Making Sense of Macronutrients: Part 2 – Protein & Fat

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Macronutrients

- **Macronutrients** = nutritive components of food that the body needs for energy and to maintain the body’s structure and systems.

- **Carbohydrates**, **protein** and **fat** are all called macronutrients.

- No healthy diet should **exclude** or **seriously restrict** any macronutrient.
Focus on foods rich in fiber, vitamins, and phytonutrients to protect against cancer.

- Modest 3-ounce serving of meat (fish, poultry, or red meat)
- Variety of foods
- Two kinds of vegetables
- Healthy serving of a tasty whole grain
The Plate Method

- Simple tool to make meal planning easier!
- Helps balance your nutrients
- Divide your plate into sections
  - ½ non-starchy vegetables
  - ¼ lean protein
  - ¼ grains & starches

½ Non-Starchy Vegetables + ¼ Grains & Starches + ¼ Lean Protein = 1 Great Plate
Carbohydrate Review

- Carbohydrates are the primary energy source for your body to function.

- AICR’s current recommendations include 2/3 of your plate be from complex carbohydrates.

- Choose foods that contain fiber and starch.

- Limit added sugars.

- Strive for balanced meals that include carbohydrates, protein, and fats at each meal to balance your blood sugar!
Protein
Protein

- Essential for range of life-sustaining functions:
  - Building & repairing cells
  - Maintaining muscles mass
  - Oxygenates red blood cells
  - Regulates hormones
  - Aids in digestion

- On the Nutrition Facts food label, protein is near the bottom

- Dietary Reference Intake = protein is 10-35% of total calories
## High Quality / Lean Proteins

### Anti-inflammatory Plant-Based Choices with Phytonutrients
- 3-4 servings per week
- Serving: ½ cup cooked

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# High Quality / Lean Proteins

<table>
<thead>
<tr>
<th>Anti-inflammatory Protein Choices Mostly Omega-3</th>
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<tr>
<td>- 3-4 servings per week</td>
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<td>- Serving: 3-4 ounces cooked</td>
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<table>
<thead>
<tr>
<th>Fish</th>
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<tbody>
<tr>
<td>Bass</td>
<td>Mahi Mahi</td>
<td>Snook</td>
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<tr>
<td>Bluefish</td>
<td>Monkfish</td>
<td>Sole</td>
</tr>
<tr>
<td>Carp</td>
<td>Orange Roughy</td>
<td>Sturgeon</td>
</tr>
<tr>
<td>Catfish</td>
<td>Perch</td>
<td>Swordfish</td>
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<tr>
<td>Char</td>
<td>Pike</td>
<td>Tilapia</td>
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<tr>
<td>Cod</td>
<td>Pollack</td>
<td>Tuna</td>
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<tr>
<td>Flounder</td>
<td>Redfish</td>
<td>Trout</td>
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<tr>
<td>Grouper</td>
<td>Red Snapper</td>
<td>Walleye</td>
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<tr>
<td>Haddock</td>
<td>Salmon</td>
<td>Whitefish</td>
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<tr>
<td>Halibut</td>
<td>Sardines - canned in water</td>
<td>Sushi</td>
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<tr>
<td>Herring</td>
<td>Scrod</td>
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</tbody>
</table>
## High Quality / Lean Proteins

### Other Lean Protein Sources

<table>
<thead>
<tr>
<th>Veggie Burgers</th>
<th>Egg Whites</th>
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<tbody>
<tr>
<td>Chicken or Turkey Breast</td>
<td>Whey Protein Isolate Powder</td>
</tr>
</tbody>
</table>

### Protein Sources to Eat Less Frequently: (Pro-Inflammatory)

<table>
<thead>
<tr>
<th>Shell Fish (crab, shrimp, scallops)</th>
<th>Lean Red Meat (beef, pork, lamb, venison) 12-18 oz. per week. Look for cuts that have the word Round or Loin in them.</th>
<th>AVOID PROCESSED MEATS: BACON, SAUSAGE, HOT DOGS, BOLOGNA, SALAMI, ETC.</th>
</tr>
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<tbody>
<tr>
<td>Egg Yolks: limit to 3 – 4 per week</td>
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Dairy and Dairy Alternatives

- Protein, Calcium, and Vitamin D: 2–3 servings per day
- Dairy foods are a source of saturated fats that can fuel inflammation. Always choose **non-fat or low fat** varieties.
- If you are lactose intolerant, choose from the calcium-fortified plant-based milks or lactose intolerant friendly milks.
- Serving sizes: 1 cup for milks/alternatives and yogurts, 1/2 cup cottage cheese, 1 oz. cheese

<table>
<thead>
<tr>
<th>Skim Milk or 1%</th>
<th>Soy Milk, calcium fortified</th>
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<tbody>
<tr>
<td>Yogurt, Non-Fat Greek</td>
<td>Lactaid – 100% Skim (Non Fat)</td>
</tr>
<tr>
<td>Cottage Cheese, Low Fat</td>
<td>Almond Milk, Unsweetened, calcium fortified*</td>
</tr>
<tr>
<td>Buttermilk/Kefir, Low Fat</td>
<td>Oat Milk, calcium fortified*</td>
</tr>
<tr>
<td>Cheese, 2% or Low Fat</td>
<td>Rice Milk, calcium fortified*</td>
</tr>
</tbody>
</table>

*Lower Protein Sources*
Building Your Meal

- Fiber = 5-15 grams/meal
- Protein = 20-30 grams/meal
- Fat = 10-20 grams/meal

Through better meal planning, you can start living a healthier lifestyle. Above is a food list to help guide you at each meal. It is important to plan your choices and use the Plate Method to create healthy and well-balanced meals. Don’t forget to think about portion sizes, too. Sometimes the portion you’re planning to eat may not be the same as the recommended serving size. Serving sizes are not exact and do not indicate the carb counts.
Fat
Total Fat

- When looking at the food label:
  - Typically 50-60 grams total per day
  - DRI = total 20-35% of total calories per day

- Every 1 gram of fat = 9 calories

- Total Fat includes:
  - Saturated Fat
  - Trans Fat
  - Unsaturated Fat
    - Monounsaturated Fat
    - Polyunsaturated Fat → Omega 3 and Omega 6
  - Cholesterol (does not contribute to any calories)
Healthy Fats

- Fats are necessary to produce hormones, transport vitamins, and build new cells.
- Unsaturated fats (mono and polyunsaturated) have Omega 3 and Omega 6 fatty acids with anti-inflammatory properties.

### Best Quality

<table>
<thead>
<tr>
<th>Nuts*</th>
<th>Seeds*</th>
<th>Oils</th>
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<tbody>
<tr>
<td>Almonds &amp; Almond Butter</td>
<td>Flaxseed</td>
<td>Canola Oil</td>
</tr>
<tr>
<td>Brazil Nuts</td>
<td>Pumpkin Seeds</td>
<td>Flax Oil</td>
</tr>
<tr>
<td>Cashews &amp; Cashew Butter</td>
<td>Sesame Seeds</td>
<td>Grape Seed Oil</td>
</tr>
<tr>
<td>Chestnuts</td>
<td>Sunflower Seeds</td>
<td>Olive Oil</td>
</tr>
<tr>
<td>Hazelnuts (Filberts)</td>
<td></td>
<td>Peanut Oil</td>
</tr>
<tr>
<td>Peanuts &amp; Peanut Butter</td>
<td>OTHER:</td>
<td>Safflower Oil</td>
</tr>
<tr>
<td>Pecans</td>
<td>Avocados</td>
<td>Sesame Oil</td>
</tr>
<tr>
<td>Pistachios</td>
<td>Olives</td>
<td>Sunflower Oil</td>
</tr>
<tr>
<td>Walnuts</td>
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*Nuts, nut butters and seeds also have an added benefit of providing healthy lean protein*
Unsaturated Fats

<table>
<thead>
<tr>
<th>Polyunsaturated Fats</th>
<th>Monounsaturated Fats</th>
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<tbody>
<tr>
<td>Lower LDL &amp; HDL in some people</td>
<td>Lower LDL</td>
</tr>
<tr>
<td>Omega 3 &amp; Omega 6</td>
<td>Canola, olive oil and peanut oil</td>
</tr>
<tr>
<td>Sunflower, corn, soybean and flaxseeds oils</td>
<td>Avocado</td>
</tr>
<tr>
<td>Walnuts</td>
<td>Nuts = almonds, hazelnuts, pecans</td>
</tr>
<tr>
<td>Sunflower Seeds and flaxseed</td>
<td>Peanut butter</td>
</tr>
<tr>
<td>Tofu and Soybeans</td>
<td>Olives</td>
</tr>
<tr>
<td>Fish</td>
<td>Pumpkin seeds and sesame seeds</td>
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Saturated Fats

- As a general rule, no more than **10-15 grams** total a day
  - Raises LDL cholesterol more than anything else you eat

- Saturated fats are **solid** at room temperature

- Mainly found in animal sources
  - The **goal** is to choose lean meats, poultry, fish, and low-fat dairy products

- Saturated fats can also be found in coconut oil and palm oil
Building Your Meal

- Fiber = 5-15 grams/meal
- Protein = 20-30 grams/meal
- Fat = 10-20 grams/meal
What to do?

- Strive for meals & snacks to have all 3 macronutrients when possible

- Protein Dietary Reference Intake = 10-35% of total calories
  - 20-30gm of protein per meal (3 meals/day)
  - 10-15gm of protein per snack (1-2 snacks/day)

- Total Fat = typically 50-60 grams total per day
  - 10-20gm of fat per meal
  - Saturated Fat = no more than **10-15 grams** total a day
  - Avoid Trans Fat

- Avoid “naked carbohydrates” or only eating carbohydrates by themselves – pair them with a protein & fat
  - 25-35gm of fiber per day or
  - 5-15gm of fiber per meal
Sample Menu

Breakfast
- 1 cup fat free Greek yogurt (protein)
- 1 kiwi + ¼ cup mango (fiber)
- 1 oz chopped almonds (fiber, protein, fat)

Lunch
- Black Bean Chili (protein, fiber)
  - Made with black beans, onion, tomatoes, garlic, herbs, etc.
  - Top with avocado (fat, fiber)

Dinner
- 3-4oz salmon fillet (protein, fat)
- 1-1 ½ cup of roasted Brussel sprouts and carrots w/ 1 Tbsp. olive oil (fiber, fat)
- ½ cup wild rice (fiber)
## Snack Ideas

- Hummus w/ whole wheat pita or veggies
- Small apple w/ peanut butter
- 1 cup raw veggies w/ salad dressing
- Unsalted roasted nuts + dried fruit
- Rice cake + creamy peanut butter + coconut + dried cherries
- Nut mix + cheese cubes
- String cheese or cheese stick
- Hard-boiled egg + ½ cup mixed fruit cup
- ½ cup cottage cheese + ½ cup fruit
- Beet chips + Greek yogurt mixed w/ ¼ tsp curry
- Graham crackers + Nutella + banana slices
- Guacamole + veggies
Questions?
Resources