Healthy Eating Tip of the Month: March 2014

Sports Nutrition and Supplements

Whether you’re a die-hard athlete, or someone who is just starting to partake in regular exercise, eating a balanced diet is essential in optimizing your performance! It is important to sort through all the information that is available and determine what is fact or fiction in regards to both sports nutrition and supplements.

Keep reading to learn about the recommendations for both a balanced diet and the use of supplements to fuel your work out and allow you to reach your peak performance level in the safest and most effective way!
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Why exercise?

Regular exercise or physical activity helps many of the body's systems function better, prevents the development of heart disease, diabetes, and other chronic diseases, and is a key ingredient for losing weight. According to the 2008 Physical Activity Guidelines for Americans, being physically active on a regular basis:

- Improves your chances of living longer and living healthier
- Helps protect you from developing heart disease and stroke or its precursors, high blood pressure and undesirable cholesterol levels
- Helps protect you from developing certain cancers, including colon and breast cancer, and possibly lung and endometrial (uterine lining) cancer
- Helps prevent type 2 diabetes
- Helps prevent the loss of bone, known as osteoporosis
- Reduces the risk of falling and improves cognitive function among older adults
- Relieves symptoms of depression and anxiety and improves mood
- Prevents weight gain, promotes weight loss (when combined with a lower-calorie diet), and helps keep weight off after weight loss
- Improves heart-lung and muscle fitness
- Improves sleep
“Sports nutrition” applies equally to the elite athlete and the active person. Eating right helps your body to adapt to training, helps you recover after exercise, and helps you achieve peak performance. There are two general dietary guidelines for athletes:

1) **Maintain optimal body mass and composition.**
2) **Prevent a nutrient deficiency that may impair performance.**

According to sports dietitians, a diet rich in fruits, vegetables, whole grains, lean meats, and low-fat dairy products, stressing variety, balance, and moderation, will provide the nutrients needed by most athletes.

**Eating right will:**
- help you train longer and at a higher intensity
- delay the onset of fatigue
- promote recovery
- help your body adapt to workouts
- improve body composition and strength
- enhance concentration
- help maintain healthy immune function
- reduce the chance of injury
- reduce the risk of heat cramps and stomach aches
Carbohydrate, Fat, and Protein Recommendations

**Recommended Energy Distribution**

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Fat</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>55-65%</td>
<td>20-35%</td>
<td>15-20%</td>
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Carbohydrate is the primary dietary energy source for exercise. It is important to focus on eating carbohydrates before working out because it is easily digestible and helps increase energy stores in the muscles.

Good sources include:

- Whole grains like whole-wheat breads and pastas, brown rice and quinoa
- Fruit
- Dairy
- Energy bars
- Sports drinks

Fat is important in the diet because it provides essential fatty acids and fat soluble vitamins.

Healthy sources include:

- Fish
- Nuts
- Nut oils
- Seeds
- Vegetable oils and spreads made from a vegetable-oil base

Protein is necessary to build and repair muscle following exercise. It is recommended that the active person consumes more protein than the sedentary person. It’s important to note that getting the necessary amount of protein is achievable by eating natural foods without supplementation.

Good sources of protein include:

- Lean meat, poultry and fish
- Fat-free or low-fat milk, yogurt and cheese
- Eggs
- Legumes (lentils, black beans, pinto beans, dried peas)
- Soy products
Proper hydration is one of the most important aspects of healthy physical activity. Drinking the right amount of fluids before, during and after every physical activity is vital to providing your body the fluids it needs to perform properly. One of the most important of water during activity is to help optimize the body's water balance and regulate the body's temperature, especially in warmer environmental conditions.

**Dehydration**
Dehydration results when athletes fail to adequately replace fluid lost through sweating. Losing more than 2% of body weight through sweat can be harmful and impact performance. Athletes are advised to be well-hydrated before beginning exercise, minimize dehydration during exercise, and replace fluid losses after exercise.

Be alert for conditions that increase your fluid loss through sweat.
- **Air Temperature:** The higher the temperature, the greater your sweat losses.
- **Intensity:** The harder you work out, the more you perspire.
- **Body Size and Gender:** Larger people sweat more. Men generally sweat more than women.
- **Duration:** The longer the workout, the more fluid loss.

**Fluid Replacement**
Replace fluids during exercise to promote adequate hydration. Drink water rather than pouring it over your head. Drinking is the only way to rehydrate and cool your body from the inside out. Sports drinks are more appropriate than water for athletes engaged in moderate to high intensity exercise that lasts an hour or longer. Rehydrate after exercise by drinking enough fluid to replace fluid losses during exercise.
Timing your Nutrition

Pre-workout

You should fuel your body about 1-3 hours before exercise with both carbohydrate and protein. Carbohydrates are the fuel and protein rebuilds and repairs muscles.

Here are some suggestions for pre-workout fuel:

- A peanut butter and banana or PBJ sandwich
- Greek yogurt with berries
- Oatmeal with low fat milk and fruit
- Apple and peanut or almond butter
- Handful of nuts and raisins

Post-workout

Consume carbohydrate and protein as soon as possible after exercise to replenish nutrients lost through training. It will also help your muscles rebuild and repair themselves. Academy of Nutrition and Dietetics Spokesperson Christine Gerbstadt, MD, MPH, RD, CSSD, suggests fueling within 15 to 20 minutes after training with a 3:1 ratio of carbohydrate and protein for optimal muscle repair and recovery, and then eating a regular balanced meal 3 to 4 hours after.

Post workout meals include:

- Post-workout smoothie made with low-fat milk and fruit
- Low fat chocolate milk
- Turkey on a whole grain wrap with veggies
- Yogurt with berries
Sports Supplements and Ergogenic Aids

Ergogenic: intended to enhance physical performance, stamina, or recovery

All sorts of dietary supplements claim to make you faster, stronger, more energized and slimmer. Athletes train hard to reach their peak performance, so products that claim to have more benefits than food can provide can be enticing. However, effectiveness and safety do not have to be confirmed before supplements hit store shelves. Learn how to spot a fraud and where to find trustworthy information.

Dietary supplements are regulated differently by the Food and Drug Administration (FDA) than conventional foods and drugs. Manufacturers are not required to prove a supplement is safe before it is sold, or even that it works. The FDA can take action to remove or restrict the sale of a supplement only after it has been on the market and been shown to be unsafe.

To determine if a supplement is safe and useful, well-planned and controlled research is required. But, there are some red flags to look out for. To help protect yourself, be wary of any supplement that:

- Boasts that it is quick and easy
- Uses testimonials from "real users" to promote its benefits
- Claims it's right for everyone
- States it has been used for millions of years
- Belittles the medical or scientific community
- Has a secret formulation

Below are reputable resources to view the effectiveness and safety of specific sports supplements that are available on the market.

Food and Nutrition Information Center
HFL Sport Science
Informed-Choice
International Bibliographic Information on Dietary Supplements Database
International Olympic Committee
National Center for Complementary and Alternative Medicine
The National Center for Drug Free Sport, Inc.
National Collegiate Athletic Association
Office of Dietary Supplements
U.S. Anti-Doping Agency
World Anti-Doping Agency

The Academy’s Sports, Cardiovascular, and Wellness Nutrition Dietetic Practice Group
The Academy’s Nutrition in Complementary Care Dietetic Practice Group
Sports Supplements and Ergogenic Aids

Below is a list of just a few of the popular sports supplements used by athletes along with a brief description of its intended use. The next page summarizes which supplements work– and which ones don’t!

**Caffeine**: used as a stimulant to increase endurance

**Creatine**: used to increase body mass for strength and power athletes

**Sodium bicarbonate**: used to decrease lactic acid build-up which causes cramping

**Aspartate salts**: decreases accumulation of ammonia during exercise

**Glycerol**: used to increase effectiveness of hydration, or induce “hyperhydration”

**Phosphate salts**: used to increase oxygen release from the blood

**Arginine**: used to increase blood flow and improve endurance capacity

**Carnitine**: used to increase “fat burning” during exercise

**Medium-Chain Triglycerides**: used to enhance endurance exercise performance

**Glutamine**: used to increase muscle volume and stimulate protein production

**B-Hydroxy-B-Methylbutyrate**: used to prevent breakdown of muscle during strenuous exercise

**Pyruvate**: used to increase the effectiveness of producing energy from glucose

**Branched-Chain Amino Acids**: used to decrease fatigue and enhance endurance

**Coenzyme Q10**: used to improve aerobic endurance performance

**Tryptophan**: used to increase tolerance to pain during intense exercise

**Fat loading**: used to enhance endurance performance

**Whey Protein**: used to increase lean body mass

**Erythropoietin (doping)**: used to increase oxygen delivered in the blood

**Ephedrine**: used as a stimulant

**Anabolic steroids**: used to increase testosterone and lean body mass
Efficacy of Supplements

**Perform as claimed**
- Caffeine
- Creatine
- Sodium bicarbonate

**May perform as claimed but insufficient evidence**
- Aspartate salts
- Glycerol
- Phosphate salts

**Do not perform as claimed**
- Arginine
- Carnitine
- Medium-chain triglycerides
- Glutamine
- B-Hydroxy-B-methylbutyrate
- Pyruvate
- Branched chain amino acids
- Coenzyme Q10
- Tryptophan
- Fat loading
- Whey protein

**Dangerous or prohibited**
- Androstenedione/androstenediol (steroid)
- Dehydroepiandrosterone (steroid)
- Ephedrine
- Erythropoietin

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When considering whether or not to use a sports supplement, remember the “food first” philosophy! Getting enough protein in the diet is achievable through the diet alone, although protein shakes are more convenient in some instances.

The sports supplement “creatine” is effective in increasing muscle mass in power athletes, but it should always be taken as directed. “More is better” is not a good way to view sports supplements. In fact, creatine taken in excess has been reported to cause adverse effects on athletes. Always consult your sports dietitian, doctor, or athletic trainer before starting or taking a supplement.
Tropical Fruit-Yogurt Smoothie Recipe

Recipe by Roberta L. Duyff, MS, RD, FADA, CFCS

Make this great recovery smoothie before working out and enjoy it afterward!

**Ingredients**
- 6 ounces passion fruit, guava, or other fruit-flavored fat-free yogurt *
- 1 medium chopped mango**
- 1 small banana**
- 1/3 cup uncooked, rolled oats
- 2 tsp. grated fresh ginger
- 1/2 cup pineapple or orange juice
- 1/2 cup fat-free milk

**Directions**
1. Put yogurt, mango, banana, oats and ginger in a blender jar. Add juice and milk.
2. Whirl in the blender for about 30 seconds, or until mixture is smooth.
If the smoothie is too thick, add juice or milk to desired consistency.

**Cooking Notes**
* If using Greek yogurt, you might add more juice or milk. Another option: For less sugars, use plain, fat-free yogurt and sweeten with additional fruit if desired.
** Substitute 1 cup of any tropical fruit — or any fresh, frozen, or canned fruit you have on hand.

**Nutrition Information**
*Serves 2*
- Calories: 290 Calories from fat: 20
- Total fat: 2g; Saturated fat: 0.5g; Trans fat: 0g
- Cholesterol: 5mg; Sodium 70mg
- Total carbohydrate: 62g; Dietary fiber: 4g; Sugars: 43g
- Protein 8g
Grilled Tuna with Warm Cherry Tomato Salsa Recipe

Recipe by Sanna James Delmonico, MS, RD

This is a great protein-packed dish that your muscles will appreciate!

Ingredients
- 4 small tuna steaks (about 4 to 6 ounces each, with bone)
- 1 tablespoon plus 2 teaspoons extra-virgin olive oil, divided
- 1 tablespoon lemon juice
- Vegetable cooking spray
- ¼ cup finely diced red onion
- 2 cloves garlic, minced
- 2 cups cherry or pear tomatoes, cut in halves
- ½ teaspoon salt
- 2 tablespoons chopped fresh flat-leaf parsley
- 1 tablespoon capers, optional
- Freshly ground black pepper, to taste

Directions
1. Rinse the fish and pat it dry with paper towels. Place it in a glass pie plate and drizzle with 1 tablespoon olive oil and lemon juice. Let the fish marinate in the refrigerator for at least 15 minutes and up to 4 hours.
2. Preheat the grill. Place the tuna on a double-thick sheet of aluminum foil that has been sprayed with the cooking spray. Place it on the grill. Grill the fish, turning it once, until it flakes and is not quite opaque in the center. This takes between 4 and 8 minutes per side, depending on the thickness of the fish.*
3. Preheat the oven to 400°F. Combine the remaining 2 teaspoons of olive oil, the chopped onion and the garlic in a glass, oven-safe pie plate. Roast for 7 to 8 minutes, stirring halfway through.
4. Toss the tomatoes with salt in a small bowl; stir the tomatoes into the onion mixture and continue to roast for 4 to 5 minutes, until the tomatoes are warmed and the onion is starting to brown.
5. Remove from the oven; stir in the chopped parsley and capers, if using.

To serve, spoon the mixture evenly over the grilled tuna steaks. Season with the desired amount of black pepper.

Cooking Note
* Alternative cooking method: roast tuna steaks, turning once, in a 400°F oven, for 10 to 15 minutes, depending on the thickness of the fish in the oven proof pie pan. Coat the pan with cooking spray, as needed.

Nutrition Facts
- Serves 4
- Calories: 190; Calories from fat: 60
- Total fat: 7g; Saturated fat: 1g; Trans fat: 0g
- Cholesterol: 50mg; Sodium 340mg
- Total carbohydrate: 5g; Dietary fiber: 1g; Sugars: 3g
- Protein: 27g
Central Plains Succotash Recipe

Recipe by Roberta L. Duyff, MS, RD, FADA, CFCS

This is a great dish for vegetarians looking for a plant-based dish with complete protein from the edamame and corn!

Ingredients
- 2 tablespoons balsamic vinegar
- 2 tablespoons cider vinegar
- 1 tablespoon brown sugar
- ½ teaspoon ground cumin
- ½ teaspoon onion powder
- 1 clove garlic, minced
- 1½ cups cooked edamame (shelled fresh or frozen soybeans) *
- 1½ cups cooked fresh corn kernels, or drained canned corn, or frozen
- ½ cup chopped red bell pepper
- 1/3 cup chopped cilantro

Directions
1. Combine the balsamic and cider vinegars, brown sugar, cumin, onion powder, and garlic in a 1-to-1½-quart saucepan. Heat over medium heat about 3 minutes, or until the sugar dissolves. Remove from heat.
2. Place the edamame, corn and red bell pepper in a medium-size bowl. Pour the vinegar mixture over the vegetables. Stir to mix.
3. Cover and refrigerate 1 to 4 hours, or until chilled, stirring once.

Stir in the cilantro just before serving. Serve chilled.

Cooking Note
* Substitute frozen or canned baby lima or cannellini beans if edamame is unavailable. To reduce sodium in canned beans, rinse and drain first.

Nutrition Info
- Serves 4
- Calories: 130; Calories from fat: 30
- Total fat: 3g; Saturated fat: 0g; Trans fat: 0g
- Cholesterol: 0mg; Sodium 10mg
- Total carbohydrates: 22g; Dietary fiber: 4g; Sugars: 10g; Protein 7g
Nutrition in the News

“Popular sports supplements contain meth-like compound”


[Published on October 25, 2013]

“A sports supplement featured in a USA TODAY investigation is now found to contain a methamphetamine-like chemical that could put people’s health at risk.”

The supplement under scrutiny in this article is the supplement called ‘Craze’, which was named 2012’s “New Supplement of the Year” by Bodybuilding.com. It was marketed to have only “all natural ingredients” and to provide “unrelenting energy and focus” in workouts. Another similar supplement which was found to have the same meth-like compound, is called ‘Detonate’ which is sold as a weight loss pill by the company Gaspari Nutrition. According to Pieter Cohen, an assistant professor at Harvard Medical School and co-author of a peer-reviewed article analyzing Craze samples, "These are basically brand-new drugs that are being designed in clandestine laboratories where there's absolutely no guarantee of quality control.” People who take this supplement put their bodies at unknown risk of heart attack, stroke, or potentially death.

This article is a great example of the lack of regulation for sports supplements and the potential dangers they may have on a person’s health.
Healthy Eating Tip of the Month: PRIZE!

Don’t forget to enter your chance to win this month’s prize!
The HETM board located in the University Hospital Cafeteria includes a box where you can enter your name into a drawing.

At the end of March, one name will be randomly chosen.

Please provide the following information which will be used to contact the winner:

⇒ Name
⇒ Address
⇒ E-mail
⇒ Phone number

This month’s prize is...

A CAMELBAK WATER BOTTLE!

http://shop.camelbak.com/eddy-insulated-6l/d/1071_cl_594

Insulated 0.6L water bottle that keeps its cool longer thanks to the double-walled construction which has the added benefit of reducing compensation

Color options: cobalt, black, lavender, and magenta

Stay hydrated and keep moving with this month’s prize!
Sources

If you would like more information on sports nutrition, visit the websites below.

Information in creating this website was obtained from the following:

⇒ www.eatright.org
⇒ www.nhlbi.nih.gov
⇒ www.mayoclinic.com
⇒ www.nata.org
⇒ www.acsm.org
⇒ Google image

References


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