

## HEALTHFUL COOKING AT HOME: PERFORMANCE NUTRITION FOR COLLEGE ATHLETES

By Lisa Dorfman, MS, RD, CSSD, LMHC, FAND, Director of Sports Nutrition and Performance  
Food Fitness International, Inc

Excellence in athletic performance is the culmination of proper training, adequate nutrition, hydration, desire, and rest. Healthful eating habits are necessary to support energy needs for training hard, achieving performance goals, and reducing the incidence of illness and injury<sup>1</sup>

According to a joint position paper from the Academy of Nutrition and Dietetics (formerly the American Dietetic Association), Dietitians of Canada, and the American College of Sports Medicine (ACSM), “athletes who fail to consume a diet with adequate vitamins and minerals can lead to deficiencies which can impair training and performance. High training volume, exercise performed in stressful conditions including hot conditions, altitude, or training with substandard diets may promote excessive losses of micronutrients because of increased catabolism or excretion.”<sup>2</sup>

### Athletes’ Diets

Surveys of college students regarding their dietary intake suggest a decline in eating well during the college years.<sup>3,4</sup> In addition to acclimating to college life, student athletes contend with demanding training and class schedules and have limited affordable, healthful campus food options, thus often resorting to fast food or takeout meals. One study showed that college students eat less than or equal to one serving of fruit a day and 50% eat less than one serving of vegetables daily<sup>5</sup>

Research on athletes’ diets reveals that they often fall short of nutrient needs<sup>6,7</sup>. Female athletes have been shown to be deficient in calories, carbohydrates, folate, calcium, magnesium, and iron, while male athletes have significant deficiencies in vitamins A, C, and D, folate, calcium, potassium, and magnesium. Athletes who adopt popular diets to lose weight or follow the latest dietary trends and eliminate whole food groups such as meat, dairy, grains, or fruits are at even greater risk for deficiencies in calcium, zinc, iron, vitamin B12, and other nutrients.

### Eating at Home Versus Eating Out

Numerous health organizations suggest making more healthful food choices and eating at home to improve nutritional density. Eating out has been associated with a higher intake of total energy, sugar-sweetened beverages, and fat, and a lower intake of healthful foods and key nutrients<sup>8</sup>. Eating out has also been linked to increased risk for obesity, insulin resistance, and metabolic syndrome. Home-cooked

meals have been shown to be more healthful, less costly, and higher in many of the nutrients of concern in the athlete’s diet including fiber, calcium, folate, iron, and vitamins B6, B12, C, and E<sup>9 10 11</sup>

### Grocery Shopping

Preparing healthful meals at home starts with well-planned grocery shopping. According to sports dietitian Christine Turpin’s new book, *Shopping on a Budget for Athletes*, planning ahead is the first step. Surveying one’s household and writing a list of the groceries needed helps avoid “mindless” shopping<sup>13</sup>.

Other strategies for budget-conscious shopping include eating before shopping to avoid “hunger” purchases; carving out time to avoid rushing; looking throughout store shelves for bargains of nutritious items; buying in bulk and portioning foods into baggies or BPA-free plastic containers; looking through weekly coupon flyers, or searching websites such as [www.coupons.com](http://www.coupons.com), [www.SmartSource.com](http://www.SmartSource.com), or [www.Valpak.com](http://www.Valpak.com)<sup>13 14</sup>. Buying fruits and vegetables in season can also be a money-saver and build nutritious meals. One suggested guide to buying in-season produce is available free online at [www.fruitsandveggiesmorematters.org/what-fruits-and-vegetables-are-in-season](http://www.fruitsandveggiesmorematters.org/what-fruits-and-vegetables-are-in-season).

### Making Wise Food Choices

Table 1 shows specific strategies for building nutritious meals, explaining the benefits of selecting the suggested choices.

**Table 1. Nutrient-Dense Food Recommendations**

Choose This	Instead of This	Nutrition Benefit
100% whole grains such as cereals, brown rice, bread, crackers, pasta)	White, processed grains, baked goods, cookies, cakes, croissants, muffins	More B vitamins, iron, magnesium, and zinc; less fat, saturated fat, <i>trans</i> fat, sodium
Beverage: water, natural sparkling water, 100% fresh juice, unsweetened green tea	Powdered juice or ready-to-drink juice drink, soda, energy drinks, sweet tea	Less added sugar and caffeine; more vitamins and minerals in fruit juice
Fresh, frozen, canned unsweetened fruit	Canned or frozen fruit with syrup, dyes, artificial colors/flavors; fruit-flavored frozen pops, candy, or treats	Less added sugar; more vitamins, fiber, minerals
Fresh, frozen, canned low-sodium vegetables	Canned or frozen vegetables with sauce, cheese, or in cream sauces and creamed soups	Less sodium, saturated fat, cholesterol

<b>Choose This</b>	<b>Instead of This</b>	<b>Nutrition Benefit</b>
Lean protein, no skin, limited fat: chicken, turkey, eggs, lean beef, turkey/veggie burgers, tofu	Processed luncheon meats: bologna, salami, frankfurters, bacon, sausage	Higher quality protein, less fat, saturated fat, trans fat, cholesterol
Healthy fats such as olive or canola oil, almonds, walnuts, pistachios, peanut butter, avocado	Butter, vegetable shortening, cashews, palm oil, margarine	More essential omega 3 and 6; less saturated fat, trans fat, cholesterol

### **Department Strategies for Helping Athletes to Learn How to Cook On Their Own**

#### **1. Feature a seminar or lecture by a Culinary Sports Dietitian (RD)**

Invite a Sports RD for a culinary sports nutrition presentation on performance eating for training, competition, healthy snack and meal preparation. The RD, CSSD can provide scientific rationale on modifying recipe ingredients & provide appropriate seasoning recommendations for healthier options without sacrificing taste.

#### **2. Create an Athletics Department Cookbook featuring healthy, easy-to-prepare, economical recipes, nutritious food substitutions, seasoning recommendations & links to websites for additional guidance.**

Invite a Sports RD to assist with creating, guiding students with recipe modifications, recipe nutritional analysis and helpful tips. The cookbook can also be used as a fundraiser for teams who do not have adequate budgets for healthy training or recovery fuel and/or travel snacks.

#### **3. Challenge athletes to convert their favorite traditional recipe to a healthier dish!**

Athletes love competitions, why not host an athletic department cook off! Take a one pot dish like chili (see recipe), pizza, or macaroni and cheese and have athletes create healthier options for these traditionally high fat, high calorie popular meals.

Seek the support of a local grocer or restaurant to provide store coupons or gift certificate for the winner. Athletes can be tested on their nutrition knowledge and skills by changing at least 3 ingredients in a traditional dish such as pizza, paella or even chili con carne (see recipe).

#### 4. Create a Cooking Demo where athletes participate in making their own entrée.

After a brief demonstration on how to prepare the dish, athletes can participate in making their very own entrée to eat and enjoy right there. Have a team night or invite larger teams in groups to this event so they can learn to cook and enjoy each other's company at the same time. See the "Healthy Cooking at Home" fact sheet for recipe ideas.

In summary, it's important for athletes to eat well, fuel adequately and learning how to prepare meals at home. Athletic departments can benefit by incorporating some easy strategies for encouraging healthy food selection, grocery shopping and preparation whether it means hiring a culinary sports nutritionist for a meal preparation session, providing links to healthy recipes online or by , creating a cooking contest where athletes win in creative ways.

#### Author

*Written by SCAN/CPSDA Registered Dietitians (RDs). For advice on customizing an eating plan to meet your nutrition goals, consult an RD who specializes in sports, particularly a Board Certified Specialist in Sports Dietetics (CSSD). Find a qualified RD at [www.scandpg.org](http://www.scandpg.org) or [www.sportsRD.org](http://www.sportsRD.org)*

#### References

1. Dorfman, Lisa. *Krause's Food & the Nutrition Care Process*, 14th edition, Chapter 23, Nutrition for exercise and sports performance. St. Louis: W.B. Saunders, 2015, in press. Print.
2. Rodriguez NR, et al: Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: nutrition and athletic performance, *J Am Diet Assoc* 109:509, 2009.
3. Hertzler A, Frary R. Dietary status and eating out practices of college students. *J Am Diet Assoc.* 1992; 92:867-869. Print.
4. Kim HS, Ahn J, No JK. Applying the health belief model to college students' health behavior. *Nutr Res Pract.* 2012; 6:551-558. Electronic.
5. Freisling H, Haas K, Elmadfa I. Mass media nutrition information sources and associations with fruit and vegetable consumption among adolescents. *Public Health Nutr* 2010; 13:269-75.
6. Shriver LH, Betts NM, Wollenberg G. Dietary intakes and eating habits of college athletes: are female college athletes following the current sports nutrition standards? *J Am Coll Health.* 2013; 61:10-16. Print.
7. Wierniuk A, Włodarek D. Estimation of energy and nutritional intake of young men practicing aerobic sports. *Rocz Panstw Zakl Hig.* 2013; 64:143-148. Print.
8. Larson N, Neumark-Sztainer D, Laska MN, Story M. Young adults and eating away from home: associations with dietary intake patterns and weight status differ by choice of restaurant. *J Am Diet Assoc.* 2011; 111:1696–1703. Print
9. Brevard P, Ricketts CD. Residence of college students affects dietary intake, physical activity, and serum lipid levels. *J Am Diet Assoc.* 1996; 96:35-8. Print.

10. Fulkerson JA, Farbakhsh K, Lytle L, Hearst MO, Dengel DR, Pasch KE, et al. Away-from-home family dinner sources and associations with weight status, body composition, and related biomarkers of chronic disease among adolescents and their parents. *J Am Diet Assoc.* 2011;111:1892-1897. Print.
11. Sobal J, Hanson Family dinner frequency, settings and sources, and body weight in US adults. *Appetite.* 2014; 78:81-88. Electronic.
12. Turpin, Christine. *Grocery Shopping on a Budget for Athletes.* EBook @www.mysportsRD.com, My Sports Dietitian, 2014. Electronic.
13. Anderson, Janet B et al. *Eat Right! Healthy Eating in College and Beyond.* Pearson Education, Benjamin Cummings, San Francisco, 2007.

*© 2014 National Collegiate Athletic Association  
NCAA is a trademark of the National Collegiate Athletic Association*