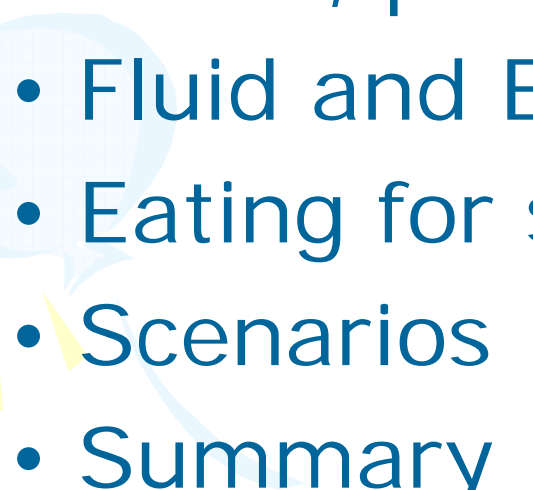
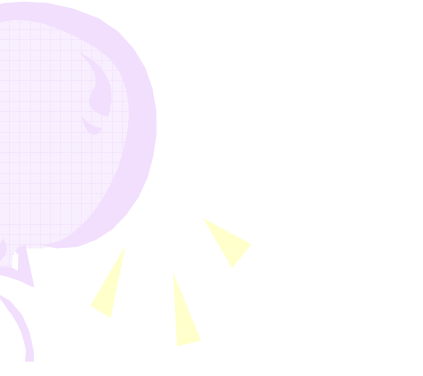


Support your Sport with Healthy Nutrition

Holly Grant, Registered Dietitian



What we are covering

- Goals of Sports Nutrition
 - Carbs, protein, fat
 - Fluid and Electrolytes
 - Eating for sports
 - Scenarios
 - Summary
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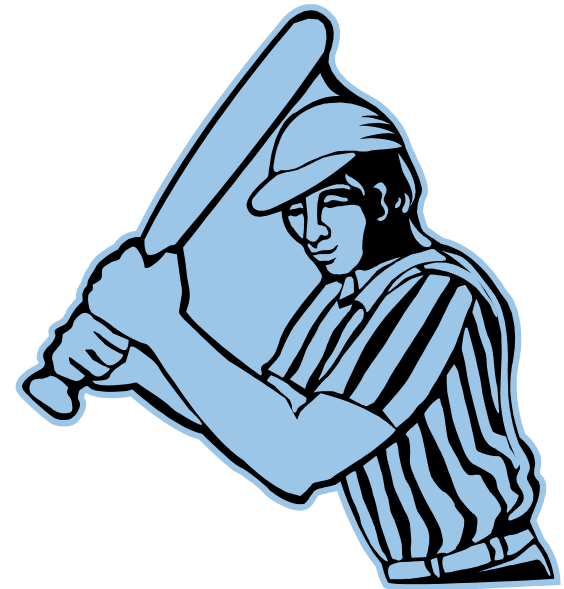


Goals of Sports Nutrition

- What do you think??
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Goals of Sports Nutrition

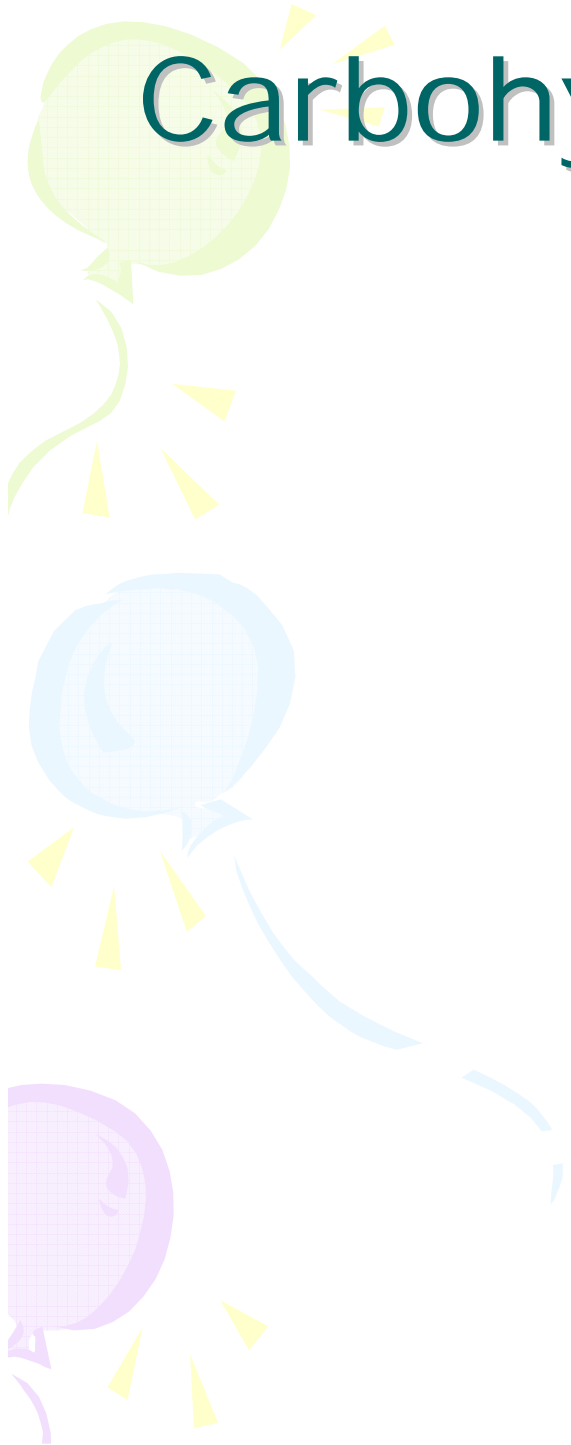
- Mental clarity
- Body composition
- Optimal performance
- Faster recovery
- Injury prevention
- Adequate hydration





“A good diet can’t make an average athlete elite BUT a poor diet can make an elite athlete average”

Carbohydrates, Protein, and Fat



Carbohydrates



- The main fuel source for all sports
- Muscle's "clean fuel"
 - Used in high intensity exercise
 - Have about 90 minutes of stored carbs to use as energy



- Sources: bread, pasta, rice, fruit, vegetables, milk, yogurt



Carbohydrates- when?

- **Before exercise**
 - Muscles fueled up
- **During**
 - If training for >60 minutes
 - Have not eaten in a few hours (first thing in the morning)
- **After**
 - Refuel your muscles right away so you recover for next session



Carbohydrates-How much?

- 6-10 g/kg per day
 - Based on sport, gender, environmental conditions
- Example:
 - 170 pound (77kg) X 6 g/kg = 465 g carbs
 - 1 bagel
 - Banana
 - 4 cups pasta
 - 4 whole wheat bread
 - 3 cups milk
 - apple
 - 2 cups cereal
 - 1 cup yogurt

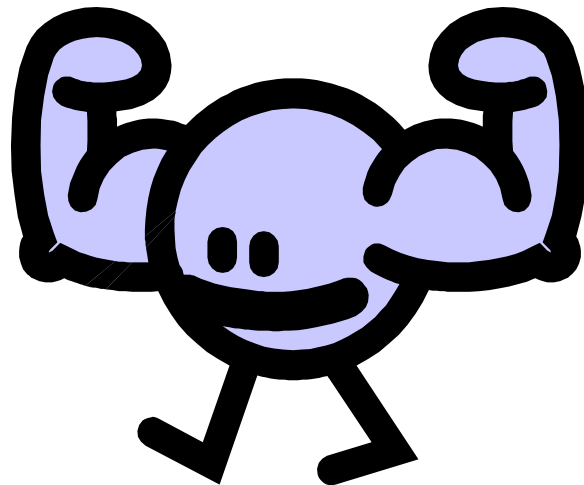
Protein



- An inefficient fuel source for exercise
- Important for muscle growth and repair
- Sources: meat, fish, eggs, milk products, nuts, seeds

Protein- When?

- After activity to rebuild and repair body tissues such as muscle



Protein- How much?

- 1.2-1.4 g/kg



Example:


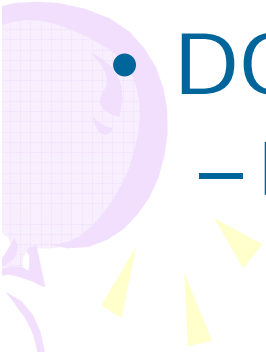
170 pound athlete (77 kg) X 1.3
g/kg = 100 g

- 6 oz chicken breast 3 cups milk
- 6 oz steak 2 tbsp peanut butter
- Can get protein from the grains, fruits and vegetables in smaller amounts

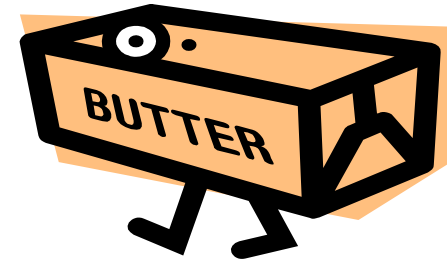


Building Muscle



- Safe training plan
 - Plenty of sleep and recovery
 - High calorie diet in combo with adequate protein
 - **DON'T NEED SUPPLMENTS**
 - Expensive version of food
- 
- 

Fat



- A source of energy during endurance exercise
- Choose healthy unsaturated fat choices
- Do not consume large amounts of fat before game or practice
 - Sits in stomach
 - Limit deep fried food (trans fat)

Fluids and Electrolytes





Role of Fluids

- Prevent dehydration
 - ↓ muscle strength
 - ↓ speed
 - ↓ stamina
 - ↓ energy
 - ↓ cognitive skills
 - ↑ risk of injury
 - ↑ perceived effort of exertion



Fluid Choices

Choose:

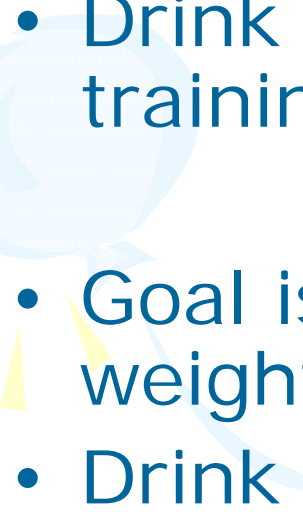

- Water
- Milk
- Soup
- Vegetables & fruit

NOT:

- Carbonated beverages
- energy drinks
- Alcohol
- Juices



Fluids-How much?

- Varies depending on weight, sweat rate, exercise, temperatures
 - Drink 5-7 ml/kg fluid 4 hours before training
 - Goal is to not lose more than 2% of body weight
 - Drink 450 mL-675 mL for every 1 pound lost after exercise
 - Weigh before and after
- 
- 



Example

125 pound rower (57 kg)

- $2\% = 1.14 \text{ kg}$ ($\sim 1.14 \text{ L}$ of sweat)
- 55.86 kg



To rehydrate: Drink 150% times loss

- $1.14 \times 0.150 = 0.171 \text{ L}$
- $0.171 \text{ L} + 1.14 \text{ L} =$



1.3 L of fluid to fully rehydrate

Fluids

- During games
 - Try to sip on water/sports beverages consistently throughout game
 - Trial this in practices



Sports drinks vs Energy drinks

Sports Drinks	Energy Drink
<ul style="list-style-type: none">• Provide quick source of sugar/fluid• Provide electrolytes (sodium and potassium)<ul style="list-style-type: none">• Important to prevent muscle cramping• Could be used if training for over 60 minutes<ul style="list-style-type: none">• Or hot/humid weather• Heavy sweater	<ul style="list-style-type: none">• High source of sugar (unless drink diet)• Can contain 400 mg (or more) caffeine (=3 + cups of coffee)• Taurine• DON'T MIX WITH ALCOHOL• Red Bull advises to limit to 2 cans• GET SLEEP!

Eating for Training



Pre- Sport Eating



- Provide energy
- Prevent hunger and dehydration
- Focus on fluids, carbohydrates and lean protein
 - Low in fat, fibre, grease
- Start to figure out right NOW what you can/cannot eat



Pre- Sport Eating

3-4 hours before event

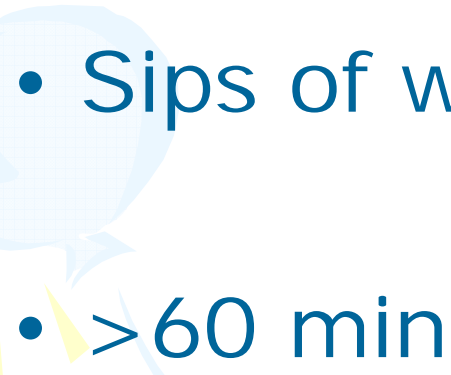
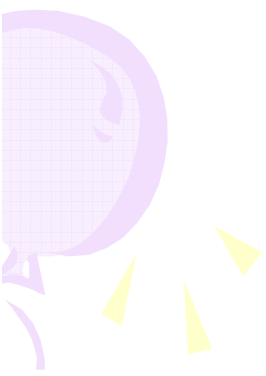
- Sub sandwich, milk
- Oatmeal with toast and an egg
- Pasta with meat sauce, salad & milk
- Chicken, rice & veggies

1-2 hours before event

- Toast with peanut butter
- Cheese and crackers
- Cereal bar or granola bar
- ½ -1 sandwich & water



During Sports

- Staying hydrated is the goal
 - Sips of water, fresh orange sections
 - >60 minutes consider sports drink
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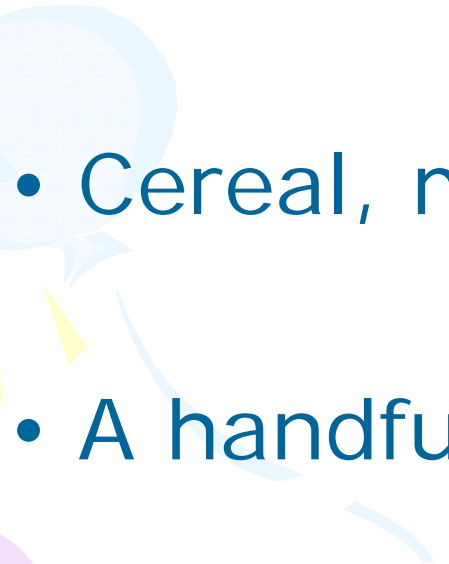
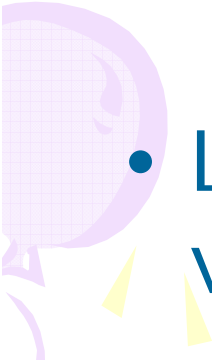
After Sports

- Focus on recovery (replace fluid and re-fuel muscles)
 - Important for double workouts!!!
- A snack or meal containing
 - Carbohydrates
 - Protein
 - Fluids





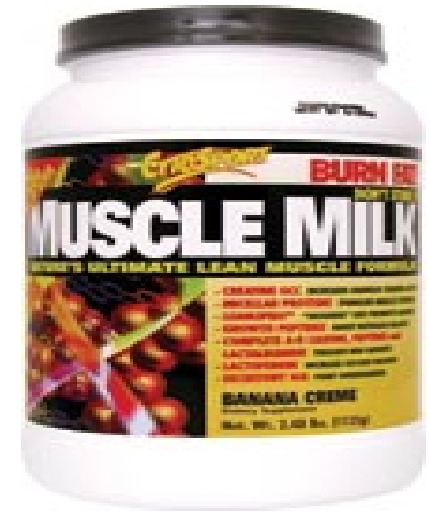
After Sports

- Homemade shake (yogurt, milk, fruit, juice)
 - Cereal, milk, fruit salad
 - A handful of pretzels and a banana
 - Lean meat, baked potato, salad, vegetables
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Supplements- BEWARE!


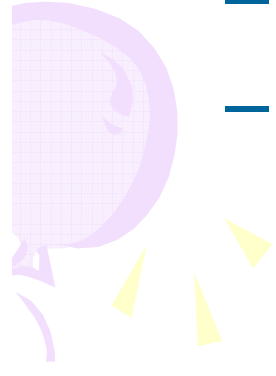


2 pack





Supplements-BEWARE!

- Could be doping issues if product is contaminated
 - Consuming a well balanced diet will usually cover needs unless
 - Low calorie diet
 - Vegetarian diet/vegan
 - High volume training program
- 
- 

Supplements-Doping Risk

- Cologne Laboratory (compiled list for IOC banned substance)
 - Examined 634 products from 13 different countries
 - 14.8% (94) confirmed steroid hormones present
 - 10% not conclusive
 - 1 in 4 chance of positive test

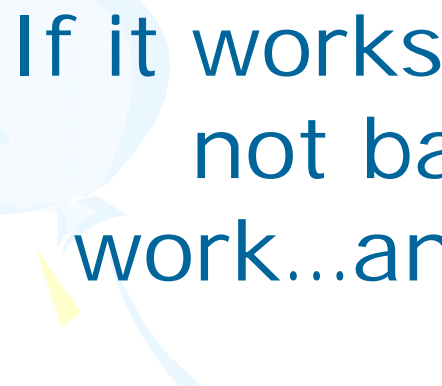




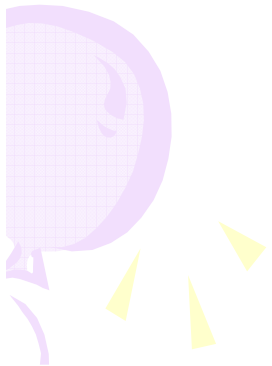
Rule of Thumb



Ron Maughan's rule



If it works it is probably banned, if it is not banned it probably does not work...and there are a few exceptions between




Sport Scenes Activity



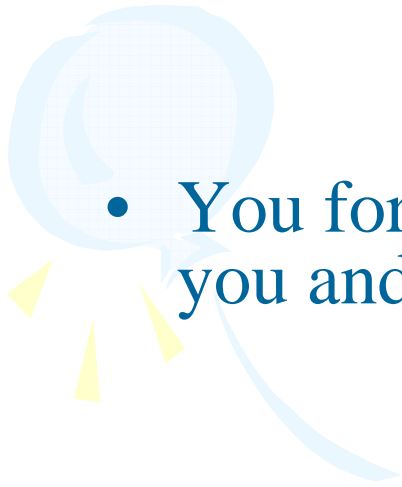


Baseball and Softball

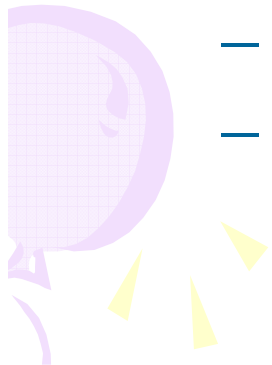
- Your team won its game by a landslide. Perfect timing because one of your teammates is having a house party to celebrate his 19th birthday. The only downfall is that the team has to play again 9:00 am the next morning. The game finished at 7:00 pm and everyone is expected to be at the party by 8:00 pm so you will not have time to go home for supper.
- 



- If you packed food for after the game, what would you have taken and why?



- You forgot to take food with you for after the game so you and a few teammates decide to go grab some food.




- Where would you go to buy food?
- What food should you buy and why?



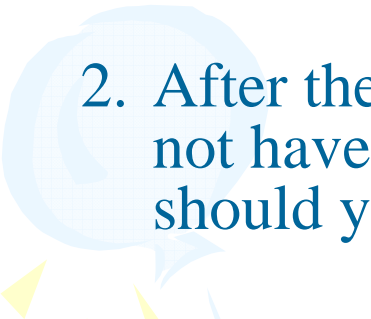
Rowing Scene

To ensure your team goes into competition at the Canada Games fully prepared, the training program includes “double workouts” 3 days a week. 6:45 am you meet for a 30 minute erg session team followed by 30 minutes of weight training. In the afternoon (3:45 pm) you meet for a 45 minute on water training (sprint intervals).





1. What should you eat and drink before your morning workout and why?



2. After the morning workout you have to rush off to class so do not have time to go home for breakfast. What foods/beverage should you pack and why?

3. You find that you need to eat a snack prior to your afternoon workout, otherwise you get hungry in the middle of the session.

a. What food and/or beverage should you pack?

b. .When should you eat your snack?

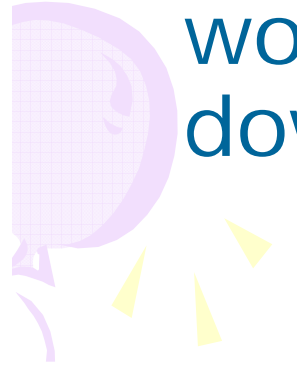
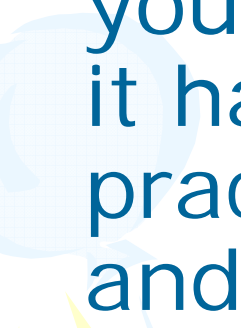


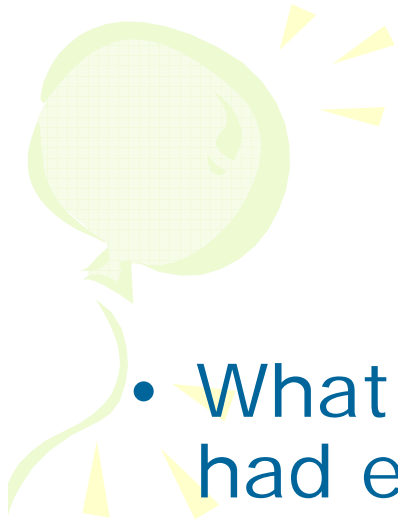
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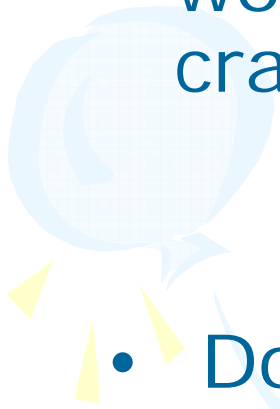
Swimming

Your swim team hits the water at 6:30 am for a 45 minute practice, so that you can get to class on time. You find it hard to eat much before your practices because of the early rise and you find you get stomach cramps if you eat too close to practice. The problem is that half way through your workouts you feel yourself slowing down and losing energy.





- What could you eat or drink to ensure you had enough energy to finish your workouts strong without any stomach cramping?

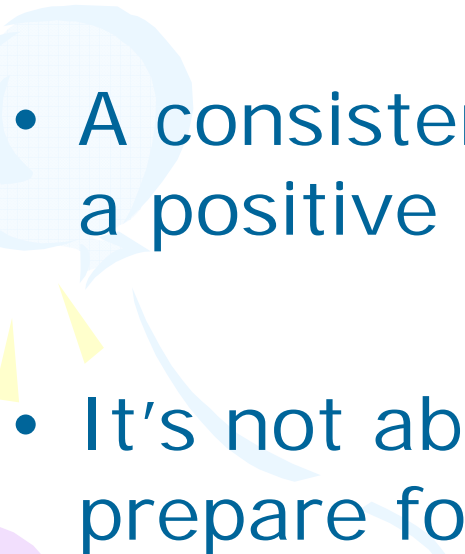
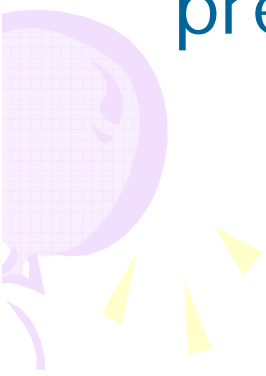


- Do you need to worry about hydration or drinking during practice since you are in the water and don't appear to be sweating? How could you tell if you were dehydrated?






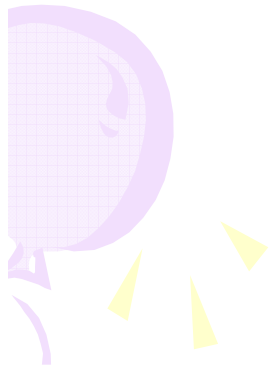
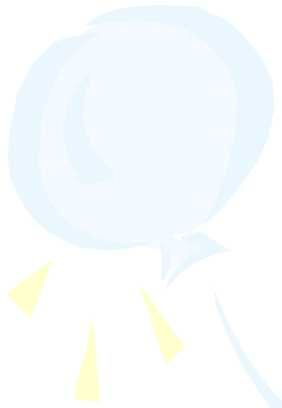
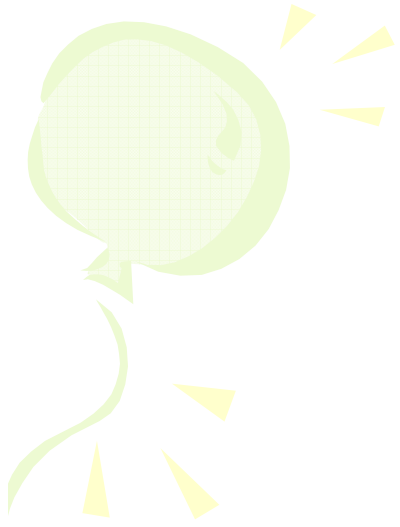
BOTTOM LINE

- Food, fluid, and rest are essential for peak mind and body performance
 - A consistent healthy training diet will have a positive impact on your performance
 - It's not about game day-it's what you do to prepare for game day
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Summary

- Do not wait to eat the “proper diet” until game day
 - Focus diet on carbs and add lean protein and healthy fat to round off meal
 - Always start practices and games hydrated
 - Recovery meals should be part of the team’s training routine
 - **NEVER TRY ANYTHING NEW ON GAME DAY!**
- 



The End!