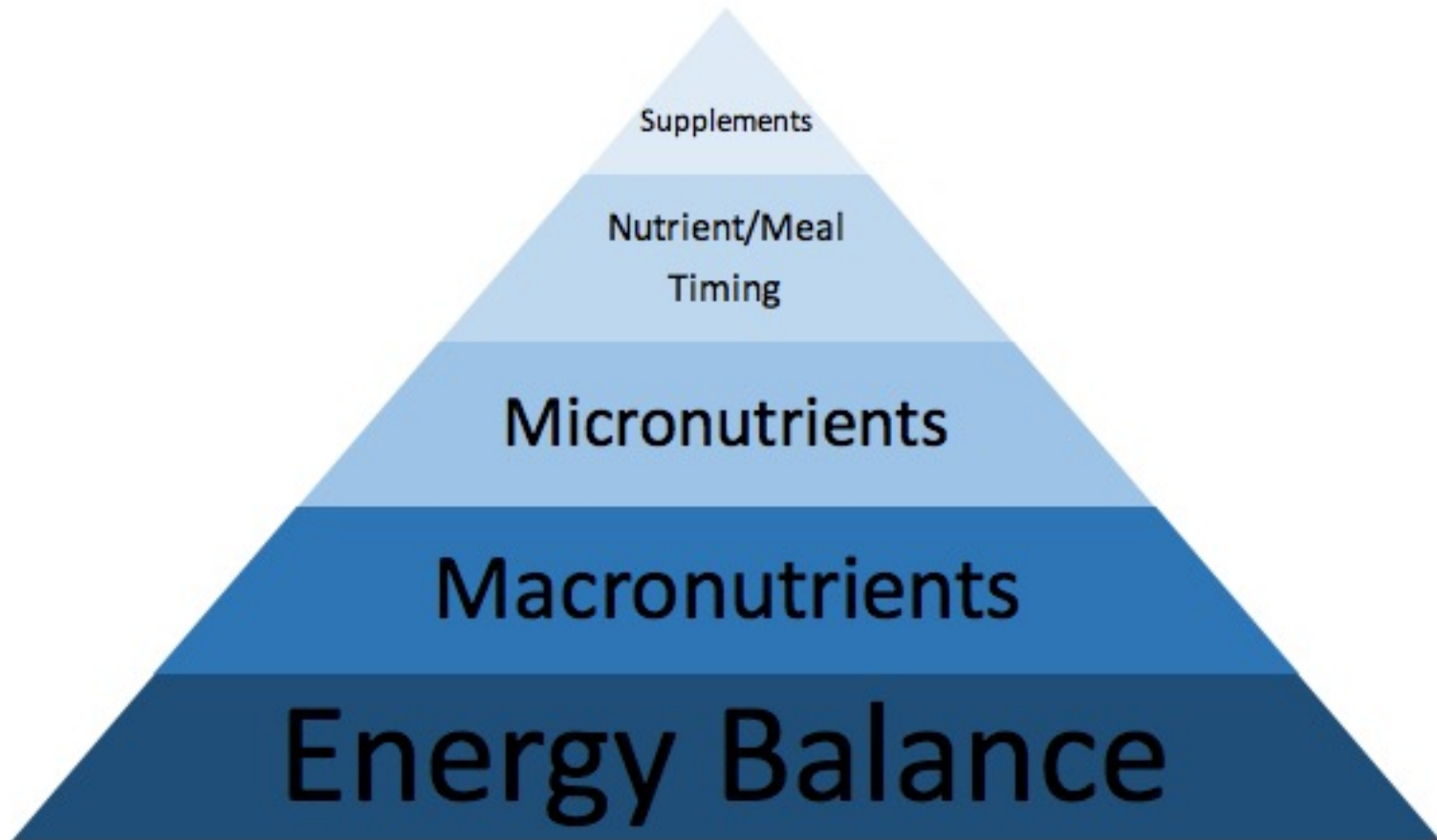
Understand food relationships, practical application, and sustainability.

What Sport Nutrition is not...

- Weight Centric – solely focus on weight loss or fat loss
- Physique nutrition (i.e body building)
- Supplements
- “Thermogenics” – fat burners
- Fad Diets
 - Keto, intermittent fasting, low carb, high protein, south beach, paleo, Whole 30

What Sports Nutrition is...

- Integral part of sports performance
 - Nutrition strategies that enhance athletic performance and recovery.
- Provided by qualified personnel (Registered Dietitian)
 - A specialist in sports dietetics who applies evidence-based nutrition knowledge in exercise and sports.



Nutrition for Performance

- 3 main principles
 - Provide fuel for muscles
 - Hydration (replenish fluid and electrolyte needs)
 - Provide fuel for optimal recovery

Mixed Messaging

Keto was the most googled diet of 2020



Sports nutrition



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Nutrition Wins Games

- Physical and Cognitive effects on Performance
 - Research shows pre- and half-time feedings increase dribble speed in the second half of games in collegiate soccer players
- Fueling strategies have positive effects on game time decision making
- Plenty of studies show athletes who skip breakfast, regardless of their intake the rest of the day, have negative effects on their performance in a game later that day.

Energy Balance/Availability

A Case for Carbs

- Carbs are an **essential** fuel for athletes who train hard and at high intensities.
 - Carbs are a key fuel source for both the brain and central nervous system. (approximately 60% of glucose in blood is metabolized by the brain daily)
 - Carbs are the only fuel source that can be utilized in the absence of oxygen.
 - Used by both anaerobic and oxidative pathways
 - Fat requires for oxygen to produce energy

Why We Need Carbs

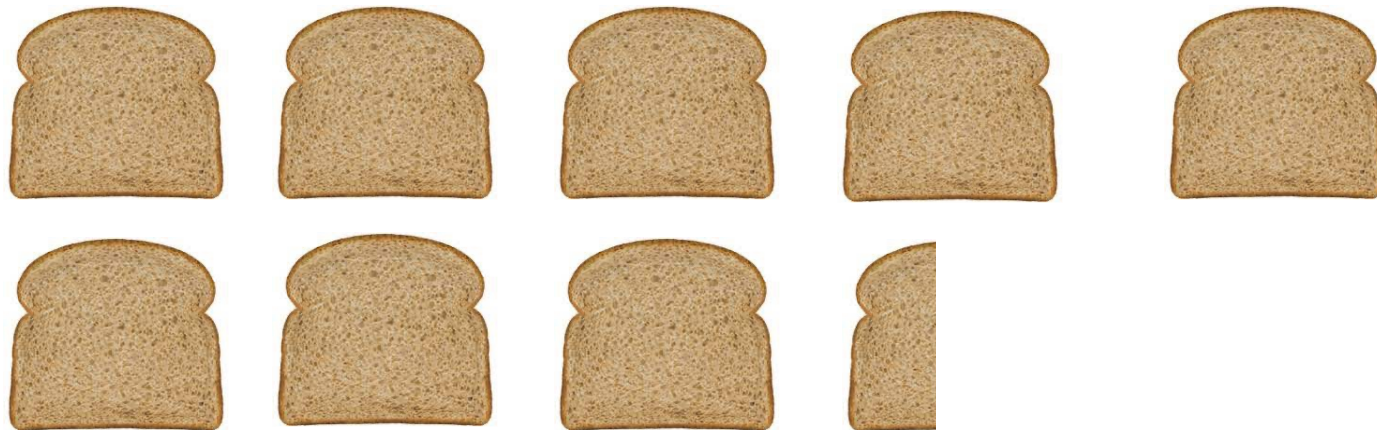
- Glycogen Stores are limited.
- Endogenous glycogen stores during moderate to high intensity exercise might only last 90 min 3 hours.
- Work output drops as glycogen stores deplete.
- Depletion of glycogen stores is associated with increased muscle protein breakdown and **immune suppression**.
- Low carbohydrates diets increase cortisol.

Immunity

- Carb intake provides immune protection
 - Adequate intake reduces
 - cortisol and epinephrine
 - cytokine production and improve inflammatory recovery

Recommendations

- Carbohydrate RDA ~ 130 grams/day (minimum) (this number is based off the amount of carbohydrate required to provide the brain with adequate glucose)



Recommendations









- Daily Carbohydrate Recommendations range from 3-12 grams/kg day (depending on duration & intensity)
- Nutrient Timing
 - Pre-training 3:1
 - During
 - Duration of 1-2 hours 30 g/h
 - Duration of 2-3 hours 60 g/h
 - Post training 2:1 ratio of carbohydrates to protein

Hydration

- fluid deficits of $>2\%$ BW can compromise cognitive function and aerobic exercise performances
- Measurement of pre and post exercise body weight can help an athlete estimate sweat losses
- Most practical way to monitor hydration is urine

AM I HYDRATED?

Urine Color Chart

1		If your urine matches these colors, you are drinking enough fluids
2		Drink more water to get the ideal color in Shade 1 and 2.
3		Dehydrated
<hr/>		
4		You may suffer from cramps and heat-related problems
5		Health risk! Drink more water.
6		Health risk! Drink more water.
7		Health risk! Drink more water.
8		Health risk! Drink more water.

Needs Analysis

- Daily Schedule
- Access to food (who does the shopping and cooking)
- Seasonal Schedule
- 24-hour recall, food frequency questionnaire
- Allergies
- Appetite
- Hunger
- Energy levels
- Development

Changing the Narrative

- Why emphasis on weight loss is harmful rhetoric
 - Poor relationship with their body
 - Promotes under fueling and meal skipping
 - Can lead to “overtraining”
 - Results in poor performance and recovery
- Talking with our athletes as food is fuel
 - LTAD (Long-term athlete development)

Case Study One

- 17 y/o female
- Sport: Track/Cross Country
- Injury: Femoral Stress Fracture
- Years of overtraining, high volume running, inadequate energy intake, nutrient deficiencies present?
- Seeking anti-inflammatory meal plan to help with recovery and inflammation

Goals

- Evenly space balanced meals and snacks throughout the day, starting with Breakfast
- Add in whole grains, starchy veggies, and fruit
- Increase overall servings
- Prioritize timing of refueling for recovery – taking advantage of that metabolic window to replenish glycogen stores
- Periodize nutrition around training and runs
 - carbohydrate – 5-7g/kg body weight per day = 55kg X 275 grams-385 grams
- Start 5000 IU vitamin D/day and Omega 3 supplementation

Case Study 2 (making weight sports)

- 15 y/o male
- Sport: Wrestling
- Struggling to keep his weight consistent for weigh ins
- Constant restricting and then binging after matches. Poor hydration habits.

Goals

- Proper Weight Cutting Strategies:
 - Walk around hydrated – (5-8% of your body weight should be scratch weight during season)
 - Don't cut water too early.
 - Small more frequent balanced meals, starting with Breakfast
 - Avoid high sodium and high fiber foods 24-48 hours prior to weigh in
 - If advised, cut back on high carbohydrate foods 24 hours prior to weigh in
 - Replenish immediately following weigh ins with electrolytes and carbohydrates

Just because it makes you leaner, doesn't mean it
makes you a better athlete.