



Welcome to Week 3 **Fat FRIENDLY**

Introduction:

Good vs. Bad Fat, why do we need fat? Fat consumed in food serves many important roles. Fat (aka lipids) maintains body temperature, is a major source of energy and important transporter of fat soluble vitamins A, E, D, K. Fatty acids which come from metabolized fat *form fatty tissue* (body fat), *regulate inflammation* (the body's response to harmful stimuli), *insulin* response (utilization of CHO fuel) and *neurological functions* (strength, coordination, reflexes). As you can see, dietary fat is essential to health and physical performance. For athletes, fat serves as a primary source of fuel during light to moderate intensity exercise however, carbohydrate must be present in order for the body to utilize fat fuel reserves. In other words, the balance of nutrients in your diet is essential to fuel optimal performance. In this module, participants learn about the differences between good vs. bad fat and how much they need to fuel their individual sport/activity.

Background:

Quite frankly fat tastes *really* good however, the type of fat and quantity consumed determines if it is “good” for an athlete or detrimental. How your body utilizes the fat consumed in food is very complex. For this reason, we will limit the technical information provided in this module and focus mainly on dietary recommendations and food sources so you can begin to choose dietary fats which support your performance goals.

Fat Facts: Dietary fat is broken down into triglycerides. A triglyceride is made of 3 fatty acids, a glycerol backbone and is found in your blood stream. There are 3 types of fatty acids; saturated, monounsaturated and polyunsaturated and they perform differently in the body. Saturated fatty acids (SFA's) are found in coconut/palm oils, butter, and meat fat. SFA's fuel energy, provide cellular structural integrity, are essential for normal functioning of some proteins and needed in “small” amounts. Monounsaturated fatty acids (MUFA's) found in olive oil, avocado, nuts are important for brain health, reduce cholesterol levels, and are touted to reduce belly fat. Polyunsaturated fatty acids (PUFA's) are found in corn, soy, fish oils, nuts, legumes and play a major role in hormonal function, smooth muscle contractions, and inflammatory response. Two *essential* PUFA's are linoleic and α -linolenic acid. These fatty acids are unique because your body can't make them, they must come from food. Additionally, PUFA's eicosapentaenoic (EPA) and docosahexaenoic acids (DHA) are major inflammatory reducer's which are essential to health, especially for athletes whom train regularly. Omega 3 FA may improve endurance and recovery however, more research is needed to support this hypothesis.



Week 3 Focus:

1. Review total fat (TF), saturated fat (SF), MUFA, PUFA (linoleic/ α -linolenic, Omega 3 EPA:DHA) intake results from week 1 food log
(We encourage participants to continue to log food into the USDA SuperTracker 3 to 4 days each week to evaluate changes and make adjustments)
2. Calculate TF, SF fueling requirements based on individual sport/activity
3. Learn about **Fat FRIENDLY** anti-inflammatory food sources

Week 3 Challenge: Meet TF, SF, linoleic/ α -linolenic, Omega 3 EPA:DHA goals within 5 to 10% of recommended range

Connect: To connect with us, follow us on Instagram. Direct message (DM) us for general questions about the Nutrition Basic Training program.

Coach: Individualized coaching is available. Select contact and send a brief note regarding the coaching or culinary service you are requesting.

Week 3 Instructions: This week each participant will complete 4 steps. First you will detect imbalances in TF, SF, linoleic/ α -linolenic acids, Omega 3 EPA: DHA then begin to modify diet based on **SportFit** recommendations.

Week 3 Tip: Use the information in this module to improve your nutritional fitness. While fat has gotten a bad rap in the press, omega fats are essential to your health and well-being. Take time this week to think about the fat in your diet and begin transition toward healthier options one step at a time. If you need support contact us!



Step 1: Go to USDA SuperTracker, pull the Nutrient Report and Review Results for TF, SF, PUFA's (linoleic, α -linolenic acid, Omega 3 EPA: DHA) food intake.

Instructions: Go to the **USDA SuperTracker**, select “**My Reports, Nutrients Report**” and enter the date range of the food and beverage intake recorded from last week. Then select create report. You will see a report that looks similar to that shown below. Review the **Nutrient Report** results for **TF, SF, PUFA's (linoleic, α -linolenic acid, and Omega 3 EPA: DHA)** as shown below from food record report.

Nutrients Report ←

Get your average intake of nutrients (for example, calcium, sodium, vitamin D) for any time period you choose. See which of your food selections were highest or lowest in a nutrient by clicking the heading.

Export Report As: PDF Excel Word

You will need the free Adobe Acrobat Reader plug-in to view and print the exported PDF files.

View Report from: 01/05/17 thru 01/05/17 Create Report

KCSnyder's Nutrients Report 01/05/17 - 01/05/17

Your plan is based on a 2000 Calorie allowance.

Nutrients	Target	Average Eaten	Status
Total Calories	2000 Calories	1789 Calories	OK
Protein (g)***	46 g	86 g	OK
Protein (% Calories)***	10 - 35% Calories	19% Calories	OK
Carbohydrate (g)***	130 g	191 g	OK
Carbohydrate (% Calories)***	45 - 65% Calories	43% Calories	Under
Dietary Fiber	25 g	36 g	OK
Total Sugars	No Daily Target or Limit	62 g	No Daily Target or Limit
Added Sugars	< 50 g	11 g	OK
Total Fat	20 - 35% Calories	41% Calories	Over
Saturated Fat	< 10% Calories	10% Calories	Over
Polyunsaturated Fat	No Daily Target or Limit	9% Calories	No Daily Target or Limit
Monounsaturated Fat	No Daily Target or Limit	19% Calories	No Daily Target or Limit
Linoleic Acid (g)***	12 g	18 g	OK
Linoleic Acid (% Calories)***	5 - 10% Calories	9% Calories	OK
α -Linolenic Acid (% Calories)***	0.6 - 1.2% Calories	0.5% Calories	Under
α -Linolenic Acid (g)***	1.1 g	0.9 g	Under
Omega 3 - EPA	No Daily Target or Limit	1 mg	No Daily Target or Limit
Omega 3 - DHA	No Daily Target or Limit	79 mg	No Daily Target or Limit

- Review the average percent of **TF** and **SF** consumed over the 3 to 4 day period. You will compare this number to your personalized **TF** (g) and **SF** (g) goals calculated in **Step 2** as shown below.
- Review the average **Linoleic/ α -Linolenic** intake listed on your report. Did you meet the minimum recommended goal?
- Review the average **Omega 3 EPA: DHA** intake listed on your report. There is no general USDA goal for this category. Optimal intake grams will be given in **Step 2** as shown below.

NOTE: All fat recommendations will be provided in **grams** rather than percentages to allow for easy review of food labels. We will show you how to convert fat grams back to percentages in Step 2.



Step 2: Calculate Dietary Fat Goals

Table 1: Select Sport/Exercise	TF Factor	SF Factor
General Activity/Training: 60 minutes/3 to 5 days/wk.	1g /kg/d	0.1g
Moderate to High Intensity Sports (MHIS): soccer, hockey, tennis, basketball, swimming, sprinters (runners, cyclists, swimmers) Low Endurance/High Precision: baseball, golf	1.0 up to 1.5g /kg/d	0.10 up to 0.15g/kg/d
Endurance Sports: tri-athletes, distance runners/swimmers, road cyclists, ultra-athletes	1.5 to 2g/kg/d	0.15 to 0.2 g/kg/d
Weight/Body Focused Sports: weight lifting, wrestling, martial arts, gymnastics, and figure skating	No less than 1g /kg/d	No less than 0.1g/kg/d
Omega 3 EPA:DHA general recommendations for ALL athletes to improve endurance and recovery	1000 to 2000 mg/day	

Note: Adapted from: 2015-2020 USDA Dietary Guidelines, Int. J Sport Nutr. Exerc. Metab. 2018; 23: 83-96.; Sports Nutrition, A Practice Manual for Professional 4th Ed. Dunford, 2006, Sport Nutrition: A review of the latest guidelines for exercise and sport nutrition: Afr J Clin Nutr 2013;26(1):6-16

Part 1: Calculate your individualized **TF** & **SF** (g) goals using the table above

Step 1: Convert pounds to kilograms (take your body weight (lbs.) / 2.2) = kg body weight

Step 2: Kg body weight x **TF** (select from Table 1) = **TF**/g goal

Step 3: Kg body weight x **SF** (select from Table 1) = **SF**/g goal

REMINDER: Transfer **TF**, **SF**, **Omega 3 EPA:DHA** goals to the “fats” section of your **SportFit Nutrition Plan**. The recommended **linoleic**, **α-linolenic acid** goals are located on your SuperTracker Nutrients Report located under “**target**” shown in Step 1.

Example: Female 125 lb. Field Hockey Player

Calculation 1: 125 lbs. / 2.2 = 56.8 kg

Calculation 2: 56.8 kg body weight x **MHIS TF** (1.0 to 1.5 g) = 57 to 84 g/day

Calculation 3: 56.8 kg body weight x **MHIS SF** (0.1 to 0.15 g) = 6 to 9 g/day

How to convert fat grams to a percentage of total calories:

Fat (g) goal x 9 kcal/g/ total calorie goal

Example (Field Hockey Play): 57g x 9 kcal/g = 513 kcal/2000 kcals = 0.25 x 100 = 25%

Results: 25% of daily calories consumed come from total fat intake



NEW LABEL / WHAT'S DIFFERENT

Servings: larger, bolder type

Nutrition Facts
8 servings per container
Serving size 2/3 cup (55g)

Amount per serving
Calories 230

	% Daily Value*
Total Fat 8g	16%
Saturated Fat 1g	2%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

New: added sugars

Change in nutrients required

Serving sizes updated

Calories: larger type

Updated daily values

Actual amounts declared

New footnote

Image reprint: U.S. Food & Drug, Changes to the Nutrition Facts Food Label, web, 22 November, 2016.

How do these goals translate to the food I eat?

Dietary Fat Budget

Total Fat 57 to 84 grams/day
Saturated Fat 6 to 9 grams/day

If you consumed 1 servings of the food on the left, you'd consume 8 grams of your total daily fat and 1 gram of your saturated fat budget. This might not seem like a lot however, check out the serving size. It's only 2/3 of cup!

Click on the link below to receive guidance on how to read a food label
<http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.ht>

Step 3: Fat Friendly Foods

Below you will find 3 Tables: 1) **Fat Friendly Foods** 2) Common Foods High Saturated & Trans Fat and 3) Quick & Easy Guide to estimate Fat (g) content in food

In Step 1 of the **Fat FRIENDLY** challenged you review **TF**, **SF**, **linoleic/α-linolenic acids**, and **Omega 3 EPA: DHA** food intake. Now it's time to determine which of these categories you'd like to address first. Use the guides below to adjust eating habits toward your nutrition fitness goals.

- If the **TF**, **linoleic/α-linolenic acids** or **Omega 3 EPA:DHA** intakes are off review foods listed in **Table 1** and begin to incorporate the foods you like to eat. Learn more on how to incorporate these foods into daily meals in our **SportFit Cookin'** program
- If you are consuming too much **SF** review Table 2 and think about the foods you typically eat. Pizza, fried and fast food are typical offenders. Begin to reduce the foods that are high in **SF** or make substitutions.
- If the **TF** (g) intake is too high or too low use Table 3 to make adjustments



Table 1 Fat FRIENDLY Foods

All Raw Nuts & Seeds: *Especially*, English Walnuts, Flaxseeds/oil, Chia seeds/oil, Sunflower seeds/oil, Pumpkin seeds/Oil,
 Olives/oil, Avocado, Soybeans, Tofu, Eggs, Sprouted grains, Legumes, Lentils
 Wild caught fish; salmon, tuna, sardine, cod liver, mackerel, caviar, sea bass, trout, and herring,
 Fish oils & broth

Best Food Sources of Omega 3 EPA:DHA

Food	Serving Size	Milligrams (mg)
Mackerel	1 c cooked	6,982
Salmon Fish Oil	1 tbsp.	4,767
Cod Liver Oil	1 tbsp.	2,664
Walnuts	¼ c	2,664
Chia Seeds	1 tbsp.	2,457
Wild-caught Salmon	3 ounces	1,716
Flaxseeds, ground	1 tbsp.	1,597
Tuna	3 ounces	1,414
White fish	3 ounces	1,363
Sardines	1 can/3.75 ounces	1,363
Hemp Seeds	1 tbsp.	1,000
Anchovies	1 can/2 ounces	951
Egg Yolk	½ c or 1 egg	240

Benefits of Omega 3's

Omega 3 fatty acids are theorized to improve blood vessel function, reduce exercise-induced inflammation, spare glycogen, increase utilization of energy from fat stores, reduce risk of infection and delay on-set of soreness. However, if omega 3's are **over consumed** you may be at risk for impaired blood clotting ability. The recommendation given in **Step 2** is for an athlete in general good health. **At Cookin' Up Fitness we do not recommend nutritional supplements.** We encourage all participants to fuel with *real food* and offer culinary instruction to support this goal!

If you choose to take a supplement, consult your physician first.

Best Sources of α-Linolenic Acids in Food

Omega 6 Linoleic (g)	Food	Serving size	α-Linolenic acids (g)
Linoleic acid is an Omega 6 fatty acid which is plentiful in processed foods. Americans typically <i>over</i> eat Omega-6's. Review the nutrients report results in Step 1 for linoleic acid. If you are overconsuming this fat, slowly begin to decrease the amount of processed food in your diet.	Flaxseed	1 tbsp.	2.2
	Pumpkin seeds	¼ c	.04
	English Walnuts	1 tbsp.	0.7
	Chia seeds	2 tbsp.	3.9
	Lentils, Chickpeas	½ c raw	0.1
	Tofu, mixed nuts	1 ounce	0.2

Note: Table 1 Content Adapted from: Mickleborough TD. Omega-3 polyunsaturated fatty acids in physical performance optimization. *J Sport Nutr. Exerc. Metab.* 2013 Feb;23(1):83-96.& Adapted from: USDA Food Composition Database. <https://ndb.nal.usda.gov/ndb/search/list>



Table 2 Common Foods High in Saturated Fat & Trans Fat

Palm oil, coconut, chocolate, brazil nuts, desserts, baked foods, cakes, cookies, donuts, pastries, icings, croissants, ice cream, cheese, whole milk, heavy cream, butter, eggs yolks, hydrogenated oils, partially hydrogenated oils, stick margarine, shortening, pizza, hot dogs, sausage, bacon, ribs, burgers, fried chicken, & microwave popcorn

Table 3 Quick Guide to Estimate FAT (g) Content in Food

Description	Serving Size	Fat (g)	Description	Serving Size	Fat (g)
Avocado (California)	1 whole	29	Flaxseeds	1 tbsp. ground	3
Egg	1 large	5	Chia Seeds	2 tbsp.	9
Olives	10 Small	3	Pumpkin Seeds	1 oz.	13
Tofu	½ c	6	Raw Mixed Nuts	1 oz.	14
Fatty Fish	1 oz.	3-4	Sunflower Seeds	¼ c	6
Lean Beef (tri-tip)	1 oz.	2-3	Dark Chocolate	1 oz.	9
Lean Chicken/Pork/Turkey (breast or tenderloin)	1 oz.	1	Sprouted Grains	1 c	1

Note: Tables 2-3 Adapted from: USDA Food Composition Database. <https://ndb.nal.usda.gov/ndb/search/list> & 2015-2020 USDA Dietary Guidelines for Americans

Note: The above table is a “quick guide” to illustrate the content of Fat (g) in typical servings of food. The best way to align **Fat (g)** consumption to the recommended goal is to log food in the USDA SuperTracker for a short period of time and track usual intake.

Step 4: Transfer results to the **SportFit Nutrition Plan**

Transfer **TF**, **SF**, **linoleic/α-linolenic acids**, and **Omega 3 EPA: DHA** nutrient goals calculated in **Step 2** above to week 3 of the **SportFit Nutrition Plan**. It will be important to update your nutrition plan each week so at the end of the **Nutrition Boot Camp Blast** program you have a comprehensive nutrition training program. Once you have completed this program you are eligible to enroll in our **SportFit Cookin’** Program. In **SportFit Cookin’** you will learn how to prepare and incorporate the foods we recommend into your daily diet. Next week we will learn about dietary protein, how much athletes need and recommended food sources.



Resource List

Web Based

American College of Sports Medicine www.acsm.org
Academy of Nutrition and Dietetics www.eatright.org
2015-2020 USDA Dietary Guidelines for Americans www.health.gov/dietaryguidelines/
National Agricultural Library, U.S. Department of Agriculture www.nutrition.gov
USDA Food Composition Database. <https://ndb.nal.usda.gov/ndb/search/list>

Peer Reviewed Evidence Based

1. American Dietetic Association. *Sports Nutrition. A practice manual for professionals* (4th edition). United States Library of Congress Cataloging-in-Publication Data. 2006
2. Clark, N. Sports Nutrition Guidelines. *American College of Sports Medicine*. Spring 2011. https://www.acsm.org/docs/fit-society-page/2011springfspn_nutrition.pdf?sfvrsn=0
3. Nutrition for Athletes. Nutrition Working Group of the International Consensus of Conference held at the IOC in Lausanne in October 2010. Updated April 2012. http://www.olympic.org/documents/reports/en/en_report_833.pdf.
4. Dunford M. *Sports Nutrition. A Practice Manual for Professionals. 4th Edition*. United States of America. Library of Congress Cataloging-in-Publication Data. 2006
5. Mickleborough TD. Omega-3 polyunsaturated fatty acids in physical performance optimization. *J Sport Nutr. Exerc. Metab.* 2013 Feb;23(1):83-96.
6. Jeukendrup, A., & Gleeson, M. *Sport nutrition: An introduction to energy production and performance (2nd edition)*. Champaign, IL: Human Kinetics; 2010