Sports Nutrition

Created by: Lindsay Smith, Dietetic Intern, Teachers College, Columbia University
Tiffany Chag, Dietetic Intern, Teachers College, Columbia University
Katrina Trisko, Dietetic Intern, Teachers College, Columbia University

St. Francis Athletics

Welcome!

St. Francis Athletics is here to help student athletes improve their performance through the use of a variety of techniques. This guide is a tool that can be used as a general background to important sports nutrition to help fuel you, but remember that this is general and not specific to each individual athlete. Welcome to the team and get ready to improve your performance!

Optimize Performance

There are so many challenges that a college athlete faces that are specific to their individual sports and to the environment of the university that they attend. There are so many things to deal with such as classes, study hall, training, and games, eating, sleeping, and having a social life. In order to excel in your sport, there are three things that you will need in order to do so:

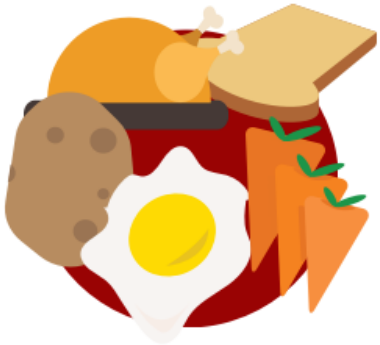
1. **Proper Training**
2. **Balanced Nutrition**
3. **Adequate Rest/Recovery**

While training is an extremely important base for your ability in the sport and for athletic success, you are unable to train properly if you do not have balanced nutrition and enough sleep to provide the energy that your body needs. Sports nutrition should be a priority in your plan to achieve your goals. Even making small changes to what you are already doing can make a huge difference in performance! With a proper nutritious training diet, you will have more energy, strength, power, and speed.

Are you ready to RISE TO THE CHALLENGE?

Figuring Out

Your Calorie Needs



Why It's Important

- Prevent muscle loss
- Fuel Athletic Performance
- Provide energy for body to function

Vary your diet, your energy and nutrient needs differ every day due to changes in activity

General Guide For Calories

Light/Days Off	Moderate	Heavy
15-17 calories per lb/day	17-19 calories per lb/day	18-23 calories per lb/day

How to Figure Out Your Individual Needs

1. Calculate weight and height

Divide your weight (lbs) by 2.2 to get kg

Multiply your height (inches) by 2.54 to get cm

Ex: 180 lbs/2.2 = 81.8 kg, 74*2.54 = 187.96

Example:
Female 180 lbs, 6'2, age 19
In season, heavy exercise

2. Enter numbers into equation

Females: 10(weight in kg) + 6.25(height in cm) - 5(age) - 161

Males: 10(weight in kg) + 6.25(height in cm) - 5(age) + 5

Ex: 10(81.8) + 6.25(187.96) - 5(19)-161 =1737 cals

3. Multiply Result by Activity Factor

Light (1-3 days/week): 1.3
Moderate (3-5 days/week): 1.5
Heavy (6-7 days/week): 1.7
Very Heavy (twice per day or more): 1.9

Ex: 1737 (1.7) = 2952 cals a day to meet needs

Carbohydrates

The Fuel Your Body Needs

Think of your body as a car. In order to go the furthest distance, you need to load up on the highest quality gas. Carbohydrates are your high quality gas. Carbohydrates help fuel your body in order to perform at your best.

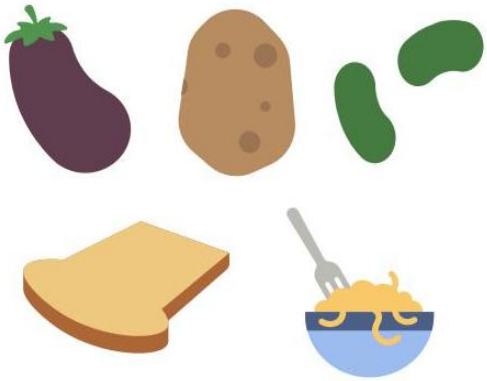
Why are they important?

Fuel for the brain and body.

Needed to replenish muscle stores

Having maximum stores improves performance

Complex Carbs



Eat more vegetables and whole grains

Consume 3-4 hours before exercise and include in your recovery meal

Simple Carbs

Eat more fruits and dairy products

Consume 1-2 hours before exercise and within 30 minutes after to replenish

The Truth about Protein

Common myths about protein:

Myth #1

You eat enough protein in the diet

Athletes require a significantly larger amount than normal Americans

Myth #2

Protein is in only meat

Protein is found in tofu, beans and lentils, and even vegetables like broccoli.

Myth #3

High protein diet helps you lose weight

To lose weight in a healthy way, eat a balanced diet

Importance of Protein

Builds and repairs tissue in the body

Increases muscle protein synthesis

Building blocks for bones, muscle, skin

Sources of Protein

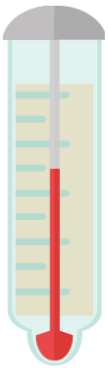
Focus on eating lean choices of protein

FATS 101

What are the health benefits?

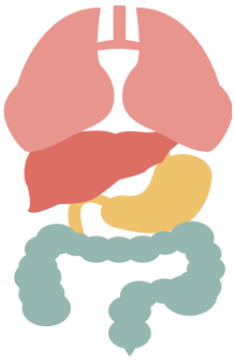
Builds parts of the brain

Regulates body temperature



Helps absorb fat soluble vitamins (A,D,K,E)

Cushions the organs in your body



Types of fat

Aim to get 20-25% of calories from fat

GOOD AND HEALTHY

Mono- and Poly-unsaturated fats are the best type to choose!

Sources: Olive oil, peanut butter, tuna, walnuts, tofu, flaxseed, salmon, nuts, avocado

NOT- SO HEALTHY

Saturated and trans fat should be limited as much as possible!

Sources: cheese, butter, red meat, cookies, doughnuts, fried foods, vegetable shortening

HYDRATION

Everything to know for optimal athletic performance

Symptoms of Dehydration


Extreme Thirst


Dry Mouth


Low Urine Output


Headaches


muscle cramps


Fatigue

1	HYDRATED
2	HYDRATED
3	HYDRATED
4	DEHYDRATED
5	DEHYDRATED
6	DEHYDRATED
7	SEVERELY DEHYDRATED
8	SEVERELY DEHYDRATED

How to Tell You're Dehydrated

The easiest way to tell if you are dehydrated is to look at the color of your urine. You want your urine to be light straw color to clear.

The darker your urine the more water you need to drink! Look at how much urine you are putting out and how often you are going to the bathroom.

Why it is important

Water makes up more than half of your body weight.

It helps lubricate your joints and improves connective tissue plasticity, which helps your mobility.

Also it helps transport oxygen to the muscles to help breakdown energy stores for fuel.

How much to drink?

Entire Day

94-125 oz

Before Activity

16-20 oz
2 hours
before

8-16 oz
15 min
before

During Activity

5-10 oz
every 10-15 minutes

(1 gulp is 1 oz)

After Activity

20-24 oz per lb of
body weight lost after
exercise

This is Baseline. Adjust for activity, sweat rate, gender, and age.

Portion control

How to count servings

Vegetables	Calories	Visual cue
1 cup broccoli	25	1 baseball
2 cups raw, leafy greens	25	2 baseballs
Fruits	**Calories**	**Visual cue**
½ cup sliced fruit	60	Tennis ball
1 small apple or medium orange	60	Tennis ball
Carbohydrates	**Calories**	**Visual cue**
½ cup pasta or dry cereal	70	1 fist full
½ small bagel	70	1 fist full
1 slice whole-grain bread	70	1 fist full
½ medium baked potato	70	1 fist full
Protein/Dairy	**Calories**	**Visual cue**
3 ounces of fish	110	Deck of cards
2-2½ ounces of meat	110	⅔ deck of cards
1½-2 ounces of hard cheese	110	⅓ deck of cards
Fats	**Calories**	**Visual cue**
1½ teaspoons peanut butter	45	2 dice
1 teaspoon butter or margarine	45	1 die





WEIGHT GAIN

How To Do it Healthy

Meal Timing

Portion Sizes

High Calorie Foods

Recovery Nutrition

WHAT TO EAT

Healthy Fats

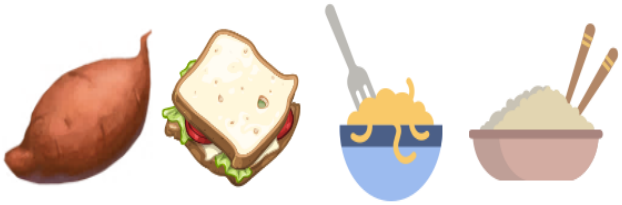
Olive oil, avocado, nuts, salmon, tuna, peanut butter, granola, guacmole

High Protein

Greek yogurt, smoothies, beans, eggs, milk, quinoa and lean meats/tofu

Calorically Dense Carbs

Sweet potato, whole wheat pasta, brown rice, quinoa, sandwiches



Weight Loss

A Game Plan to Win

Realistic

Goals need to be ideal and tailored to the individual

Plan

Plan ahead to make sure you won't miss any meals

Energy

Don't restrict yourself too much, it won't help you lose

Fads

Avoid fad diets that will eliminate food groups or major nutrients

Liquids

Limit juice, Gatorade, soda, lemonde, and sweet tea since they are high in calories

Healthy Weight loss is .1-2 lb/wk

Pre-Exercise Nutrition

Just like you have to put fuel in a car before you drive, you have to put fuel in your body before you exercise.

Why it is important to fuel before exercise

Helps prevent low blood sugar and it's symptoms

Settles your stomach and wards off hunger

Fuels your muscles and brain for exercise ahead

Keeps you concentrated on exercise knowing that you are fueled

Pre-exercise meals should be composed of

Mostly Carbohydrate

Small amount of protein and limited fat

Ideas

2-4 hours before exercise

Turkey pita + Fruit

Spaghetti with marinara and grilled chicken

Chicken and broccoli with brown rice

Less than 1 hour before exercise

Toast + Jam

Yogurt topped with banana

Oatmeal with blackberries

What To Eat During Exercise

Goals of Nutrition During Exercise

- Remain Hydrated
- Replenish and Preserve Muscle
- Provide Immediate Fuel
- Improve the Recovery
- Boost Your Performance
- Prevent Body and Muscle Fatigue

Tips for Fueling During Exercise

Sports drinks that contain electrolytes and carbohydrates are a great option. Only for athletes who are heavy exercising greater than 60 minutes

Easy digested carbohydrates like gels, gummy chews, candy, and sports bars are great options during long games or runs to provide quick energy

Water is extremely important for staying hydrated. Make sure you are drinking 5-10 oz every 15-20 minutes. If exercise greater than 60 minutes, half of your fluids can be from a sports drink.

POST-EXERCISE NUTRITION guide

15–45 minutes

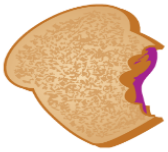
This is the post-exercise window of opportunity to nourish, repair, and build muscle

RECOVERY SNACKS

Low Fat Chocolate Milk

Smoothie with Greek yogurt and fruit

Hummus with whole wheat pita

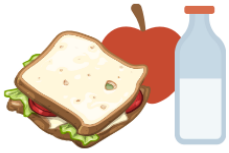


Peanut Butter and Jelly Sandwich

RECOVERY MEALS

Spaghetti with meat sauce

Brown rice stir fry with shrimp



Turkey sandwich with fruit and milk

Egg omelet and whole wheat toast

How much?

Divide your body weight by 2 to get grams of carbs

+

15 to 20 grams of protein

Easy Guide To Reading Food Labels

	Nutrition Facts	
Start Here →	Serving Size 1 cup (228g) Servings Per Container 2	
	Amount Per Serving	
Check Calories	**Calories** 250	Calories from Fat 110
		% Daily Value*
Limit These Nutrients	**Total Fat** 12g	18%
	Saturated Fat 3g	15%
	Trans Fat 3g	
	Cholesterol 30mg	10%
	Sodium 470mg	20%
Carbohydrates & Sugars	**Total Carbohydrate** 31g	10%
	Dietary Fiber 0g	0%
	Sugars 5g	
Protein	**Protein** 5g	
Get Enough Of These Nutrients	Vitamin A	4%
	Vitamin C	2%
	Calcium	20%
	Iron Graphic® 2010 Get Fit NH Bootcamp	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.

Percent Daily Values

	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	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Quick Guide to % DV

5% or less is Low

20% or more is High

Quick Guide to Cho

<10g Sugar

>3g Fiber

Important Things to Look for

1. Serving Size. Most have more than one serving. To find out how many calories are in the package, multiply the amount of calories by the number of servings.

2. Watch the calories. If you choose a food with 700 calories per serving, keep in mind that is approximately one-fourth of your daily calorie intake.

3. Stick with a short ingredients list. The more items, the more processed.

Nutrition Periodization

Match what you eat to how hard you work

Pre-Season | In-Season | Post-Season

Pre-Season Nutrition

Training	Goals	Nutrition
- Doubles & Triples	- Improve fitness	- Very High Calorie Need
- Strength Training	- Peak strength	- Increased Hydration Need

In-Season Nutrition

Training	Goals	Nutrition
- Single sessions	- Peak performance	- High Calorie Need
- Strength training tapers		- Increased Hydration Need

Post-Season Nutrition

Training	Goals	Nutrition
- No training	- Recovery	- Normal Calorie Need
- No strength and conditioning		- Normal Hydration Need

Traveling for competition can mess up your diet.
Here are some tips to keep you fueled for performance.

On the Road...

1. Pack foods that will keep: peanut butter sandwich, trail mix, jerky, apples, crackers.

2. Invest in an ice pack lunch bag. Fill it with yogurt, hummus, & hardboiled eggs.

At the Hotel...

1. Stock up on snacks at the local grocery store

2. Breakfast time:

- Skip the pastries and baked goods.

- Go for low-sugar cereal and milk, yogurt with fruit, oatmeal and toast, or a bagel with peanut butter

In the Restaurant...

1. Build a balanced plate: carbs, protein, and fat.

2. Limit fried foods

3. Fast food Tips:

- Grab a sub sandwich - grilled chicken is a great option!

- Go for Stir Fry with grilled meat or chicken over rice

- Avoid upgrading the size of your meal

Backpack Snacks

No time? No problem.
Here are some snacks for when time is tight.

PB & J

Trail Mix

Granola Bar

Yogurt Parfait

*Eat within 4 hours

Turkey or Beef Jerky

PB & Banana

RECIPE: No-Bake Energy Bites

Ingredients:
1 cup Oats
2/3 cup Peanut Butter
1/3 cup Honey
1/2 cup Dark Chocolate Chips
2/3 cup Coconut flakes
(optional)

Directions:
1. Mix all ingredients in bowl
2. Chill in fridge 30min
3. Roll into bite-sized ball
4. Eat!

Recipe from gimmesomeoven.com

SUPPLEMENTS 101

Sup•ple•ment (noun):
- something that completes or enhances something else when added to it
- intended to make up for foods we can't get in our day-to-day diet

Warnings

1. Some supplements are NOT approved by the NCAA
2. ALWAYS ask your sports medicine department before taking anything
3. Supplements may not contain what they claim
4. ALWAYS reach for food first, supplement when necessary

FOOD FIRST, THEN SUPPLEMENT

Supplement	Research	Supp. Dose	Food Dose
Multi-Vitamin	• Why Take: General Health • Is it effective? No • Buy or Skip? Skip! NOTE: If you maintain a decent diet MV supp are a waste of $$	Depends on brand, usually one capsule daily	1-2 pieces of fruit /day 4-5 servings of veggies/day
Iron	• Why Take: Anemia or IDNA (measure through blood work) • Is it effective? Yes • Buy or Skip? Consult Doctor NOTE: Too much is toxic...consult a doctor or dietician before taking.	Consult a Doctor or Dietician before taking. Too much is TOXIC	Dietary intake goal: Females = 18mg/day Males = 8mg/day 1 chicken breast: 2g 2 eggs: 1.2g 6oz cheeseburger: 5g turkey and cheese sandwich: 4g

Vitamin D	• Why Take: Vit D deficiency (measured through blood work) • Is it effective? Yes • Buy or Skip? Consult Doctor NOTE: Before taking consult a Doctor or Dietician to determine correct amount		Dietary intake goal: Females & Males = 600 IU daily 3oz salmon: 450 IU 1 can tuna: 150 IU 8oz glass of milk: 100 IU 2 eggs (yolks): 80 IU
Whey Protein (PRO)	Why Take? To increase or maintain lean muscle mass Is it effective? Yes Buy or Skip? Depends on diet NOTE: 1. Eating more than recommended is not effective 2. Most people get more than enough from their diet Protein timing is as important as quantity!!	Female: 1.4-1.8g/kg body weight Male: 1.6-2.0g/kg body weight	1 chicken breast: 54g PRO 2 eggs: 16g PRO 2TBSP peanut butter: 8g PRO 1cup of black beans: 15g PRO
Creatine	Why take: To increase strength and power Is it effective? Depends. It may increase performance of maximal exercise with short recovery. Buy or Skip? Depends on body type. May be beneficial for those who have a hard time gaining muscle mass - NOTE: not effective for single bout exercise or endurance	5-10 g/day	16-32 oz of meat, which is three pieces of 6 oz chicken