Nutritional Guidelines for FC Heat Training Program

Nutrition is an essential component for athletic training programs at any level. A quality nutrition program (or lack thereof) can make or break an athlete's goal to achieve optimum performance. Like any type of machine, the body requires fuel (foods and beverages) and many fuel choices exist; certain foods are "high octane" while others are "low octane" and consistently consuming low-quality fuel will cause breakdown, fatigue, and a dramatic decrease in performance. Nutrition and diet can be very complex; however, understanding two principal concepts simplifies things: *food quantity* and *food quality*.

Food Quantity

Your total daily caloric (energy) intake depends directly on your activity level – the more energy you burn, the more you need to consume. Energy from foods and beverages is important for every function in the body, to maintain weight, and to fuel activity. Energy needs are also increased during growth, so if you are under 18 years old, you may still be growing, thus you should *not restrict energy intake*. If your goal is to gain weight, then extra energy intake becomes more vital since you must meet your energy output *plus* energy for growth.

Food Quality

The terms *Nutrient Density* and *Caloric Density* define the quality of a food. *Nutrient-dense* foods contain a lot of vitamins and minerals for their size (volume). *Calorie-dense* foods have a lot of calories for their volume (usually from fat). Low calorie-dense foods have few calories. As an athlete you should typically choose foods that are BOTH nutrient-dense and calorie-dense.

Nutrient Dense: Fruits, vegetables, fat-free dairy, lean proteins
Calorie Dense: Fats, oils, high-fat meats, cheese, ice cream, candy bars
Both: Whole grain breads & cereals, nuts, nut butters, seeds, dried fruit, energy bars, smoothies
Neither: Iceberg lettuce, diet soda, calorie-free drinks

Fat Intake

Believe it or not, the body needs fat not only to live, but to perform (fat is an energy source). Fats are actually the most efficient energy source providing twice the energy per gram than carbohydrates or protein (9 Calories per gram vs. 4 Calories). If you do not have a healthy source of fats in the diet the body will begin to burn muscle for fuel, which is not optimal for performance. "Good" fats include: **nuts, seeds, avocado, olive and canola oils** – as opposed to a Snickers Bar or something from Cold Stone.

Meal Timing

Structure your diet to give you the most usable fuel around the times that you need it.

- For pre-practice snacks, always consume foods rich in carbohydrate (30-50 grams) that your body is used to – ***never try anything new on gameday***. Consuming some protein (10-20 grams) with carbohydrate before competition or training can significantly help rebuild and restore muscle tissue.
- Post-practice is an equally important opportunity to replenish energy stores. Eating 300-400 Calories after practice or competition, composed mostly of carbohydrates, is ideal (such as fruit, recovery drinks or smoothies). A 2:1 to 4:1 carbohydrate-to-protein ratio is a good rule to follow, e.g. 40 grams carbohydrate with 10-20 grams protein for recovery.

Athletes need to constantly feed their machine – strive for 4-6 meals per day. The goal is to rebuild the muscle tissue you breakdown during training. If carbohydrate intake is low, your body will switch to breaking down muscle for fuel (which can lead to overtraining). You do not need a college degree to know that overtraining results in poor performance and increased injuries. A healthy athletic eating plan does not need to be complex, but it does need to be consistent. Below are some simple guidelines to follow to ensure you get a balance of all energy sources your body needs to stay healthy and fit.

Before – Goals/Guidelines:

- Hydration, quick digestion, top off glycogen (stored carbohydrate) levels, elevate blood sugar levels
- Eat lightly before a competition, avoid foods that may cause an upset stomach, eat slowly and allow plenty of time for food to digest
- Sample Foods (2-3 hrs before): Oatmeal, whole wheat bread/pasta, brown rice, vegetables, lean meat, fat-free yogurt, raw trail mix, meal replacement bars
- Sample Foods (10-30 min before): Water, sports drinks, pretzels, baked chips, fruit

During – Goals/Guidelines:

- Maintain hydration and electrolyte (sodium, potassium) balance, quick digestion, maintain sugar glucose
- Sample Foods: Water, sports drinks, sports gels, meal replacement bars (low in fat, fiber and protein)

After – Goals/Guidelines:

- Replace fluids, replace glycogen, rebuild protein tissue
- Sample Foods: Water, chocolate milk, PB&J or turkey sandwich (on whole wheat), bagels (w/o cream cheese), yogurt with fruit, meal replacement bars, recovery drinks

Sample Menus

The next question is how do you put all this information together to create a menu plan? Daily, individualized menu plans require a personal nutritional counseling session, but the following guidelines should assist in creating a nutritional plan that will suit your needs. And keep in mind, these are only GUIDELINES – knowing what works best for you, knowing how your stomach handles particular foods and drinks is the key to proper fueling before an event.

Morning Competition Menu

Lunch (day before): Turkey & cheese wrap in whole wheat tortilla, mixed fresh fruit – Water
Afternoon Snack (day before): English muffin with natural peanut butter and banana slices – Water
Dinner (day before): Grilled fish, mixed veggies and brown rice – Water
PM Snack(day before) String cheese and apple slices – Water
***Breakfast (2-3hrs prior of match):** Oatmeal w/fruit, 2 hard boiled eggs – Water
During: Water/sports drink (6-12 oz every 15-20 minutes)
Recovery Snack: Fruit smoothie w/protein supplement (20 grams) – Water

Evening Competition Menu

Breakfast: Veggie omelet, whole wheat toast w/natural peanut butter – Water
AM Snack: Yogurt w/fruit and ¼ cup dry cereal – Water
Lunch: Chicken breast, whole wheat pasta w/marinara, side salad (w/cottage cheese instead of dressing)
Pre-Game Snack: Handful of walnuts, fruit – Sports Drink
During: Water/sports drink (6-12 oz every 15-20 minutes)
Dinner (post-game): Tilapia filet, steamed veggies, brown rice – Water
PM Snack: Celery sticks with natural peanut butter – Water

Tournament Day Menu

You may need to alter tournament menus depending on the number of games/events each day.

Breakfast: 2 hard boiled eggs, yogurt w/fresh fruit and ¼ cup dry cereal – Water
Pre-game snack: Pretzels, fresh fruit – Water
During: Water/sports drink (6-12 oz every 15-20 minutes)
Recovery snack: Tuna (chunk, water-packed) w/whole wheat crackers – Water/Sports Drink
Lunch: Meal replacement bar *or* turkey sandwich on a whole wheat bagel – Water
Pre-game snack: Graham crackers, banana – Water
During: Water/sports drink (6-12 oz every 15-20 minutes)
Recovery snack: Trail mix, dried fruit – Water
Dinner: Chicken breast, sweet potato, side salad (lemon for dressing) – Water
PM Snack: Apple with natural peanut butter – Water

Hydration

You knew it was coming . . . Hydrate, Hydrate, Hydrate! Your body is composed of 65% water and it is needed for every reaction in the body. It serves to deliver nutrients to cells, remove waste from the cells, and to lubricate joints and absorb shock joints. Water also works as a thermostat by bringing fluid to the surface of your skin (sweat) to cool you down and prevent overheating during activity. There are a million reasons to hydrate and zero not to hydrate. Consume 4-6 liters (1-1.5 gallons) of water a day and 6-12 ounces every 15-20 minutes during exercise. Never pass a water fountain without taking a swig and never head to the sideline or dugout without taking a few gulps.

A somewhat controversial issue surrounding hydration is water vs. sports drinks. Water is ALWAYS the most important nutrient you can put into your body before, during, or after exercise. As previously mentioned, though, your body uses carbohydrates rapidly during exercise. In games, practices, or workouts lasting longer than 60 minutes (that's 1 hour for those of you not good at math) you may deplete your body's carbohydrate and electrolyte (sodium and potassium) stores. Sports drinks (or other salty, easily-digested carbohydrate foods along with water) will replace these losses and delay the onset of fatigue. Be aware of some "electrolyte-enhanced waters" that contain no sodium – if it has no sodium, put it back on the shelf because it's not suited for athletes during competition. Read the nutrition label and look for **10-15 g of carbohydrate** and roughly **100 mg of sodium** (per 8 ounces). A good rule of thumb is to *rehydrate, refuel, replenish*. *Rehydrate* with fluid, *refuel* with carbohydrate, and *replenish* with electrolytes.

Target Nutrition

The following handout (Target Nutrition) provides a general guideline to the quality of your food choices; i.e. you should consume some foods more than others; for example, egg whites, beans & legumes, and lean fish are your best protein sources. The handout does not, however, cover food quantity and portion control, but that has been discussed. Also notice that water is the "bulls-eye" meaning you should drink it with each meal and snack. If you are unsure about the importance of hydration please re-read the section above. Then read it again.

The Food Plate Model utilizes a similar approach. Think about your "plate" of food for an entire day – half of that plate should be fruits and vegetables, one-fourth should be whole grains, and the other fourth should be meat and meat substitutes.

Conclusion:
Diet is 75% common sense and 25% science. You don't need a Registered Dietitian to tell you that donuts are from the devil or that fruits and vegetables are your Superman pills. Take responsibility for your own health and utilize the people around you to help you get on track. If you remember nothing else from these guidelines, remember this: NEVER TRY ANYTING NEW ON GAME DAY!

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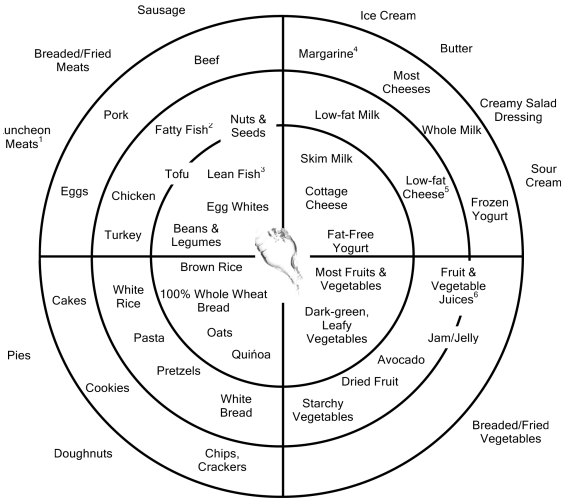
Target Nutrition



Inner Circle: Most-often
Middle Circle: Often
Outer Circle: Occasionally
Outside: Rarely

[1]Bologna, salami, pimento loaf
[2]Salmon, sardines, oysters
[3]Water-packed tuna, cod, halibut, trout, snapper, shellfish
[4]Only purchase “non-hydrogenated” margarine
[5]Look for part-skim, low-moisture; e.g. parmesan, mozzarella, feta
[6]Look for 100% juice; limit juices with added sugar or high-fructose corn syrup