

Sports Nutrition for Runners

Theresa Laurenz, MS RD

B.S. Kinesiology at University of Illinois – Urbana/Champaign

M.S. Human Nutrition at University of Illinois @ Chicago

What do XCTF athletes need?

- Speed
- Agility
- Strength
- Endurance
- Injury Free



From <http://momgrind.com/wp-content/uploads/2008/11/female-runner.JPG>

Hydrate

During the Day



- Daily Training at Moderate/High Intensity
- At least **10 – 12** cups/day (80-96oz of fluid a day)
- Extra fluids needed before, during, and after exercise

Hydrate

During Exercise

- Weigh yourself before and after practice
 - Dark Yellow Urine => very dehydrated
 - Clear or nearly clear => well hydrated
- 2 Hours Before Exercise
 - **2 cups** (16 oz) of water
- During Exercise
 - **5 – 10 oz** of COLD water/Sports Drink (6 – 8% Carbs) every 15 min
- After Practice
 - **3 cups** (20 oz) per lb of body weight lost



During Exercise – Water vs. Sports Drink

- Greater than 1 hour of **INTENSE** exercise
 - Fuel with 30 – 60 g/hr (120 – 240 calories/hr)
- Examples of 100 – 250 calorie foods:
 - 12 - 16 ounces Sports Drink
 - 1 – 2 carbohydrate gels
 - 1 Bar



Symptoms of Dehydration

- Nausea
- Muscle Spasm and Weakness
- Increased Chance of Joint Injury
- Rapid Heart Rate/Increased Respiratory Rate
- Impaired Body Temperature Regulation
- Low Blood Pressure
- Kidney Failure
- Shifts in Blood pH
- Loss of appetite
- Concentrated and Decreased Urine
- Dry Skin
- Death, if not treated immediately

Affects of Dehydration



- 1.5% water loss reduced muscle power by 5%
- Reduces ability to sustain exercise for longer than 1 to 2 minutes

Carbohydrates

- Primary fuel during exercise
- Main energy source – Brain & RBCs
- Stored with water in your muscle and liver as **GLYCOGEN**



Protein

- Build Muscles
- Help Prevent Anemia
 - Limit anti-inflammatory use
 - Avoid Caffeine
 - Have vitamin C rich foods
- Too Much Protein => Burn or Turns to Fat
 - Dehydration
 - Kidney Strain



Eat Lean Protein

- Moderately Active
0.85 g/kg of body weight or 0.43 grams/lb
- Ultra Endurance Athletes
1.2 to 1.4 g/kg of body weight
- Strength Athletes
1.2 to 1.7 g/kg of body weight



HOWEVER:

Better Trained ➡ **More Efficient** ➡ **Less Protein Needed**

You Need Some Fat

- Help absorb fat-soluble vitamins A, D, E, K

- Eye Sight
- Bone Building
- Nail Growth
- Line Organs
- Myelin Sheath



Eat Good Fats – Poly- and MonoUNsaturated
Avoid Bad Fats – Saturated and Trans

Why Add Veggies/Fruits?

- Intense Exercise Increases Free Radicals
- Fruits and Veggies Rich in Antioxidants
 - Antioxidants Fight Free Radicals
- Antioxidant Supplements Not Proven



Meal Plan

- Age: 16 years
- Height: 5'4
- Weight: 120 lbs
- Calorie Needs: ~ 2,336 kcals/day
- Protein Needs: 65 - 93g
- Carbohydrate Needs: 300 to 380 g
- Fluid Needs: 10 to 12 cups + Exercise Needs

Breakfast

- Eat within 1 Hour of Waking
- Start your day on the right foot – replenish glycogen stores
- Drink at least 1 glass water
- 1 cup yogurt with cut up fruit and 1 hardboiled egg

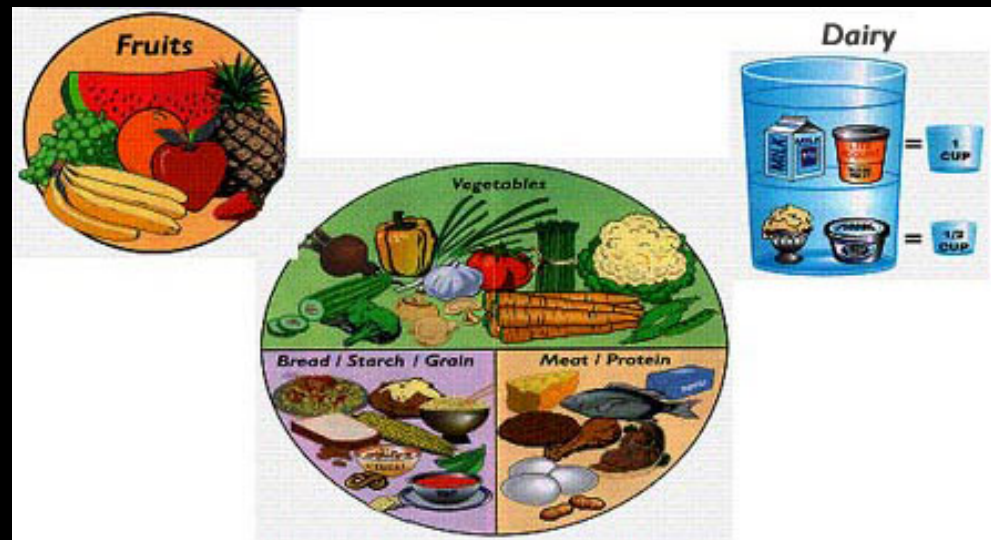
Mid-morning Snack

- 1 glass of water
- 1 fruit and nut bar



Lunch (Balance Meal)

- 3 (6" tortillas) chicken tacos with grilled vegetables, lettuce, salsa, low-fat cheese
- 1 Side Salad
- 1 glass skim milk
- 2 glasses water



2 Hours Before Exercise

SMALL MEAL

- Turkey sandwich
- Peanut butter and banana sandwich

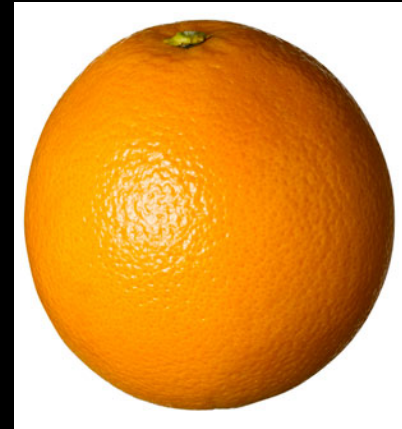


- Fruit Smoothie

1 Hour or Less Before Exercise

QUICK ENERGY

- 1/2 plain Bagel
- 1 cup of low fiber Cereal
- Granola Bar
- Fruit
- 2 cups of water



Fuel with Carbs and Protein After Practice (within 1hr of exercise)

Post-exercise:

- Energy Bar w/ 8-20g of Protein and Apple and cup of low-fat yogurt
- 1 cup of low-fat milk and 1 cup of cereal
- 3 oz. turkey or roast beef sandwich on whole wheat bread
- AND 2-3 cups of water



Dinner

- 1 cup of pasta with tomato sauce mixed with 3 oz of lean ground beef
- 1 small 100% whole grain dinner roll
- 1 Cup vegetables sautéed in olive oil
- 1 side salad with Italian Dressing
- 2 cups of water

REMEMBER

Hydrate

• 10 – 12 cups per day

➤ 1+ hour of intense exercise SWITCH to Sports Drink

- CARBS are your main ENERGY source
- 0.55 g of Protein per Pound of Body weight
- Protein after practice helps replenish glycogen stores
- Choose UNsaturated Fats to assist body functioning
- FRUITS and VEGGIES to build your Antioxidant System

Myth Busters Sports Edition

- **“I will get tired more quickly if I am not hydrated.”**

- FACT

1.5% water loss reduces your muscle power by 5%

Water loss reduces ability to sustain exercise for longer than 1 to 2 minutes

Myth Busters Sports Edition

- **“I should eat complex carbohydrates immediately after my workout.”**

– FACT

Best time is within 30-60minutes after the conclusion of a workout.

Also include Protein in your recovery snack to aid in muscle repair and restore glycogen levels.

Hydrate immediately after practice

Myth Busters Sports Edition

- **“Carbohydrate loading with pasta 2 nights before an endurance event will enhance my performance.”**

- MYTH

If you eat too many carbohydrates at one time then your body will just convert it into fat.

Myth Busters Sports Edition

■ **“Any fat is bad.”**

– **MYTH**

**Eat good fats (Poly and MonoUNsaturated).
Fat is essential to supporting a number of
the body's functions and to help dissolve
vitamins.**

And avoid bad fats – Saturated and Trans

Myth Busters Sports Edition

- **“I lost 4 lbs of fat after one day of doubles (5 hours of practice).”**

-MYTH (weight loss is a result of dehydration)

There are approx. 3500 calories/lb

So to lose 4 lbs Need to Burn 14,000 calories

NOTE: With Continuous cardio – a 150 lb
Man burns approx. 600 calories/hr which is
only 2,400 calories for 4 hrs of exercise.

References

- Levy, W.

Substance Abuse in Athletes Presentation,
developed for Alcohol Medical Scholars Program

Benardot, D. (2006) Advanced Sports Nutrition.
Human Kinetics, Champaign IL

Dunford M (2006) Sports Nutrition: A Practice
Manual for Professionals, 4 edition. American
Dietetic Association, United States