

Food is Medicine

Diane McIlhon, RD, LD

Disclosure Statement

No financial conflicts to disclose

Food Is Medicine - What does that mean?

- Integrating nutritious food into healthcare system to treat, manage or prevent chronic, diet-related disease
 - Diabetes
 - Hypertension
 - Cardiovascular Disease
 - Obesity
 - Kidney Disease
- Bridges healthcare and community to improve diet quality, reduce health inequities & addresses food insecurity

Food is Medicine - Key Interventions

- Medical Tailored Meals (MTM)
 - Nutritious, fully prepared meals designed to manage chronic health conditions
 - Often accessed through
 - Provider referral
 - Insurance plans, Medicare / Medicaid
 - Meal Subscriptions (I.e. Hello Fresh, Mom's Meals, etc)
 - Customize to nutritional needs - Mediterranean Diet, Low Sodium, Diabetic, etc
- Medically tailored groceries (MTG)
 - Distribution of unprepared or lightly processed foods that are intended for recipients to prepare at home
 - Could be similar to meal kit with ingredients portioned by meal
- Produce prescriptions (Produce Rx)

So What Are We Supposed to **EAT**?

EAT REAL FOOD

2019 ACC/AHA Guideline on Primary Prevention of CVD

- Diet emphasizing intake of vegetables, fruits, legumes, nuts, whole grains, and fish
- Replacement of saturated fat with dietary monounsaturated & polyunsaturated fats
- Diet containing reduced amounts of cholesterol & sodium
- Minimize intake of processed meats, refined carbohydrates and sweetened beverages

2019 ACC/AHA Recommendations

- Plant-based and Mediterranean Diet along with increased fruit, nut, vegetable, legume, and lean vegetable or animal protein (preferably fish)
- In one trial (PREDIMED) participants randomized to Mediterranean Diet supplemented with olive oil or nuts had ~30% reduction in endpoints (MI, stroke, or CV mortality)
- Comparison of plant and animal protein from Adventist Health Study indicated using meat for protein was associated with 61% increase in mortality rate, whereas replacing meat with nuts & seeds was associated with 40% reduction in mortality
- Evidence is mixed regarding dairy intake to reduce ASCVD risk

2019 ACC/AHA Recommendations

- Reduction of dietary sodium was found to reduce BP and CV events in DASH trial and in TOHP (Trials of Hypertension Prevention)
 - <2400 mg sodium/day
 - Reduction to 1500 mg sodium/day associated with greater improvement in BP
 - If not attainable, reduction of sodium intake by at least 1000 mg/day
- Minimize sugar sweetened beverages, juices, fried foods, organ & processed meats, refined grains, and sweets
- Low carb diets associated with high intake of animal fat and protein are associated with increased cardiac and noncardiac mortality rate
- Trans fat has been shown to be harmful and increases ASCVD risk
 - Adverse effect on lipids
 - Promote endothelial dysfunction, insulin resistance, inflammation and arrhythmias

TABLE 12 Lifestyle and Stress Reduction Interventions to Lower Blood Pressure

Intervention	Target/Biomarker	Evidence-Based Goals	Approximate Mean Change in SBP (mm Hg)*		References
			With Hypertension	Without Hypertension	
Weight loss	Body weight or BMI	Aim for sustained $\geq 5\%$ reduction in body weight or ≥ 3 kg/m ² reduction in BMI; expect about 1 mm Hg reduction for every 1-kg reduction in body weight	-6 to -8	-3 to -5	2,6,14,52
Heart-healthy diet	DASH eating pattern	Consume a diet rich in fruits, vegetables, whole grains, and low-fat dairy products, with reduced content of saturated and total fat	-5 to -8	-3 to -7	13-15,64,120
Reduced intake of sodium	Dietary sodium intake; 24-h urinary sodium	Optimal goal is <2,300 mg/d, but aim for an ideal limit of <1,500 mg/d	-6 to -8	-1 to -4	16-18,79,120,121
Use of salt substitute	Replace cooking/table salt (100% sodium chloride) with salt substitute (25%-30% potassium chloride, 65%-75% sodium chloride, and 0%-10% flavoring agents); 24-h urinary sodium and potassium	Reduce dietary sodium intake as above	-5 to -7	-5	20-22,93
Enhanced intake of potassium	Dietary potassium intake; 24-h urinary potassium	Aim for 3,500-5,000 mg/d, ideally by consumption of a diet rich in potassium; or alternative use of moderate-dose pharmacological potassium supplementation (<80 mmol)	-6	-3 to -6	25-27

Reduced alcohol intake	Alcohol consumption	Optimal goal is abstinence for all adults for best health outcomes; in patients who consume alcohol, aim for >50% reduction in daily intake to no more than 2 drinks/d in men or 1 drink/d in women	−4 to −6	−3	29
Exercise	Aerobic exercise	90-150 min/wk 65%-75% heart rate reserve	−4 to −8	−2 to −7	14,33,36,120,122
	Dynamic resistance	90-150 min/wk 50%-80% 1 rep maximum 6 exercises, 3 sets/exercise, 10 repetitions/set	−2 to −7	−2 to −5	33,36,106,107
	Isometric resistance	4 × 2 min (hand grip), 1 min rest between exercises, 30%-40% maximum voluntary contraction, 3 sessions/wk	−5 to −10	−4 to −6	14,32,33,36,109,110
Meditation	Transcendental meditation	Training by a professional, followed by 2 × 20 min sessions/d while seated comfortably with eyes closed	−5 to −7	−5	14,119
Breathing control	Slowing respiration	Device-guided session to decrease respiration to <10 breaths/min for 15 min/d	−5	−5	14

*Because inclusion/exclusion criteria and comparator groups vary across interventions, these values should not be compared directly to indicate comparative effectiveness. Modified with permission from Whelton et al.¹²³ Copyright 2018 American College of Cardiology Foundation and American Heart Association, Inc.

BMI indicates body mass index; DASH, Dietary Approaches to Stop Hypertension; and SBP, systolic blood pressure.

HIGH POTASSIUM FOODS

The servings of fruits and vegetables are ½ cup fresh, ½ cup canned, ½ cup cooked, ¼ cup dried, and ½ cup juice.

Fruits



Vegetables



Others



**WATCH
HERE!**



Ask your doctor if you can see a nutritionist to learn more about what to eat for the benefit of your kidneys!

The Traditional Healthy Mediterranean Diet Pyramid

Daily Beverage
Recommendations:
6 Glasses of Water



Wine in
moderation





The Mediterranean Diet

The focus of this diet is 9 nutritious food groups. Adding just a few of these healthy food groups into your diet can result in better mental and physical health and may prevent deaths from heart disease and cancer.



Food Group	How Much?	Foods to Try
Vegetables	Aim for at least 3 to 4 servings per day	Dark leafy greens, carrots, squash, peppers, eggplant, cucumbers, tomatoes, broccoli, beets, cauliflower, asparagus
Legumes	Aim for at least 1 to 2 servings per week	Lentils, peas, beans, okra, chickpeas, peanuts, green beans, kidney beans (1 serving = ½ cup cooked legumes or ¼ cup peanuts)
Fruits and Nuts	Aim for at least 3 to 3.5 servings of fruit per day and at least 1 serving of nuts per week	Apples, berries, citrus, peaches, grapes, almonds, walnuts, cashews, pistachios 1 serving = 1 cup fresh fruit or ½ cup dried Nuts: 1/4 cup per day
Cereals and Whole Grains	Aim for at least 1 to 2 servings per day ("whole" grain on ingredient list)	Brown rice, corn, popcorn, quinoa, whole wheat breads/pastas, corn tortillas, oats, farro, bulgur
Seafood	Aim for at least two 4 oz servings per week	Cod, shrimp, rockfish, drum, tuna, salmon, crabs, clams, shrimp, scallops, oysters, mackerel
Oils / Fats	Choose plant-based fats over animal fats	Unsaturated oils such as olive, canola, sesame, sunflower, safflower, cottonseed
Dairy	Less than 1 cup (8 ounces) per day	Low fat and fermented: yogurt, cheese, kefir, cottage cheese, ricotta cheese
Land Animal Protein	Aim for less than 4 oz servings per day	Pork tenderloin, chicken breast or trimmed thigh, lean ground beef
Alcohol	Women: 1 drink per day Men: 2 drinks per day	All alcohols are included but should be consumed with meals. Avoid binge drinking.

Tips for Heart-Healthy Eating Using the DASH Pattern*

Eat up to 6 servings of grains a day; choose at least 3 servings of fiber-rich whole grains like 1 slice whole grain bread, 1 c. whole grain ready-to-eat cereal, ½ c. cooked brown rice, quinoa, or whole grain pasta.

Choose 2 – 3 servings a day of low-fat or fat-free dairy foods like skim or 1% milk, yogurt, and reduced-fat cheeses, or dairy alternatives like fortified soy or rice milk.

Use healthy fats like vegetable oils (canola, corn, olive, safflower, soybean or sunflower) in place of coconut oil. Use avocado, nut butters (almond, peanut), and soft margarines in place of butter. Eat 1 oz. of unsalted nuts or seeds 3 – 4 times each week as snacks or with meals.

Avoid foods with trans fat. Don't buy foods with the words "partially hydrogenated oil" on the ingredient list.

Limit sodium (salt) to 1,500 – 2,300 mg a day. Flavor your food with herbs, spices, citrus juices, and vinegars instead of salt. Read the food label and choose lower sodium foods.

Eat 3-4 cups of colorful vegetables a day like raw or cooked vegetables; leafy salad greens served with an oil and vinegar dressing; or low-sodium vegetable juice.

Eat up to 2 cups of fruits a day like fresh fruit, or frozen or canned fruit without added sugar. Limit 100% juice to ½ cup a day and **avoid sugary drinks.**

Choose up to 6 oz. of lean animal protein foods a day like skinless poultry, lean cuts of red meat like "round" and "loin," and oily fish twice a week.

Eat at least 1 cup of plant-based protein foods each week like soy (tofu, edamame) or legumes (kidney, pinto, black beans, and lentils) in place of lean animal protein.

Limit your cholesterol intake to <200 mg per day. Limit **egg yolks to 2 – 4 a week**; avoid **organ meats** like liver and gizzards, **fatty red meats, butter, and full-fat dairy products.**

Prepare foods by baking, grilling, broiling, stir-frying, boiling, steaming, or poaching.

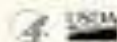


*The number of servings listed are based on 1,600 calories. You may need more or less calories each day.

A registered dietitian nutritionist (RDN) can help you make a heart-healthy meal plan that works best for your lifestyle and support you in your nutrition journey. Talk with a RDN for the answers to your nutrition questions.

This information is provided as part of the *Clinician's Lifestyle Modification Toolbox* courtesy of the National Lipid Association.

Dietary Guidelines For Americans



Bottom Line - EAT REAL FOOD!

- Added Sugars
- Highly Processed Foods

- Whole Fruits & Vegetables
- Whole Grains
- Healthy Fats from Whole Foods
 - Meats
 - Seafood
 - Eggs
 - Nuts & Seeds
 - Avocados

- High Fat Dairy
- High Protein Intake

What are Processed Foods?

Foods that have been changed from natural state ranging from minimally processed to ultra processed foods (UPF)

- Minimally Processed
 - simple preparations for convenience-
 - bagged spinach, cut vegetables
- Processed
 - Ingredients like salt, sugar and oils added for flavor and texture
 - Canned tomatoes, pasta sauce, yogurt, cake mixes
- Ultra Processed
 - Heavily processed items with many ingredients not typically found in a home kitchen such as preservatives, sweeteners and emulsifiers
 - Sugary drinks, crisps, cookies, breakfast cereals, ice cream, ready to eat meals



The Mediterranean Diet

The focus of this diet is 9 nutritious food groups. Adding just a few of these healthy food groups into your diet can result in better mental and physical health and may prevent deaths from heart disease and cancer.



Food Group	How Much?	Foods to Try
Vegetables	Aim for at least 3 to 4 servings per day	Dark leafy greens, carrots, squash, peppers, eggplant, cucumbers, tomatoes, broccoli, beets, cauliflower, asparagus
Legumes	Aim for at least 1 to 2 servings per week	Lentils, peas, beans, okra, chickpeas, peanuts, green beans, kidney beans (1 serving = ½ cup cooked legumes or ¼ cup peanuts)
Fruits and Nuts	Aim for at least 3 to 3.5 servings of fruit per day and at least 1 serving of nuts per week	Apples, berries, citrus, peaches, grapes, almonds, walnuts, cashews, pistachios 1 serving = 1 cup fresh fruit or ½ cup dried Nuts: 1/4 cup per day
Cereals and Whole Grains	Aim for at least 1 to 2 servings per day ("whole" grain on ingredient list)	Brown rice, corn, popcorn, quinoa, whole wheat breads/pastas, corn tortillas, oats, farro, bulgur
Seafood	Aim for at least two 4 oz servings per week	Cod, shrimp, rockfish, drum, tuna, salmon, crabs, clams, shrimp, scallops, oysters, mackerel
Oils / Fats	Choose plant-based fats over animal fats	Unsaturated oils such as olive, canola, sesame, sunflower, safflower, cottonseed
Dairy	Less than 1 cup (8 ounces) per day	Low fat and fermented: yogurt, cheese, kefir, cottage cheese, ricotta cheese
Land Animal Protein	Aim for less than 4 oz servings per day	Pork tenderloin, chicken breast or trimmed thigh, lean ground beef
Alcohol	Women: 1 drink per day Men: 2 drinks per day	All alcohols are included but should be consumed with meals. Avoid binge drinking.

Vegetables

- 2-3 Cups Daily



Legumes

- 2 cups per week



Fruits

- 1-3 serving daily



Eat a Rainbow Every Day!!!



Nuts & Seeds

- ¼ cup per day



Whole Grains

- 2-3 servings (1/2 cup) per day



Seafood

- 2 or more servings/ week



Oils / Fats

- Focus is type - Unsaturated to replace saturated!

- 1 teaspoon oil
- 1 teaspoon margarine/butter
- 3 Tablespoons sunflower seeds
- 1/3 avocado



Dairy

- 1 serving /day (Fermented Preferred)
 - 8 ounces milk or yogurt
 - $\frac{1}{4}$ c. shredded cheese



Land Animal Protein

≤ 4 ounces daily



Alcohol

- 0 – 1 Drink/day (women)
- 0 – 2 Drinks/day (men)



CUT OUT ADDED SUGARS

Added sugars are sugars added to foods and beverages when they're processed or prepared. Consuming too much can hurt your health and even shorten your life.

The American Heart Association recommended
daily limit for added sugars:

**WOMEN
& KIDS***

6

TEASPOONS

25

GRAMS

100

CALORIES

OR LESS



MEN

9

TEASPOONS

36

GRAMS

150

CALORIES

OR LESS

Where to watch for added sugars:



SUGARY DRINKS

Flavored Milk
Sports & Energy Drinks
Soda & Soft Drinks
Coffee & Tea
Juice & Fruit Drinks



SWEETENED BREAKFASTS

Breakfast & Energy Bars
Granola & Muesli
Hot & Cold Cereals
Yogurts
Smoothies



SYRUPS AND SWEETS

Syrups
Honey & Molasses
Jelly, Jam & Spreads
Drink Mixes
Candy



FROZEN TREATS

Ice Cream & Gelato
Frozen Yogurt
Popsicles
Sherbet & Sorbet
Frozen Desserts



SWEET BAKED GOODS

Sweet Rolls & Breads
Cakes, Cookies & Pies
Donuts & Pastries
Snack Foods
Desserts

How to avoid them:

Always check nutrition facts label & ingredients.

Limit sugary drinks & foods.

Replace candy & desserts with naturally sweet fruit.

Make items at home with less added sugars.

Portion Control Guide

Healthy fat



Fruit
(carb)



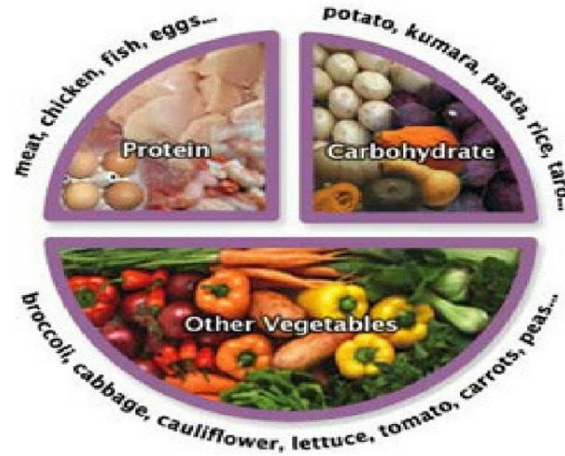
Protein



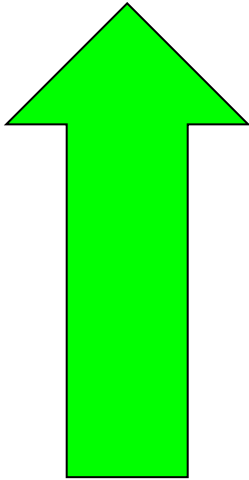
Starchy
Carb



Vegetables



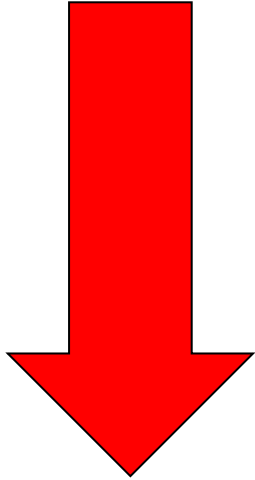
We Know...



WHOLE FOODS

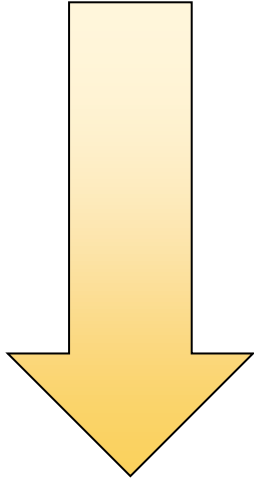
- Fruits
- Vegetables
- Whole Grains
- Beans & Legumes
- Nuts & Seeds
- Seafood
- LEAN Land Animal Protein (small portion)

We Know...



- Processed Foods
- Added Sugar
- Saturated Fat
- Sodium
- Alcohol

We Know...



- Land Animal Protein
 - Amount
 - High Fat
- Dairy
 - High Fat

ACTION

What Am I Doing Already?

- Eat fruit
- Eat whole grains
- Don't use salt shaker
- Cook supper 3 times/week
- Eat fish twice/week

Where Do I Need Improvements?

- Eat regular meals
- Eat out less frequently
- Less fried foods
- Fewer sugary drinks
- Fewer prepared meals
- Meat - Leaner / Smaller portions
- Add 1 meatless meal /week
- Pack lunch 3 times / week
- Less salad dressing
- Try new seasonings...that aren't high in sodium

Sample Day 1

2 eggs, fried

2 slices buttered wheat toast

Hash brown potatoes

3 slices bacon

Turkey sandwich

Bag of potato chips

3 slices of pepperoni pizza

Bowl of ice cream

Calories 2420

Protein 96 g

Fat 112 g
(41.6%)

Saturated Fat 42 g (15.5%)

Cholesterol 600 mg

Carbohydrate 257 g

Fiber 18 g

Sodium 5540 mg

Potassium 1250 mg

Sample Day 2

2 eggs			
2 slices wheat toast, dry	Calories	1800	
Margarine, 2 tsp.	Protein	72 g	
1 cup cantaloupe	Fat (42%)		85 g
2 turkey sausage patties	Saturated Fat	26 g (13%)	
Turkey sandwich	Cholesterol	553 mg	
Baby carrots	Carbohydrate	186 g	
Apple	Fiber		18 g
1 slice of pepperoni pizza	Sodium	3670 mg	
Salad with 3 Tbsp. dressing	Potassium	1445 mg	
Bowl of ice cream			

Sample Day 3

- Vanilla Greek Yogurt
- Granola
- Raspberries
- 2 Cuties
- ¼ cup almonds
- Salad Greens
- Honey Mustard Salad Dressing, 2 Tbsp.
- Almonds
- 3 ounces chicken breast
- 6 Triscuits
- 4 ounces Salmon
- Sweet potato, oven roasted
- Cauliflower, oven roasted
- 1Tbsp. Olive oil

Calories	1527	
Protein	89 g	
Fat (30%)		50 g
Saturated Fat	9.4 g (6%)	
Cholesterol	134 mg	
Carbohydrate	128 g	
Fiber		40 g
Sodium	835 mg	
Potassium	2400 mg	

PROGRESS

(not

PERFECTION)

- Small steady changes
 - Specific
 - Measurable
 - Attainable
 - Reasonable
 - Time Sensitive





Thank You



Heart-Healthy Eating DASH Style

Advice from the National Lipid Association Clinician's Lifestyle Modification Toolbox

Why Follow a Heart-Healthy Eating Pattern?

A heart-healthy eating pattern can help you reduce your cholesterol and triglycerides. It includes eating a variety of vegetables, fruits, and whole grains; low-fat (1%) or fat-free dairy products; lean protein foods; fatty fish at least twice a week; vegetable oils and other foods rich in healthy fats; and less sweets, sugar-sweetened beverages, and fatty red meats. One heart-healthy eating pattern is the Dietary Approaches to Stop Hypertension (DASH). **This eating pattern is:**

- High in fiber
- High in calcium, potassium, and magnesium
- Low in saturated fat and *trans* fat
- Low in added sugars
- Limiting sodium to 1,500 mg – 2,300 mg each day