Nutrition Made Easy: A Brochure for CSUN Athletes to Enhance Athletic Performance

Sports nutrition is a blend of nutrition and exercise physiology, helping us to understand the energy expenditure that is required by a particular sport as well as the energy and nutrient intake that is vital to support excellent training and performance. Eating the right diet supports the demands of training. The field of sports nutrition emerged to help athletes train, perform, and recover to the best of their abilities. Sports nutrition plays an integral role in promoting athletic success by helping athletes stay healthy and optimally fuel themselves so they can maximize training and conditioning. An often over-looked component in many programs, smart nutrition planning can equate to greater gains in lean body mass, minimized fatigue related to poor hydration and under-fueling, and enhanced recovery which supports all future training and competition.

The key is to meet nutrient needs and support training and performance while maintaining dietary flexibility.

The 10 Nutrition Habits of Champions:

**RULE 1:** Eat a breakfast everyday that contains carbohydrates and protein!

**RULE 2:** Eat a minimum of 4 meals a day, 5-6 would be best and eat every 2-3 hours.

**RULE 3:** Carry a water bottle and drink even when not thirsty.

**RULE 4:** Sleep a minimum of 8 hours a night. Give the body time to repair/recover.

**RULE 5:** Eat protein, carbohydrates, healthy fats and vegetables at every meal.

**RULE 6:** Eat more vegetables At least 5 servings.

**RULE 7:** Eat a complete meal 15-45 minutes after practice, conditioning, or weights. Eat a small meal 30-60 minutes before training.

**RULE 8:** Limit to one of the following per week: fast food, fried foods, pizza, cheeseburgers, sweet snacks.

**RULE 9:** Do NOT take any supplements without first knowing the risks and benefits, and validating with a qualified professional that it does not contain any banned substances.

**RULE 10:** Understand that all recommendations given are general guidelines. See a qualified health professional for personalized recommendations.

**EAT LIKE A CHAMPION....**

To be the best, you need to eat...
Carbohydrates are arguably the most important source of energy for athletes. No matter what sport you play, carbs provide the energy that fuels the muscle contractions. Athletes should aim for a carbohydrate intake that meets their fuel requirements for their particular training regimen and that optimizes replenishment of muscle glycogen stores between workouts. Research has established that 50% to 60% of energy during 1- to 4-hour continuous exercise (at 70% maximal oxygen capacity) is derived from carbohydrates. It is crucial to have a regimen of small, frequent eating of carbohydrate rich foods in order to ingest adequate amounts of carbohydrates before and during exercise, with a recommended intake up to 4 hours prior to commencing exercise.

Proteins provide essential amino acids, which the body cannot produce. Protein is required in developing new tissues, maintaining existing tissue, assisting in fluid balance, and as a carrier of substances in the blood. Proteins are often referred to as the building blocks of the body. However critical proteins may seem to the body, high-protein diets can lead to many health complications, including kidney disease. Protein is not an ideal source of fuel for exercise. An adequate energy intake is important in promoting protein balance or increasing protein retention. Timing of protein intake is very important as well. Due to limitations in the digestion of protein it is generally recommended to be consumed over time rather than in large quantities at any particular time.

Fats play a vital role in the delivery of fat-soluble vitamins (i.e. vitamins A, D, E, and K) and essential fatty acids, assist in satiety control, and provide energy and muscular fuel for low-intensity activity. Generally, it is advisable to have a total fat intake between 20% to 35% of total energy intake. Fats are a highly concentrated fuel with limited water solubility and also have been shown to be a source of energy during prolonged exercise.

A low fat intake below 20% of total calories can impair performance and be detrimental to health; high-fat diets are also not suitable for the competitive athlete and therefore not recommended. For the collegiate athlete, controlling fat intake can be quite difficult when they have limited availability of home-cooked meals. A diet primarily composed of foods prepared outside of the home increases the chances of an athlete exceeding the recommended amounts of fat, saturated fat, cholesterol, and sodium.

The actual amount required by an individual athlete varies based on the athlete’s total daily energy expenditure, type of sport, sex, and environmental conditions. For specific recommendations contact a registered dietitian specializing in sports nutrition.
Sample 2500 Calories Menu
Day 1

**BREAKFAST**
1/2 cup bran flakes, 1 cup 1% milk, 1 medium peach, 1 whole wheat toast, 1 tbsp peanut butter

**MORNING SNACK**
1 cup strawberries, 1 cup low fat Greek yogurt

**LUNCH**
3 oz skinless turkey breast, 1/2 cup snow peas, 1 cup cooked rice, 2 cup of salad, 1/2 tsp virgin olive oil, 1 small orange

**AFTERNOON SNACK**
1 peach, 3/4 cup 1% cottage cheese, 1 English muffin, 1 tbsp peanut butter

**DINNER**
4-5 oz baked chicken breast, 1 small whole wheat dinner roll 1 medium corn on the cob, 1 cup of cooked spinach, broccoli, cauliflower, 1 tsp margarine, 1 small apple (2-1/2" diameter)

**EVENING SNACK**
1 fat-free vanilla pudding, mix in 1 cup berries and 1 tbsp nuts

Day 2

**BREAKFAST**
2 packets instant oatmeal mixed with 1/2 cup skim milk and 1 cup of blueberries

**MORNING SNACK**
1/4 cup of almonds, 1 banana, 16 crackers with hummus

**LUNCH**
tuna salad on 2 slices rye bread made with 3oz of tuna, 2 tsp mayonnaise, celery, lettuce, and topped with tomato slices, 1 medium pear, 16 wheat then crackers dipped in 1 tbsp hummus

**AFTERNOON SNACK**
1 small apple, 4 oz plain low fat yogurt

**DINNER**
4 oz grilled fish, 5 oz potato baked with skin, 3 cups of zucchini, 2 tbsp light sour cream, 1/4 cup of blueberries

**EVENING SNACK**
2 pieces mozzarella string cheese, 3 cups of reduced-fat popcorn

Day 3

**BREAKFAST**
1 tbsp reduced fat peanut butter, 1 whole wheat bagel, 4 oz light yogurt, 1/2 banana (4” length), 8 oz cup of 1% or skim milk

**LUNCH**
3 oz chicken breast, 2 slices of whole wheat bread, 3 cups mixed vegetables, 1 tbsp butter, 1 cup of raspberries

**AFTERNOON SNACK**
1 small orange, 4oz light yogurt

**DINNER**
4 oz shrimp, 1/2 cup of peas, 3 cups of sautéed mushrooms, onions, bell peppers, 1 tsp olive oil, 2 small plum

**EVENING SNACK**
Celery with 2 tbsp reduced-fat peanut butter
Sample 3000 Calories Menu

Day 1

**BREAKFAST**
1 cup bran flakes, 1 cup 1% milk, 1 banana, 1/2 cup berries, 1 whole wheat toast, 1 tbsp peanut butter

**MORNING SNACK**
1 cup strawberries, 1 cup low fat Greek yogurt

**LUNCH**
3 oz skinless turkey breast, 1/2 cup snow peas, 1 cup cooked rice, 2 cups of salad, 1/2 tsp virgin olive oil, 1 small orange

**AFTERNOON SNACK**
1 peach, 3/4 cup 1% cottage cheese, 1 English muffin, 1 tbsp peanut butter

**DINNER**
5 oz roasted chicken breast, 2 small whole wheat dinner rolls, 1 medium corn on the cob, 2 cups of cooked spinach, broccoli, cauliflower, 1 tsp margarine, 1 small apple (2-1/2” diameter)

**EVENING SNACK**
4 oz light yogurt, 15 whole wheat crackers w/ 2 oz spreadable cheese

Day 2

**BREAKFAST**
Spinach Wrap: scramble 4 egg whites, 1 whole egg, 2 cups spinach, 1 oz feta, 1 tsp butter in a 10” whole wheat tortilla, 1/2 cup orange juice, 1 apple

**MORNING SNACK**
1 Greek yogurt, 1 cup of raspberries, 12 walnut halves

**LUNCH**
Turkey Burger on whole wheat bun with lettuce, tomato, 1/4 avocado, 1 slice of red onion, 1 cup of mixed vegetables, 2 cups side salad, 1 small fruit

**AFTERNOON SNACK**
1/2 whole wheat bagel with 1 tbsp peanut butter, 1 orange

**DINNER**
5 oz grilled fish, 1 cup of spaghetti squash baked with 1 tsp butter and garlic, 2 cups sautéed carrots and asparagus, 2 slices of whole wheat bread

**EVENING SNACK**
1/4 cup granola, 6 oz low-fat plain yogurt, 1 cup strawberries

Day 3

**BREAKFAST**
2 hard-boiled eggs, 1 whole wheat bagel, 1/2 cup cottage cheese, 1 cup mixed fruit, 1 cup smoothie: 8 oz cup of 1% milk, 3/4 cup strawberries, 1/2 banana, 6 crushed walnut halves

**MORNING SNACK**
10 almonds, 1 apple, 1 mozzarella string cheese, 16 oz 1% milk

**LUNCH**
2 fish tacos with cabbage, tomatoes, peppers on 2 small whole wheat tortillas (6 inch), 4 cups of sante fe salad with 1/4 cup of corn, 1/4 cup black beans, cilantro dressing on the side, 1 small fruit

**AFTERNOON SNACK**
1 cup of reduced-fat chocolate milk, 1/2 banana

**DINNER**
5-6 oz chicken breast, 2 cups lentils soup, 2 small whole wheat rolls, 2 cups spinach salad with 1 tbsp dried cranberries, 6 pecans, 1 oz cheese and 1 tbsp vinaigrette, 1 small fruit

**EVENING SNACK**
2 pieces mozzarella string cheese, 3 cups of reduced-fat popcorn

Please contact a sports nutrition expert such as a Registered Dietitian for additional nutritional guidance and individualized dietary plans. Klotz Health Center (818) 677-3666 or visit website: http://www.csun.edu/denthealthcenter/

Sample 4500 Calories Menu

Day 1

**PRE-WORKOUT SNACK**
Energy bar (200-250 calories)

**BREAKFAST**
1 whole wheat bagel with 2 tbsp peanut butter, 3-5 scramble eggs whites, 2 cups of 1% milk

**MORNING SNACK**
8 oz orange juice, 1 banana, 15 walnut halves, 4 oz low-fat yogurt, 8 oz 1% milk

**LUNCH**
5-6 oz lean beef or turkey, 1 cup beans, 1 cup corn, 2 cups of salad with dressing on side, 2 slices of whole wheat bread or rolls

**AFTERNOON SNACK**
8 baby carrots with 2 tsp hummus, 8 oz cup of 1% milk, 15 wheat thin crackers

**DINNER**
Omelet made with: 2 whole eggs plus 4 egg whites, non-starchy vegetables of choice (cook w/ cooking spray), 3 oz lean ham, 2 slices whole wheat toast w/ tbsp all natural jelly on each slice, 1 and 1/2 cups of chopped fruit

**EVENING SNACK**
4 graham crackers with 8 oz cup 2% milk

Day 2

**PRE-WORKOUT SNACK**
Energy bar (200-250 calories)

**BREAKFAST**
2 packets instant oatmeal mixed with 1/2 cup skim milk and 1 cup of blueberries

**MORNING SNACK**
15 almonds, 1 banana, 2 pieces mozzarella string cheese

**LUNCH**
8 oz baked chicken breast, 2 small whole wheat dinner rolls, 1 baked potato, 1 tsp butter, 2 cups of cooked spinach/okra, 1 apple

**AFTERNOON SNACK**
1/2 whole wheat bagel with 1 tsp peanut butter, 1 pear

**DINNER**
6 oz sirloin steak, 1 large baked sweet potato with skin and 1 tbsp margarine, 2 cups salad with 1 oz feta cheese, tomatoes, cucumbers, 2 whole wheat dinner roll

**EVENING SNACK**
1 whole wheat tortilla with 1 oz of cheese, 8 oz cup of 1% milk

Day 3

**PRE-WORKOUT SNACK**
Energy bar (200-250 calories)

**BREAKFAST**
3/4 cup cottage cheese, 1 tbsp honey, 2 whole grain waffles, 2 tbsp sugar-free syrup, 1 cup smoothie: 8 oz cup of skim milk, 3/4 cup blueberries, 6 crushed walnut halves

**MORNING SNACK**
1 cup strawberries, 1 cup low-fat Greek yogurt

**LUNCH**
8 oz large bean and cheese burrito on whole wheat tortilla, 4 cups of salad (mixed greens, tomatoes, cucumbers), 4 tbsp light Italian dressing, 1 orange

**AFTERNOON SNACK**
16 oz 1% chocolate milk

**DINNER**
3 oz reduced-fat feta cheese, 5 falafel patties, 1 whole wheat pita, 2 tbsp hummus, 2 cups of Greek salad with 1 tbsp vinaigrette, 1 cup of strawberries

**EVENING SNACK**
1/4 cup granola, 6 oz low-fat plain yogurt, 1 cup blueberries
A balanced diet will benefit all athletes, regardless of their individual sport, age, sex or level of competition. Nutrition levels the playing field and provides the competitive edge!

Remember that all recommendations in this brochure are general guidelines, individuals goals will be different!

**STRATEGIES FOR DINING OUT**

- Breaded, batter-dipped, and tempura all mean fried food and therefore high in fat. Select items that say steamed, poached, roasted, or baked.
- Order a baked potato instead of French fries or have a side salad, steamed vegetables or a cup of broth-based soup.
- Get familiar with a restaurant’s nutrition information, either on-site or online.
- Skip the mayonnaise and special sauces that raise the fat content. Ask for extra lettuce, tomatoes, onions and mustard on sandwiches.
- If ordering pizza, ask for extra vegetable toppings and forget the meats and extra cheese. Vegetable pizzas can have half the calories of the “works” type.
- Avoid mindless munching, remove the bread basket, focus on a balanced plate.
- Alcohol is very high in calories and can prevent us from making healthy food choices.
- Trim the fat from broiled meat and order without gravy or sauces.
- Be careful about potato and pasta salads, bacon bits, marinated vegetables, heavy syrup at the salad bar.
- Choose items with large portions of vegetables.

- Pasta with red sauce is a great choice. Avoid cream sauces such as Alfredo or butter sauce as well as parmigiana, pesto, carbonara, sausage dishes and garlic bread.
- At fast food chains choose BBQ or broiled and grilled chicken sandwiches as well as regular hamburgers or roast beef sandwich instead of jumbo burgers and fried sandwiches.
- Choose appetizers that feature healthy vegetables, fruits, or fish.
- Substitute an appetizer for an entrée or split a meal with a companion, add a small salad.
- You can add vegetables to just about everything (salad, pasta, soup, hamburger, etc.) if you just ask.
- Bottom line: try to never dine out without at least one vegetable on your plate.
- Choose unsweetened fruit juice, sparkling water, or fat-free milk instead of soft drinks.
- For dessert, try fresh fruit or sorbet instead of pies, cakes, or cookies.
- Carry a food reference, such as *The CalorieKing Calorie, Fat, & Carb Counter* or phones applications like MyFitnessPal.com or Restaurant Nutrition app.
- Avoid “all-you-can-eat” places.
- Any restaurant with a mascot is probably bad news!
A good hydration strategy is an essential part of every athlete’s preparation for competition. Dehydration (water deficit in excess of 2% to 3% body mass) can compromise performance, thus making it critical to take in an adequate amount of fluid before, during, and after a bout of physical activity.

Dehydration with a loss of greater than 3% of one’s body mass can lead to harmful effects on mental status, mood, and cognition during exercise and at rest. After exercise, the athlete should replace fluids lost, 16 to 24 oz fluid for every pound (0.5 kg) of body weight lost during exercise. Recovery after exercise is part of the preparation for the next exercise session, and replacement of sweat losses is an essential part of this process. Similarly, an excessive amount of water intake that exceeds fluids lost can put the athlete at risk for developing a fatal condition, known as hyponatremia, due to low blood sodium.

**HYDRATION**

**STAY HYDRATED:**

- Raises your body temperature
- Makes you work harder at lower exercise intensities
- Causes headache, dizziness, and fatigue
- Leads to muscle cramping

**TIPS**

- Aim to drink about 5-7 mL/kg body weight of water or sport drink at least 4 hours prior to exercise.

*TIP* Carry a water bottle around with you for a reminder. Drink even when not thirsty.

- Sports drinks that contain electrolytes are helpful, but many foods can also supple the salt that is needed (e.g. bread, cereals, cheese, crackers.)

*TIP* Select a sports drink during endurance exercise/competition over water if you are a salty sweater or exercising for longer than an hour.

- Weigh yourself before and after practice allows you to estimate fluids lost in sweat. Replace each pound with 2 cups of fluid.

*TIP* Add 2 more cups of water or sports drink for each pound lost during exercise.

Muscle cramping may be associated with dehydration, electrolyte losses, and/or altered nervous system control of the muscle due to fatigue.

**HIGH WATER CONTENT**

Worried you are not getting enough fluids in the day? High water content foods can help an athlete stay well-nourished and well-hydrated! Virtually all food has some water in it. Natural, whole foods have the highest water content. Fruit and vegetables contain 80 to 98 percent water. Eating dense vegetables such as cucumbers, tomatoes, jicama, beets, carrots or celery with a meal or snack is one of the easiest ways to improve your hydration. Below are images of just a few high water content foods:
Supplementation

**NCAA Division I Manual: List of Banned Substances**

The NCAA bans the following classes of drugs:

- **a. Stimulants**
- **b. Anabolic Agents**
- **c. Alcohol and Beta Blockers (banned for rifle only)**
- **d. Diuretics and Other Masking Agents**
- **e. Street Drugs**
- **f. Peptide Hormones and Analogues**
- **g. Anti-estrogens**
- **h. Beta-2 Agonists**

*Note: Any substance chemically related to these classes is also banned.*

The institution and the student-athlete shall be held accountable for all drugs within the banned drug class regardless of whether they have been specifically identified.

Below are some Examples of NCAA Banned Substances in Each Drug Class:

<table>
<thead>
<tr>
<th>Class</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulants</strong></td>
<td>amphetamine (Adderall); caffeine (guarana); cocaine; ephedrine; fenfluramine (Fen); methamphetamine; methylphenidate (Ritalin); phentermine (Phen); synephrine</td>
</tr>
<tr>
<td><strong>Diuretics (water pills)</strong></td>
<td>bumetanide; chlorothiazide; furosemide; hydrochlorothiazide; probenecid; spironolactone (canrenone); triamterene; trichlormethiazide; etc.</td>
</tr>
<tr>
<td><strong>Anti-Estrogens</strong></td>
<td>anastrozole; tamoxifen; formestane; 3,17-dioxo-etiocoh-1,4,6-triene (ATD), etc.</td>
</tr>
<tr>
<td><strong>Anabolic Agents</strong></td>
<td>(sometimes listed as a chemical formula, such as 3,6,17-androstitenitrone) boldenone; clenbuterol; DHEA; nandrolone; stanozolol; testosterone; methasterone; androsteredione; norandrostenedione; methandienone; etiocholanolone; trenbolone</td>
</tr>
<tr>
<td><strong>Peptide Hormones and Analogues</strong></td>
<td>growth hormone (hGH); human chorionic gonadotropin (hCG); erythropoietin (EPO); etc.</td>
</tr>
<tr>
<td><strong>Beta-2 Agonists</strong></td>
<td>buphenol; formoterol; salbutamol; salmeterol</td>
</tr>
</tbody>
</table>

**NOTE:** There is no complete list of banned drug examples!!

Check with your athletics department staff before you consume any medication or supplement.

Supplements will NOT make up for a poor-quality diet!

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The Dietary Supplement Health and Education Act (DSHEA) passed in 1994, provides the legal definition for dietary supplements in the United States. The Food and Drug Administration (FDA) (1994) defined a dietary supplement as a “vitamin, mineral, herb, botanical, amino acid, metabolite, constituent, extract, or a combination of any of these ingredients”. This legislation also provided guidelines for labeling, but it is more important to know what is not covered under the law. DSHEA does not guarantee the safety or effectiveness of dietary supplements. The Food and Drug Administration (FDA) does not have the authority to require proven safety or effectiveness before marketing a dietary supplement. In other words, most dietary supplements currently being sold are presumed safe until proven otherwise.

The current literature demonstrates that most dietary supplements currently sold over the counter are not effective for improving performance, increasing muscle mass, or decreasing body fat. In fact, in an analysis done on 12 brands of over-the-counter supplements it was found that the products’ labels were misleading, with 11 of the 12 brands not meeting the requirements of the DSHEA.

Some studies suggest that multivitamins-minerals can provide important micronutrients needed for physiological function. The use of these supplements such as a multivitamin may be warranted under certain conditions, such as athletes who restrict caloric intake, eat a limited variety of foods, or eat few fruits, vegetables, and whole grains. However caution should be used to avoid exceeding recommended daily intake. In addition, caution must be taken when selecting supplements, as their quality vary greatly. There are very few products used by athletes that are actually supported by reliable research and may even prove harmful.
Timing of Meals

TRAINING

Before exercise, a meal or snack should be low in fat and fiber to facilitate gastric emptying and minimize gastrointestinal discomfort. It should provide sufficient fluid to maintain hydration, be high in carbohydrate to maximize maintenance of blood glucose, be moderate in protein, and be a familiar food that has been proven to be well tolerated. During moderate to high intensity exercise glycogen stores may only last 90 min to 3 hours. Due to the body’s limited glycogen stores, the athlete is largely dependent on his/her nutritional intake to supplement energy reserves. As the glycogen is depleted, exercise intensity and work output decreases, increasing levels of muscle breakdown and immune system suppression. Availability of carbohydrates for optimum performance is dependent on the consumption of carbohydrates in the hours or days before training, during exercise, and while refueling between sessions.

PRE-GAME/EXERCISE MEAL

⇒ Meal timing: 3-4 hours before exercise
⇒ Recommended to have an intake of 1-2 grams of CHO/kg and 0.15 to 0.25 grams PRO/kg 3-4 hours before competition
⇒ Meal composition: High in low-glycemic carbohydrates and lean protein, low in fiber and fat
⇒ Pre-game meal should allow for optimal digestion and energy supply (between 500 to 1,000 calories).
⇒ Avoid meals high in fat, it takes longer to digest as does fiber and lactose containing meals.
⇒ Take in adequate fluids during pre-game time.

⇒ Avoid caffeine (cola, coffee, tea) as it may lead to dehydration.
⇒ Example of meal: Turkey sandwich (2 servings of bread, 2 ounces of turkey, lettuce, tomato) with a piece of whole fruit, such as an apple or orange.
⇒ Meal hydration: 4 hours before activity, consume 5 mL/kg to 7 mL/kg (2 mL/lb to 3 mL/lb) or 17 oz to 20 oz water or sports drink.
⇒ Snack timing: 30 minutes to 1 hour before exercise
⇒ Snack composition: High in carbohydrate, moderate in protein, low in fat and fiber
⇒ Snack hydration: 5 oz to 10 oz water or sports drink.

COMPETITION

During competition, the primary nutritional focus should be to replace lost fluids and consume carbohydrates (approximately 30 to 60 g per hour) for maintenance of blood glucose levels. During competition, carbohydrate intake, particularly in liquid form, may be the best route of delivery to improve performance. These guidelines are primarily essential during endurance events lasting more than an hour, when an athlete has not consumed adequate food or fluids before starting the physical activity, or if exercising in an extreme environment (e.g., heat, cold, or high altitude).

A readily digested carbohydrate, such as a sports drink, would be beneficial to consume during competitions lasting long periods of time (more than 90 minutes). Athletes are advised to develop a program for replenishing fluids.
RECOVERY

Full recovery after training involves adequate replenishment of energy, fluids, carbohydrates, proteins, and/or vitamins and minerals that have been depleted during training and/or competition. Limited recovery can lead to fatigue during the next training, and consistent lack of replenishment can eventually impact the health. To guarantee rapid recovery after training or competition, dietary goals should be to provide sufficient fluids, calories and carbohydrates to restore muscle glycogen. A carbohydrate intake of 1.0 to 1.5 g/kg bodyweight during the first 30 minutes post-exercise and again every 2 hours for 4 to 6 hours to replenish glycogen stores is recommended.

Glycogen stores are replenished more efficiently during the first hour after exercise thus providing a window of opportunity to optimize glycogen stores for future competitions. It is also advisable to have a small amount of protein 0.15 to 0.25 g/kg body weight in a refueling snack post-exercise to aide in muscle glycogen storage. Consuming protein during recovery will function to provide amino acids for building and repairing muscle tissue.

Low-fat chocolate milk has been shown to be an optimal refueling drink post-exercise.

POST-GAME/EXERCISE MEAL

⇒ Carbohydrate intake of 1.0 to 1.5 g/kg bodyweight during the first 30 minutes post-exercise and again every 2 hours for 4 to 6 hours
⇒ Snack timing: within 30 minutes post-exercise
⇒ Snack composition: 4 to 1 ratio of high-glycemic carbohydrate to lean protein
⇒ Meal timing: 2 hours post-exercise
⇒ Meal composition: high in low to moderate glycemic carbohydrate and lean protein, low in fiber and fat
⇒ Carbs you can drink that contain protein are typically the easiest option. The classic option is chocolate milk.
⇒ If that is difficult, fruit (e.g. oranges, bananas, melon, or apple slices) or bagels, are quick alternatives.
⇒ Protein/amino-acid supplementation in the forms of powders or pills are unnecessary and have been linked to dehydration, weight gain, and stress on the kidneys and liver.
⇒ Drink approximately 16 oz to 24 oz water or sports drink for every pound lost during exercise.

Where do I find reliable information about diet, exercise, and health?

www.choosemyplate.gov
www.heart.org
www.eatright.org
www.acsm.org

DURING-EXERCISE MEAL

⇒ Carbohydrate intake should begin shortly after the onset of activity
⇒ Timing: Consume 30g to 60g carbohydrate/hr spaced every 15-20 minutes
⇒ Composition: High-glycemic carbohydrate such as sports drinks/gels.blocks/beans, fruit, high carbohydrate bars with moderate protein
⇒ Hydration: Dependent on sweat rate:
⇒ Average fluid replacement is 5 oz to 10 oz water or sports drink every 15 to 20 minutes
⇒ Sports drinks should contain 6% to 8% carbohydrate
⇒ Replace electrolytes lost via sports drink or foods high in sodium/potassium
How to Succeed?

Plan
- Find quick and easy recipes online
- Make a grocery list
- Plan meals and snacks for the week based on budget and schedule
- Check for sales and coupons in the local paper or online. Try discount stores and buy in bulk
- Consider sharing the cost of groceries with roommates, teammates, or family members
- Check online at the nutrition information of the food establishments visited frequently.

Purchase
- When at the grocery store, focus on the perimeter of the store, this is usually where most of the fresh food is located
- Avoid highly processed foods and those that provide little benefit to a balanced diet
- Learn to read the nutrition facts label (see below). Where are the things to look for?
- Purchase fruits & vegetables in season
- Good low-cost items available all year include:
  - Protein—beans (garbanzo, black, kidney)
  - Vegetables—carrots, greens, potatoes
  - Fruit—apples, bananas

Prepare
- Make some meals items in advance; pre-cook on days when you have more time.
- Cook larger portions and store/freeze for a later meal.
- Have snacks prepared in advance and ready to go, for days when time is limited.
- Try new recipes, incorporate new vegetable dishes, experiment with various herbs and spices to add flavor.
- Learn to save money by preparing most meals at home.

MARKETPLACE

How to Buy Food and Eat Cheaply:

Learn to cook. It’s your best defense against poverty. It’s usually much cheaper to cook stuff yourself, and it’s almost always better.

Don’t eat out. At least not often. That sandwich you just paid $3.00 for is worth about fifty cents, maybe. And it wouldn’t take very long to make either.

Stay away from processed foods. When someone else shreds up cheese for you, or cuts up lettuce, you will pay a little more.

Cook a whole chicken. Really! Eat it with pasta the first night, in a sandwich the next day, stir-fried in rice, and add it to soup another day.

Eat beans. They’re cheap, they’re nutritious! Canned beans are the easiest. Perhaps you can even try cook-it-yourself dried beans.

Cruise the markdown area of the supermarket. Every store has a shelf or basket full of stuff that has been ripped or bruised. There is usually nothing wrong with these items. Avoid dented cans, though, may be spoiled.

Buy big. When you have the money and it makes sense. Consider sharing the cost of a huge bag of something (flour, onions, carrots) with friends.

Grocery List

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Cans &amp; Bottles</th>
<th>Meat or Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oranges</td>
<td>Beans</td>
<td>Chicken</td>
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<tr>
<td>Apples</td>
<td>Tomatoes</td>
<td>Pork Chops</td>
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<td>Bananas</td>
<td>Tuna</td>
<td>Turkey</td>
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<td>Melons</td>
<td>Olive Oil</td>
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<tr>
<td>Grapes</td>
<td>Peanut Oil</td>
<td>Shrimp</td>
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<tr>
<td>Vegetables</td>
<td>Jam</td>
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<tr>
<td>Mix greens</td>
<td>Spaghetti Sauce</td>
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<tr>
<td>Carrots</td>
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<td>Dairy</td>
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<tr>
<td>Milk</td>
<td>Bread</td>
<td>Salt</td>
</tr>
<tr>
<td>Yogurt</td>
<td>Whole grain</td>
<td>Pepper</td>
</tr>
<tr>
<td>Eggs</td>
<td>bread</td>
<td>Garlic</td>
</tr>
<tr>
<td>Cheese</td>
<td>Whole wheat</td>
<td>Cinnamon</td>
</tr>
<tr>
<td>Butter</td>
<td>tortillas</td>
<td>Bouillon cubes or powder</td>
</tr>
<tr>
<td>Baking</td>
<td>Pitas</td>
<td></td>
</tr>
<tr>
<td>Flour</td>
<td>English Muffins</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>Rice</td>
<td></td>
</tr>
<tr>
<td>Cornmeal</td>
<td>Oatmeal</td>
<td></td>
</tr>
<tr>
<td>Baking powder</td>
<td>Cereal</td>
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<tr>
<td>Frozen</td>
<td>Pasta</td>
<td></td>
</tr>
<tr>
<td>Corn</td>
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</tbody>
</table>
Healthy Snack List:

- Apple or banana slices and peanut butter
- Baked potato with cheese melted on top
- Carrot and celery sticks with dressing
- Dry cereal with dried fruit
- Energy bars, breakfast bars or granola bars
- Granola with low fat milk and a banana
- Instant oatmeal made with low fat milk and dried fruit
- Crackers and hummus (garbanzo bean dip)
- Pudding and graham crackers
- Yogurt and canned fruit
- Peanut butter, crackers and vegetable juice
- Sandwiches (made with peanut butter, turkey, lean roast beef, or tuna)
- Slice of leftover vegetable pizza
- Small bowl of hot soup
- Smoothies made with milk or juice and fresh or frozen fruit
- Trail mix with nuts and dried fruit
- Whole grain bagel with peanut butter and a yogurt
- Whole grain crackers and cheese
- Whole grain, low-fat muffin with low-fat milk
- Cottage cheese with fresh or canned fruit
- 1 cup plain low-fat yogurt with 1/4 cup granola
- Small handful of walnuts or almonds with 1 medium size fruit
- Whole wheat tortilla with reduced-fat cheese
- Frozen yogurt with strawberries
- Bran flakes cereal with low-fat milk and banana
- 1/2 whole wheat bagel with tbsp of peanut butter or slice of cheese
- Handful of pretzels with cheddar cheese
- 1/2 whole wheat pita with tomato and mozzarella
- English muffin with honey and low-fat yogurt
- Pasta with tomato sauce, whole grain bread
- Edamame

* Athletes may not get enough calories/nutrients without adding healthy snacks to their diet. High fat, high sugar snacks are low in healthy nutrients. They may not provide the energy needed to do well during training or a sports competition.

Learn to read the Nutrition Facts

Learning to read the nutrition facts label should be a priority for an athlete looking to eat nutritiously and fuel his/her body for training and completion. Check the image to the right of a sample nutrition facts label. Start with reviewing the serving sizes. Look to see which nutrients need to be limited and which should be increased (highlighted in yellow). Note: *% Daily Value is based on a 2,000 or 2,500 calorie diet, therefore percentages may not apply to you as stated.

Remember: If the serving size is one cup, and you eat 2 cups, you are getting twice the calories, fat, and other nutrients listed on the label.

Questions to ask when reading a label:
- How many servings?
- How much fat?
- What are the ingredients?
- How much fiber?
- How much added sugar and sodium?

For ideas regarding healthy eating while on CSUN campus, please visit this great resource: www.csun.edu/tuc/healthy-eating.pdf
RECIPE CORNER

MARGHERITA PITA PIZZA
This recipe is both easy and quick.

INGREDIENTS:
4 Whole Wheat Pitas
1 Spaghetti Sauce Can
Shredded Mozzarella or Feta
1 Tomato
Garlic powder (optional)
Black pepper (optional)

DIRECTIONS:
1. Preheat oven to 400 degrees.
2. Place pitas on foil or baking sheet.
3. Spread very thin layer of sauce over pitas, sprinkle with garlic powder.
4. Cut tomato into ¼ inch slices.
5. Sprinkle with feta cheese or mozzarella and black pepper.
6. Bake for 10-12 min or until edges are light brown.

Makes 6 servings

PROTEIN-RICH QUINOA SALAD
Quinoa yields the highest amount of protein (18 grams per cup) of any grain.

INGREDIENTS:
1 cup quinoa (rinse before cooking)
2 plum tomatoes, chopped
1 bunch fresh parsley
1/2 cucumber, chopped
1/2 cup finely chopped red onion
1 tablespoon extra-virgin olive oil
Juice of 2 key limes (or 1/2 lemon or lime)
Pepper to taste

DIRECTIONS:
1. Cook the quinoa according to the package directions. Let it cool in a large bowl for about 30 minutes.
2. Add the remaining ingredients. Mix.
3. Garnish with feta, parsley, etc, or an assortment of vegetables for added nutrition. Top with sliver of avocado.

Makes 6 servings

TOMATO ZUCCHINI PASTA
Great cold or hot.

INGREDIENTS:
1/2 cup Vinaigrette dressing
1 pound of favorite shaped pasta
2 medium sized zucchini
1 tablespoon dried parsley
Salt and pepper to taste

DIRECTIONS:
1. Cook pasta according to package directions. Drain and rinse in cold water.
2. Toss the pasta together in a large bowl with the dressing and the rest of the ingredients. Salt and pepper to taste.
3. Serve immediately or store covered in refrigerator until chilled.

Makes 6 servings

2-MINUTE CHICKEN SALAD PITA
In just three easy steps, you can whip up the best-tasting sandwich ever....

INGREDIENTS:
1 pita (100% Whole Wheat)
1 can (3 oz) chunk chicken, rinsed and drained to remove excess sodium
1 tsp fat-free sour cream
1 tsp fat-free plain yogurt
1 tsp spicy brown mustard
1/2 cup shredded lettuce, spinach for extra nutrition
Salt and pepper to taste

DIRECTIONS:
1. Put the pita in the toaster oven and lightly toast to warm.
2. In a bowl, combine the chicken, sour cream, yogurt, mustard, and dill seasoning. Mix.
3. Cut the pita in half. Fill each side with lettuce, then add the chicken salad.
4. Add a small handful of raisins, dried cranberries, or grapes into the mix.

Makes 1 serving

SNACK LIST:

- Breakfast cereal and powdered milk
- Rice cakes
- Spreads—honey, jam, peanut butter
- Cereal or breakfast bars
- Dried fruit and nuts—trail mix
- Fresh fruit or canned fruit in fruit juice
- Sandwiches, bread rolls
- Low fat flavored milk
- Whole grain crackers
- Pretzel sticks and peanut butter
- Reduced-fat popcorn
- Yogurt
- Plenty of Water

TRAVEL TIPS

- Eat and drink well while on the move, but be careful not to overeat. Plan a meal schedule before leaving.
- Be wary of food and water hygiene on the road.
- Traveling with a small cooler allows you to keep food and drinks cold.
- Order vegetarian or low fat meals.
- Long hours of travel can upset the digestive system. To avoid constipation, drink plenty of fluids and eat fiber-rich foods such as fresh fruit.
- Drink water with occasional fruit juice, to stay hydrated.
- Talk to a sports dietitian for personalized recommendations regarding travel.

References