



Shooting



Information

All disciplines of shooting requires high mental concentration which requires more nutrients to be delivered to the brain to use as fuel. Mental performance will be best after eating a mixture of carbohydrate, lean protein and healthy fat at frequent intervals throughout the day. This will ensure that blood sugar levels remain stable and provide the body and the brain the necessary nutrients to perform at an elite level.

Application

Follow these nutrition guidelines to improve your mental concentration, cognitive function and reaction time.

- ✓ Follow a lower fat eating program. In general, eating a higher fat diet generally disrupts cognitive function.
- ✓ Eat a balance of simple and complex carbohydrates. This will help to avoid high sugar spikes which results in improved reaction time. A higher degree of mental concentration uses more carbohydrate.
- ✓ Eat a balance of protein, carbohydrate and healthy fat at every meal/snack. This will help stabilize blood sugar and will maintain mental and physical energy.
- ✓ Eat smaller meals and snacks. Smaller portions eaten at frequent intervals help improve performance body composition (increase muscle mass and decrease fat mass), blood chemistry (lipid profile), and provides a steady supply of fuel to the brain for optimal mental focus and cognitive function.
- ✓ Stay hydrated. Moderate dehydration can decrease mental performance by decreasing the ability to concentrate and decreasing movement accuracy. Measure your hydration status by the color of your urine (pale yellow) and make sure you are urinating every 2-3 hours during the day.



Daily Hydration

PERFORMANCE SERVICES

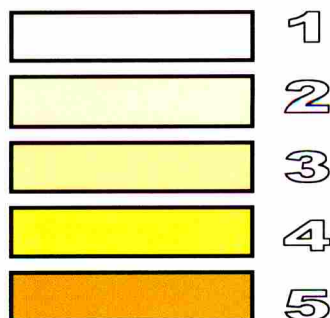
usolympicteam.com

Information

- ✓ Water is one of the most important nutrients in an elite athlete's nutrition program. Drinking too little water or losing too much through sweating decreases your ability to train hard and recover properly.
- ✓ Water does more than just keep you hydrated. For elite athletes, water:
 - Acts as a transporter to supply working muscles with the nutrients they need during training
 - Helps the body get rid of the waste products resulting from high-intensity training
 - Helps the body cool itself during exercise by dissipating heat through sweat
- ✓ Losing even a small amount of fluid during training or starting a workout dehydrated will make it hard to perform at your best. Fluid losses of 2-3% of an elite athlete's body weight (3-4 ½ pounds for a 150 pound athlete) can lead to:
 - Lack of concentration and focus
 - Early fatigue
 - Trouble tolerating hot weather conditions
 - And a longer recovery time

Application

- ✓ An easy and effective method to figure out if you're drinking the right amount is to check the color of your urine. Using the chart below, aim for a urine color throughout the day of #2-3 (pale yellow or the color of lemonade). Anything above a #3 indicates that you're not drinking enough fluid and your performance will quickly suffer. Remember, certain vitamin/mineral supplements can make your urine appear dark yellow, as will your first bathroom break of the day. Also, it is important to pay attention to having a significant volume of urine.
- ✓ Tip: It's always a good idea to start off your day, whether training or not, by drinking a full glass of water.



Urine Color Chart



Nutrition Label Facts

Knowing how to read food labels can help you build better eating habits.

Nutrition Facts

Serving Size 1 cup (228g)

Servings Per Container 2

Amount Per Serving

Calories 250 **Calories from Fat 110**

% Daily Value*

Total Fat 12g **18%**

Saturated Fat 3g **15%**

Trans Fat 3g **0%**

Cholesterol 30mg **10%**

Sodium 470mg **20%**

Potassium 700mg **20%**

Total Carbohydrate 31g **10%**

Dietary Fiber 0g **0%**

Sugars 5g **0%**

Protein 5g **10%**

Vitamin A **4%**

Vitamin C **2%**

Calcium **20%**

Iron **4%**

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Serving Size: All of the information listed here pertains to the amount of food. It helps you to compare similar products with one another. Begin by looking at how many servings there are in this product. The information on the rest of the label is based on 1 single serving.

Total Fat: Consists of four subtypes of fat: saturated fat, trans fat, monounsaturated fat, and polyunsaturated fat. Watching the amount of fat important, but also be mindful of the type of fat. Saturated and trans fat can lead to increased inflammation while mono and poly unsaturated fats have anti-inflammatory properties.

Cholesterol, only found in animal products, not plant **A.1** should be limited to no more than 300 mg / day.

Sodium is essential for optimal hydration before, during and after training. The American heart **A.2** Association recommends American adults to eat less than 2,300 mg / day. As athletes you may need more or less. **A.3**

Carbohydrate will be a major source of your daily caloric intake.. When trying to limit the amount of simple sugars in your diet, look for foods with high fiber content. Foods that are more than 5 grams of fiber per serving are considered "high fiber."

Protein is very important because it is the building material of our bodies. It is necessary for muscle **A.4** recovery after hard training sessions.

Vitamins and Minerals: The FDA requires Vit. A, C, Iron and Calcium to be **A.5** food label. Food companies can voluntarily list others. You want to aim for 100% of these daily especially during high intensity training.


% Daily Value: This information is based on a 2,000 calorie daily diet. As athletes you may need more or less. Use these percentages as a reference tool, giving you basic guidelines on how much of each food item you should consume daily.

Performance Nutrition for Shooting: The Basics

USA


Jr. Olympic Dev Camp
August 2010

Jim Pulliam, MA, RD, CSSD, CSCS
Strength & Power Sport Dietitian
U.S. Olympic Committee



Building a nutrition base

- Performance nutrition foundations
 - Carbohydrates
 - Appropriate fats
 - Lean proteins




Overview


- Everyday nutrition
- Nutrient timing
- Body composition
- Putting it all together...





Several types of foods are carbohydrates




Breads, Cereals,
Legumes/Beans




Fruits



Vegetables




Dairy




Building a nutrition base


- What you eat and drink on a daily basis will affect your future ability to :
 - Train at **high level of intensity & focus**
 - Recover optimally from training sessions
 - Maintain a strong immune system
 - Recover from injuries
 - Resist illness
 - Compete in multiple matches over multiple days



What kind of carbohydrates?




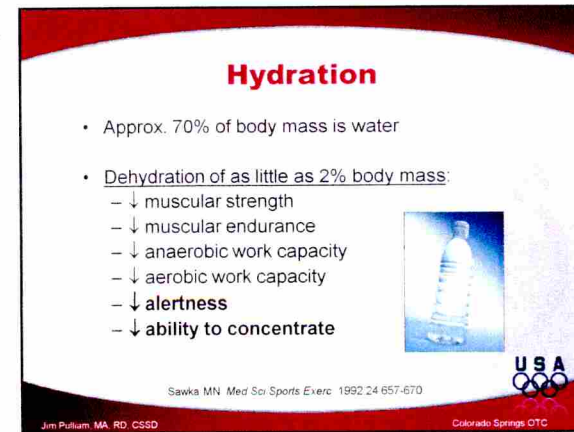
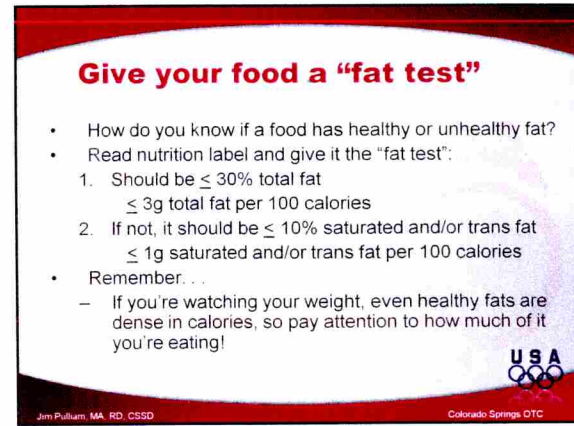
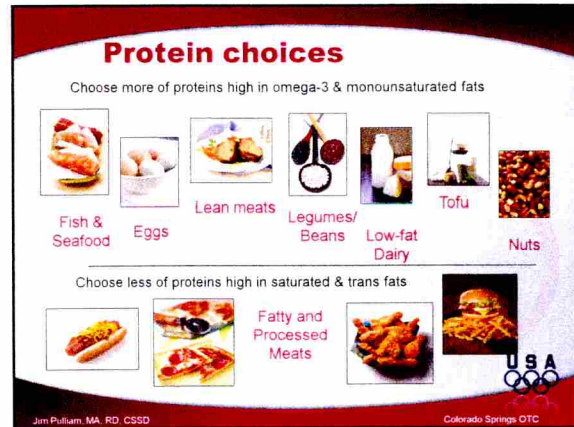
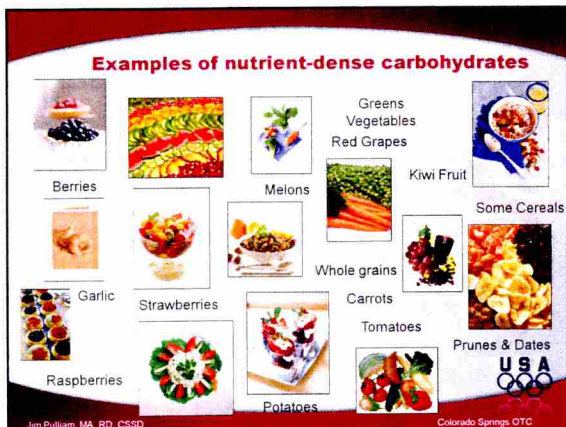
Certain grains, fruits, and vegetables provide a source of nutrient-dense carbohydrates.



Empty carbohydrates are found in foods such as fruit, milk, and vegetables. They provide energy and other nutrients but lack the nutrients found in nutrient-dense carbohydrates.

Nutrient dense carbohydrates (high nutrient to calorie ratio) can be found on both sides of this scale.





Hydration Strategies

- Pay attention to your hydration status everyday!
 - urine color: crude but good field gauge
- Paying attention to hydration status and adjusting fluid intake accordingly becomes a habit
- One less thing to worry about going into
 - Hard training sessions
 - Dehydrating environments (hot & humid or arid)
 - Competitions



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Recovery Nutrition

- Immediately (within 30-60 minutes) after workouts
 - Especially when doing > 1 workout per day
 - Not necessary for low intensity workouts < 1 hr
- Conditions within the body post-workout are optimal for recovery if the proper nutrients are provided
- Consuming carbohydrate & protein right after workout will:
 - Restore fuel stores in muscle (glycogen)
 - Increase synthesis of muscle protein



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Overview



- Everyday nutrition
- Nutrient timing
- Body composition
- Putting it all together...



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Overview



- Everyday nutrition
- Nutrient timing
- Body composition
- Putting it all together...



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Eat more frequently

- Eating small meals every 3-4 hours (starting with breakfast) can:
 - Improve body composition (\uparrow lean, \downarrow fat)
 - \downarrow total calories consumed over whole day
 - \uparrow intensity of workouts
 - **Improve blood glucose control**
 - \uparrow calories burned over the whole day
 - \uparrow appetite control

Farschohr HR, et al. *Am J Clin Nutr*. 2005;81:16-24
 Farschohr HR, et al. *Am J Clin Nutr*. 2005;81:388-395
 Speechly DP, Buffenstein R. *Appetite*. 1999;33(3):285-297



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Optimal body composition



What's the perfect body type for shooting?

The one that's optimal for you and your performance!



Jim Pulliam, MA, RD, CSSD

Colorado Springs, OTC

Optimize your genetic potential

- Start with performance nutrition foundations
- Eat smaller & more frequently
 - For weight loss & weight gain
- Pursue body comp modification at appropriate time
 - Not during competitive season
- Focus on recovery nutrition (quality & timing)
- Be careful of portion sizes!



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

Soda Beverage

20 years ago

Today



6.5 oz.

20 oz.

85 calories

250 calories

National Institutes of Health, National Heart, Lung, and Blood Institute



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

Cheeseburger

20 years ago

Today



333 calories

540 Calories

National Institutes of Health, National Heart, Lung, and Blood Institute
McDonald's online nutrition info (<http://nutrition.mcdonalds.com>) (Accessed Nov 08)



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

Bagel

20 years ago

Today



3-inch diameter

6-inch diameter

140 calories

350 calories

National Institutes of Health, National Heart, Lung, and Blood Institute



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

French Fries

20 years ago

Today



2.4 oz.

6.9 oz.

210 calories

500 calories

National Institutes of Health, National Heart, Lung, and Blood Institute
McDonald's online nutrition info (<http://nutrition.mcdonalds.com>) (Accessed Nov 08)



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

Overview

- Everyday nutrition
- Nutrient timing
- Body composition
- ➔ • Putting it all together. . .



Jim Pulliam, MA, RD, CSSD

Colorado Springs OTC

Putting it all together. . .

- Consume foods that contribute to a strong nutrition base
 - Antioxidant-rich produce & whole grains
 - Lean proteins
 - Healthy fats
- Monitor hydration status & hydrate accordingly
- Eat every 3-4 hours
- Consume carbs + protein immediately post workout
- Professionalism in sport means having a plan.....

ESPECIALLY A NUTRITION PLAN!



Jim Pulliam MA, RD, CSSD

Colorado Springs, OTC

Questions?



GOOD LUCK!



Jim Pulliam MA, RD, CSSD

Colorado Springs, OTC