



# Red Wing Cross Country Nutrition / Hydration

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# Hydration – Want an easy way to get faster?

- Don't throw away all of your hard work and training by showing up to a race or workout dehydrated.
  - Just a 1.9% loss of body mass (just 2-4 lbs for most of you) due to dehydration will lower your endurance performance by 22% and  $VO_2$  Max by 10%.
  - A well hydrated athlete will ALWAYS function at a higher level than one who is dehydrated.

# Signs you are dehydrated

- Thirsty
  - Muscle cramps
  - Weakness
  - Impaired performance
  - Headache
  - Nausea
  - Fatigue
  - Dry Mouth
  - Dizziness or lightheadedness
- IF YOU EXPERIENCE THIS DURING A WORKOUT OR RACE, TELL SOMEONE!
- Check your hydration:
    - Pee clear
    - Weigh yourself before and after workout.
    - Not thirsty anymore

# What to drink

- ALL liquids (except alcohol) count toward your daily fluid intake needs.
- Fruits, vegetables, soups, popsicles, etc also are a way of in taking fluids.
- GULP your fluid (don't sip from your bottle or fountain).
- Remember
  - Sugary beverages are loaded with calories and caffeine (can make you jittery / laxative).
  - Sugary beverages and carbonated (pop) beverages do not leave the stomach very fast, thus don't hydrate your body as well.
  - Many sport drinks contain closer to optimal amount of carbohydrates for fuel, electrolytes, and hydration. (can also dilute them with water).

# How to hydrate properly

- During the Day
  - Drink water throughout the day. Carry a waterbottle during the day. Between classes drink(gulp) from the water fountain.
  - Drink a glass 20 oz (gatorade bottle full) of water when you wake up
  - Drink a gatorade bottle of water with lunch
  - GULP it.
- Before practice or race. (even if it is cold out)
  - One hr before – drink one gatorade bottle (20oz) full of fluid.
  - Drinking during a run can be tough but if possible stop at fountains.

After practice drink a gatorade bottle for every pound lost of body weight.

# FUEL YOUR BODY

- Just like hydration, don't throw all of your hard work and training by not fueling your body appropriately. Easy way to get faster!
- Eat a balanced amount of carbohydrates, proteins, and fats to fuel your exercise demands, growth, development, repair and recovery from exercise.
- Avoid high sugar and high fat foods which may lower performance and provide health risks.

# General fuel recommendations

- Eat a balanced diet
  - 60% Carbohydrates
  - 15% Protein
  - 25% Fats
- Nearly impossible to eat perfectly so don't set yourself up for failure by expecting perfection
  - Eat great foods 60% of the time
  - Eat OK foods 30% of the time
  - Eat “bad” foods less than 10% of the time

# Good, OK, Bad Foods

## Good

- Fruits
- Vegetables
- Pasta
- Rice
- Lean meats
- Poultry
- Fish
- Eggs
- Milk
- Yogurt
- Nuts
- Unsaturated Oils

## OK

- Cereal, pretzels, Fruit juice
- Cheese, baked chips, granola bars
- Low fat butter, peanut butter, salad dressing, etc

## Bad

- Fried foods, candy, chips, soda, doughnuts
- bacon, butter, creamy sauces, french fries

# Carbohydrates

- Your body's preferred energy source
- Can be stored in your liver and muscles for use during exercise
- Simple Carbohydrates
  - Fruit, table sugar, honey
- Complex Carbohydrates
  - Rice, pasta, potatoes, bread
- Daily recommendations: 3-4.5 g per lb of body weight. 120 lbs means you need to eat between 360-540 g/ day

# Glycemic Index

- Glycemic Index (GI) – indicates the effects of carbohydrate-rich foods have on blood glucose and insulin levels.
- Low GI food – raise blood glucose levels slowly. GOOD THING!
- High GI food – raises blood glucose levels quickly (also the insulin response). Try to avoid them before practice and races. OK after practice and races.

# GI Index

## High GI Foods

- Candy
- Cereal
- Pancakes
- Mashed potatoes
- White bread
- Doughnuts
- Sports drinks
- Ice cream

## Low GI Foods

- Milk
- Some Sports bars
- Apples
- Citrus fruits
- Yogurt

## Moderate GI foods

- Bananas
- Rice
- Pasta
- Oatmeal
- Sweet potato

# Sample Carbohydrate Menu

120 lbs runner – 360-540 g carbohydrates

- Breakfast
  - fruit yogurt, bagel w/ PB&J, banana – 127g
- Lunch
  - Turkey & cheese sandwich, pretzels, apple, orange juice - 110g
- Pre Practice – bottle of sports drink – 37 g
- Post Practice – sports bar – 30 g
- Dinner – pasta w/ meat sauce, green beans, skim milk – 92 g
- Snack – frozen yogurt – 70 g
  
- Total for the day : 436g

# Fats or Lipids

- Essential for health! Used for energy storage, hormones, vitamin absorption, hair and skin health, heart health, & protection of organs
- Don't limit fat consumption in attempt to benefit performance!
- Recommended intake – lbs x .45.
  - 120 lb runner would need 54 g of fat per day
- Not all fats are created equal.
  - Saturated fats ( butter, animal fat, skin on chicken, ice cream) – lead to heart disease
  - Trans fats (margarine, doughnuts, hydrogenated oils) – lead to heart disease
  - Unsaturated fats (nuts, olives, corn and sunflower oil, flax) – lowers heart disease

# Sample Fat Menu

120 lb runner – 54g recommended

- Breakfast
  - fruit yogurt, bagel w/ PB&J, banana – 14 g
- Lunch
  - Turkey & cheese sandwich, pretzels, apple, orange juice - 15g
- Pre Practice – bottle of sports drink –
- Post Practice – sports bar – 5g
- Dinner – pasta w/ meat sauce, green beans, skim milk – 12g
- Snack – frozen yogurt – 4g
  
- Total for the day : 50g

# Proteins

- Essential for tissue growth and repair, bone and immune health, hormones, enzymes, blood, and can be used for energy
- Recommended to eat .6 to .7 g per lb of body weight. 120 lb runner would need to eat between 72g and 84g per day of protein.
- Proteins provide essential amino acids.
  - Complete proteins provide all the essential amino acids while incomplete proteins just provide some of essentials

# Examples of Protein Rich Foods



## **Complete**

- Meat
- Poultry
- Fish
- Eggs
- Dairy Products
- Soy

## **Incomplete**

- Beans
- Grains
- Nuts
- Seeds
- Vegetables

# Sample Protein Menu

120 lb runner – 72-84g recommended

- Breakfast
  - fruit yogurt, bagel w/ PB&J, banana – 20g
- Lunch
  - Turkey & cheese sandwich, pretzels, apple, orange juice - 15g
- Pre Practice – bottle of sports drink –
- Post Practice – sports bar – 15g
- Dinner – pasta w/ meat sauce, green beans, skim milk – 14g
- Snack – frozen yogurt – 8g
  
- Total for the day : 72g

# Eating before and after races

- Just like we don't wear new spikes or try things we haven't practiced yet on race day we don't try new pre race fueling routines on race day. Find something that works for you and stick with it.
- Don't eat a big lunch on race day. Keep your food routine. Be careful to avoid overeating at team dinners. Carbo loading is not necessary for a 5K or 4K!!

# Eating on Race Day

## Pre Race

- Drinking: 1 hr prior – drink 20 oz of fluid
- Food: 1 hr prior – eat a small carbohydrate containing snack (pretzels, cereal, sports bar)
- Avoid high GI foods and foods high in fat.

## Post Race

- Drink enough fluid to replace what was lost.
- 15 – 30 min after the meet, eat another small snack.
  - Pretzels, sports bar, fruit,

# Supplements

- There is no magic pill or food that will make you perform better. Food can provide all you need!
- Most will finish their 5K or 4K race in around 17-19 minutes. There is no need for gels, fluids, etc during the race.
- Training during hot weather, may require a replacement of salts (depending upon your salt sweating rate). Salty foods can do it. Pretzels, sports drink (can add small amount of salt), pickles, and adding salt to foods. Must be used with adequate hydration.

# Supplements

- Sports drinks are good ways to hydrate and provide carbohydrates and electrolytes. Find one that works for you and don't vary it on race day.
- Sports bars provide a balanced mixture of energy, nutrients, vitamins, and minerals. Find one that works for you and don't vary it on race day. Good for pre and post race.

# Hydration and Nutrition Keys

- Eat a varied and balanced diet. Eat what your parents make you for dinner.
- Don't limit fats in attempt to boost performance.
- Eat and drink something before practice and races!
- Things you control:
  - How much water you drink during the day.
  - Lunch – french fries everyday are not a good idea
  - What you pack for pre and post race.
  - 60% Good, 30% OK, 10% Bad Foods

# References

- L.Bonci, 2009, Sport Nutrition for Coaches, Champaign, IL: Human Kinetics – Chapters 1-4 & Appendix B
- W. McArdle, F. Katch, & V. Katch, 2001, Exercise Physiology, 5<sup>th</sup> Ed. Lippincott Williams & Wilkins.

# Week One

- Breakfast – includes an 8 oz glass of water, milk, or juice
  - Day 1- fruit yogurt, bagel w/ PB&J, banana
  - Day 2 - Cereal w/ skim milk
  - Day 3 - Oatmeal w/ banana
  - Day 4 - Sports bar, apple
  - Day 5 – Pancakes w/ syrup
  - Day 6 – Muffin w/ cream cheese
  - Day 7 – French Toast w/ syrup
- Lunch – includes 20 oz, of water, milk, or juice
  - Day 1 - Turkey & cheese sandwich, pretzels, apple, orange juice
  - Day 2 - Chicken wrap with tortilla shell, lettuce, tomato, yogurt
  - Day 3 – Taco with lean ground beef, lettuce, tomato, orange
  - Day 4 – Hamburger w/ bun, pretzels, banana
  - Day 5 – Grilled Chicken salad, baked chips, yogurt
  - Day 6 - Steak stir fry with rice, peppers, peas
  - Day 7 – Peanut butter sandwich, pretzels, apple
- Dinner – includes 16-20 oz of water, milk, or juice
  - Day 1 - pasta w/ meat sauce, green beans
  - Day 2 – Steak, potatoes, spinach salad
  - Day 3 – Grilled chicken, french bread, peas
  - Day 4 – Pork Chop, sweet potato, green beans
  - Day 5 – Subsandwich, baked chips, cookie
  - Day 6 – Roast beef sandwich, spinach salad, baked potato
  - Day 7 – Pepperoni Pizza
- Snack - one per day
  - Frozen yogurt
  - Pretzels
  - Piece of fruit
  - Granola bar
- Daily Pre Practice – bottle of sports drink
- Daily Post Practice – sports bar

# Week Two

- Breakfast – includes an 8 oz glass of water, milk, or juice
  - Day 1- Grapefruit with sports bar
  - Day 2 - Cereal w/ skim milk
  - Day 3 – Yogurt with granola, apple
  - Day 4 – English Muffin with PB & J - banana
  - Day 5 – Bagel with cream cheese
  - Day 6 – Scrambled eggs, wheat toast, jelly
  - Day 7 – Sports bar, banana
- Lunch – includes 20 oz, of water, milk, or juice
  - Day 1 - Ham & cheese sandwich, pretzels, apple, orange juice
  - Day 2 – Peanut butter and jelly sandwich,
  - Day 3 – Taco with lean ground beef, lettuce, tomato, orange
  - Day 4 – Rib sandwich w/ bun, salad, cookie
  - Day 5 – Grilled Chicken salad, baked chips, yogurt
  - Day 6 - Chicken stir fry with rice, peppers, peas
  - Day 7 – Turkey and cheese sandwich, pretzels, apple
- Dinner – includes 16-20 oz of water, milk, or juice
  - Day 1 – Buttered noodles, spinach salad, apple
  - Day 2 – 2 softshell tacos with ground beef
  - Day 3 – Grilled chicken, french bread, peas
  - Day 4 – Grilled steak, sweet potato, green beans
  - Day 5 – Hamburger, fries
  - Day 6 – Grandma’s ground beef casserole, salad, peas
  - Day 7 – Lasagna, french bread, salad with ranch dressing
- Daily Pre Practice – 20 oz bottle of sports drink
- Daily Post Practice – sports bar, 20 oz water
- Snack - one per day
  - Frozen yogurt
  - Pretzels
  - Piece of fruit
  - Granola bar