

Motivating Patients to Achieve Lower Blood Pressure Through Lifestyle Change

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Disclosure

Altru receives CDC 1815 Grant funding for prevention and management of HTN, diabetes and prediabetes



Objectives



Participants will:



1) Identify 2 or more specific lifestyle changes to reduce blood pressure.



2) Describe basic principles of the DASH diet.



3) Identify 1 or more strategies to motivate patients to make lifestyle changes to lower blood pressure.

What are we asking patients to do to reduce their blood pressure?

Weight Reduction	Reduction in Dietary Sodium	DASH Diet	Physical Activity	Alcohol	Other
<ul style="list-style-type: none"> Lowering weight by 5% can reduce BP 5-20 mmHG 	<ul style="list-style-type: none"> Lowering sodium to 1500-2400 mg daily can reduce BP by 2-8 mmHG 	<ul style="list-style-type: none"> Increasing fruits and vegetables and reducing saturated fats can reduce BP by 8-14 mmHG 	<ul style="list-style-type: none"> Regular aerobic activity for 30 minutes per day can reduce BP by 4-9 mmHG Can be broken down to 10 minute intervals 	<ul style="list-style-type: none"> Limit alcohol use to 2 drinks per day for men and 1 drink for women 	<ul style="list-style-type: none"> Emotions, stress, caffeine intake, drug (both prescription and non prescription) and family history all contribute to BP

Principles of the DASH Diet



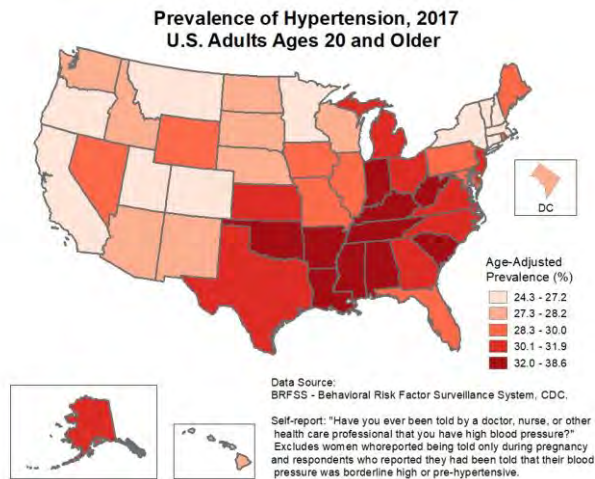
Facts About Hypertension in the United States

- Nearly half of adults in the United States (108 million, or 45%) have hypertension, defined as systolic blood pressure ≥ 130 mm Hg or a diastolic blood pressure ≥ 80 mm Hg or are taking medication for hypertension
- High blood pressure was a primary or contributing cause of death in 2017 for more than 472,000 people in the US. That's nearly 1,300 deaths each day.
- Half of adults (30 million) with blood pressure $\geq 140/90$ mm Hg who should be taking medication to control their blood pressure aren't prescribed or aren't taking medication
- Only about 1 in 4 adults (24%) with hypertension have their condition under control
- High blood pressure costs the US \$55.9 billion per year

National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention



Rates of High Blood Pressure Vary by Geography



Source: Behavioral Risk Factor Surveillance System



What Causes High Blood Pressure?

- Genetic factors
- Being overweight or obese
- High salt intake
- Narrowing or stiffening of the arteries
- Aging
- Stress
- Excess alcohol



Risk Factors for Developing High Blood Pressure

Modifiable Risk Factors	Non-Modifiable Risk Factors
Smoking tobacco	Diabetes
Overweight or obese	Family History
Alcohol in excess	Age
Level of physical activity	Sex
Diet composition	Race/ethnicity



Advice from the Academy of Nutrition and Dietetics Hypertension: 2015 Executive Summary of Recommendations

Intervention	Recommendations	Rating
DASH Diet	The RDN should counsel on a DASH dietary pattern plus reduced sodium intake for BP reduction in adults with HTN. Research indicates that in adults with pre-hypertension and HTN, the DASH dietary pattern, compared with the typical American diet lowered SBP by 5 mm Hg to 6 mm Hg and DPB by 3 mm Hg.	Strong Imperative
DASH Diet & Weight Reduction	For overweight or obese adults with HTN, the RDN should counsel on a calorie-controlled DASH dietary pattern for weight management and BP reduction. Research indicates that the DASH diet with a sodium range of 1,500 mg to 2,400 mg reduced SBP by 2 mm Hg to 11 mm Hg and DBP by 0 mm Hg to 9 mm Hg in overweight or obese hypertensive adults, regardless of anti-hypertensive medications. <u>DASH plus weight reduction resulted in greater reduction in SBP of 11 mm Hg to 16 mm Hg and DBP of 6 mm Hg to 10 mm Hg than weight reduction alone.</u>	Strong Imperative
Physical Activity	The RDN should encourage adults with HTN to engage in regular aerobic activity to lower blood pressure. Physical activity should be of moderate intensity to vigorous intensity 3-4 times per week for an average of 40 minutes per session. Research indicates that among adult men and women at all blood pressure levels, including individuals with HTN, aerobic physical activity decreases SBP and DBP on average by 2 mm Hg to 5 mm Hg and 1 mm Hg to 4 mm Hg, respectively. Typical interventions shown to be effective for lowering BP include aerobic physical activity of, on average, at least 12 weeks duration, with 3-4 sessions per week, lasting on average 40 minutes per session and involving moderate-intensity to vigorous-intensity physical activity.	Strong Imperative

Academy of Nutrition & Dietetics, Evidence Analysis Library



DASH DIET

D: ietary

A: pproaches to

S: top

H: ypertension



What is the DASH Diet?

Dietary Approaches to Stop Hypertension - used as a non-pharmacological option for the prevention and control of high blood pressure

Diet focused on reducing intake of nutrients that may raise blood pressure - sodium, saturated and trans fat

Focuses on intake of nutrients that may help fight hypertension – calcium, potassium, fiber, magnesium

Adapted from the Mediterranean Diet

Can lower blood pressure as well as medications for some

Weight loss is side affect, but not main purpose of diet

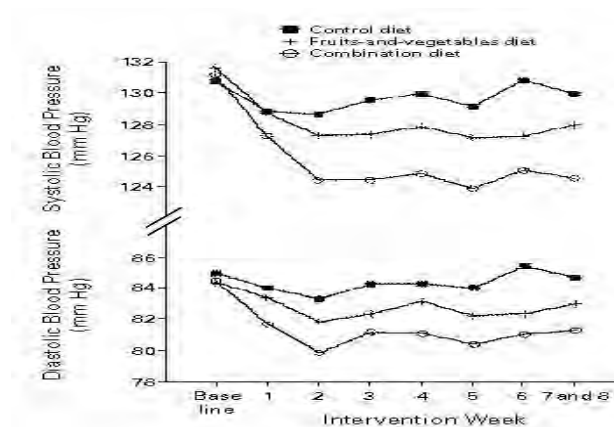


Inception of the DASH

- NHLBI: A Clinical Trial of the Effects of Dietary Patterns on Blood Pressure
- Study results were published in 1997
- Results concluded that a diet rich in fruits, vegetables and low-fat dairy foods, along with reduced intake of saturated and total fat can substantially lower blood pressure
- Investigators planned the DASH diet to be fully compatible with dietary recommendations for reducing risk of CVD, osteoporosis and cancer



A Clinical Trial of the Effects of Dietary Patterns on Blood Pressure



New England Journal of Medicine April 17, 1997



The DASH Eating Plan

(based on 2000 calories daily)

Food Group	Daily Servings (except as noted)	Serving Sizes
Grains & grain products	6-8	1 slice bread 1 cup ready to eat cereal ½ cup cooked rice, pasta or cereal
Vegetables	4-5	1 cup raw leafy vegetable ½ cup cooked vegetable 6 ounces vegetable juice
Fruits	4-5	1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen or canned fruit 6 ounces fruit juice
Low or fat-free dairy foods	2-3	8 ounces milk 1 cup yogurt 1 ½ ounces cheese
Lean meats, poultry and fish	2 or fewer	3 ounces cooked lean meat, skinless poultry, or fish
Nuts, seeds and dry beans	4-5 per week	1/3 cup or 1 ½ ounces nuts 1 tbsp or ½ ounce seeds ½ cup cooked dry beans
Fat and oils	2-3	1 tsp soft margarine 1 tbsp low-fat margarine 2 tbsp light salad dressing 1 tsp vegetable oil
Sweets	5 or less per week	1 tbsp sugar 1 tbsp jelly or jam 8 ounces lemonade ½ ounce jelly beans



Nutritional Impacts

- High in potassium, magnesium and fiber (from vegetables, nuts and legumes)
- High in calcium, protein and vitamin D (from dairy products)
- Seafood, poultry and lean meat consumed in the diet are excellent sources of B vitamins, iron and zinc.



Daily DASH Nutrient Goals

Nutrient	Goal
Total fat	27% calories
Saturated fat	6% calories
Protein	18% calories
Carbohydrate	55% calories
Cholesterol	150 mg
Sodium	1500-2300 mg
Potassium	4700 mg
Calcium	1250 mg

Based on 2000 calorie diet



How Much Salt?

- The Standard DASH diet recommends consuming no more than 2300 mg per day to achieve a reduction in blood pressure.
- If no significant blood pressure reduction occurs, reduce sodium intake to 1500 mg per day.

So, how much salt is 2300 mg?





1 tsp = 2300 mg sodium



THE DASH DIET

Helping patients put it into practice



Tips to Reduce Salt & Sodium

- Buy fresh, plain frozen, or canned “with no salt added” vegetables.
- Use fresh poultry, fish and lean meat, rather than canned or processed types.
- Use herbs, spices and salt-free seasonings blends in cooking and at the table.
- When available, buy low or reduced-sodium or no-salt-added versions
- Choose ready to eat breakfast cereals that are low in sodium
- Cook rice, cereal and pasta without added salt. Cut back on instant or flavored rice, pasta and cereal mixes.
- Choose “convenience” foods that are low in sodium. Cut back on frozen dinners, packaged mixes, canned soups and salad dressings.
- Rinse canned foods to reduce sodium content



Label Reading with DASH Diet

- AND recommends foods with 140 mg of sodium or less per serving while foods with 300 mg or more may not fit into low sodium meal plan.
- Aim for foods with <5% Daily Value for sodium.
- 20% or more Daily Value of sodium is considered high

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
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	8%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

A DAY WITH DASH

based on a 2,000 calorie diet



Breakfast:

1 whole-wheat bagel with 2 Tbsp peanut butter (no salt added)

1 medium orange

1 cup skim milk

Decaffeinated coffee

Lunch:

Spinach salad made with: 4 cups fresh spinach leaves, 1 sliced pear, ½ cup canned mandarin orange sections, 1/3 cup slivered almonds, 2 Tbsp red wine vinaigrette

12 reduced-sodium wheat crackers

1 cup skim milk

www.mayoclinic.org

Evening meal:

3 oz herb-crusted baked cod

½ cup brown rice pilaf with vegetables

½ cup fresh green beans, steamed

1 small sourdough roll

2 tsp olive oil

1 cup fresh berries

1 cup iced tea

Snacks:

1 cup fat-free yogurt

4 vanilla wafers



A Day with DASH

Nutritional Analysis

Calories: 2015
Fat: 70 g
Saturated Fat: 10 g
Trans Fat: 0 g
Sodium: 1607 mg
Protein: 90 g

www.mayoclinic.org

DASH Servings

Grains: 7
Vegetables: 5
Fruits: 4
Dairy foods: 3
Meat, poultry & fish: 3
Nuts, seeds & dry beans: 2
Fats & Oils: 3
Sweets: 1

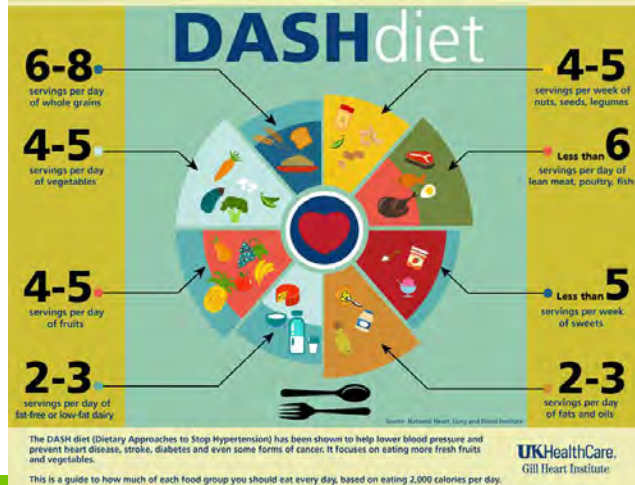


Factors RDN Considers with Each Patient

- Cooking habits
- Culture
- Cognitive function
- Other health issues that may require dietary intervention
- Shopping/cooking budget
- Habits/frequency for eating out



Visual Approach – DASH



DASH Pyramid



The Plate Method to teach DASH



Half plate as fruits/veggies, emphasize whole grains, low fat protein and low fat dairy



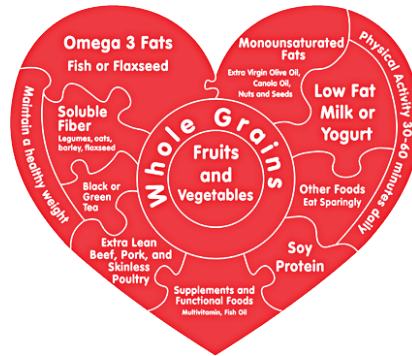
My Food Plan to teach DASH



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1) 1/2 cup Egg Beaters With your choice of veggie's added. 2) Slices of Turkey Bacon 3) 2 Slices of whole wheat bread 4) 1 cup cantaloupe	1) 2 low carb wheat bread French toast 2) 1 tbs. Margarine 3) 1 cup strawberries 4) 3 slices bacon	1) 2 Whole wheat slices of toast 2) 2 tbs. Peanut butter (for toast) 3) 1 small banana	1) 2 Whole wheat slices of toast 2) 1 tbs margarine 3) low or reduced sugar jam 4) 8 oz glass 2% milk 5) 1 sausage link	1) 1 cup cooked oatmeal 2) raisins, dark, seedless 2 tbs 3) 1 cup 2% milk 4) 3 slices bacon 5) 1/2 cup orange juice 6) 1 sausage link	1) 1/2 cup egg beaters with choice of veggie's 2) 1/4 cup salsa 3) whole wheat muffin 4) 1 tbs margarine 5) 1/2 cup orange juice 6) 1 sausage link	1) 1 cup Cheeses milk 2) 1/2 cup skin milk 3) 8 halves of dried Apricots 4) 6 almonds 5) 1 slice whole wheat toast 6) 1 tbs margarine
1) tossed green salad with 2 tbs of low fat dressing 2) 1 hard boiled egg 3) 3 Saltines 4) 1 1/2 cups of strawberries 5) 1 cup 2% milk	1) 2 slices whole wheat bread 2) 4 oz roast left over from Sunday 3) 1 oz reduce fat Monterey Jack cheese 4) 1 small apple with peel	1) 1 Pita bread whole wheat 2) 1 oz Roasted low sodium ham 3) 1 oz reduce fat Monterey Jack cheese 4) Tomato, cucumber 5) 1/4 cup	1) grilled cheese sandwich with 2 slices whole wheat bread, 1 slice skim milk American cheese using 1 tbs margarine 2) 1/2 cup tomato soup with water added & fresh veg	1) 1/2 low fat cottage cheese 2) Whole wheat crackers 3) 17 grapes, seedless, small 4) 3 slices of tomato	1) 1/2 cup tuna 2) 2 slices whole wheat bread 3) 2 slices of tomato 4) small apple with peel	1) 2 oz of chicken 2) 2 slices whole wheat bread 3) lettuce, tomato 4) Hard boiled egg 5) 1 orange
1) 4 oz of Roast Chicken 2) 1 cup Carrots 3) 1/2 potato plain	1) Balsamic Roast Chicken 2) 1 cup mashed potatoes 3) Tossed green salad with 2 tbs low fat Italian dressing	1) Roasted Salmon Fillet 2) Avocado Bean Salad 3) 1 cup 2% milk	1) Pork Chops 2) Wild Rice 3) Steamed Broccoli	1) Hearty Beef Stew 2) Vegie of choice steamed 3) Pillsbury Grands Butter Milk Biscuits	1) Slow Cooker Enchiladas 2) Vegie of choice	1) Steak 2) vegie of choice, steamed 3) Baked Potatoes



Heart Health & DASH



Mediterranean Diet to teach DASH



DASH Pizza

Dash Diet Guide to the Healthiest Pizza

- Can I Have A Thin Crust?** Saves you big on calories
- Hold The Meat** If you're looking for protein ask for anchovies
- Double Cut** Cuts the pizza into 16 slices, instead of 8, for the same amount of calories
- Whole Wheat Pizza** Full of fiber
- Order All The Veggie Toppings You Want**

Cut your Pizza into 16 portions

RED ONION Vitamins C, B6, B1	GARLIC Vitamins C, B6, B1	MUSHROOMS Vitamin D
PEPPERS Vitamins C, K, A, E, B6	APRICOTS Vitamins C, A	TOMATO Vitamins C, A, K, B6, B5, B1
SPINACH Vitamins K, A, C, B6	ARTICHOKE HEARTS Vitamins C, K, E, A	PINEAPPLE Vitamins C, B6, B1



Hidden Components

Contributes: • Sodium • Saturated Fats • Added Sugars

726 calories

Breakfast

Bagel with Peanut Butter & Banana ***	Coffee with Milk & Sugar**	Fat-free Yogurt**
Whole Wheat Bagel 1/4 oz bagel	Whole milk 1/2 cup	
Creamy Peanut *** 2 Tbsp	Sugar* 2 tsp	
Butter 1 medium		

761 calories

Dinner

Spaghetti & Meatballs***	Apple, Raw 1/2 medium	Garden Salad**
Spaghetti 1 cup cooked	Mixed Greens 1 cup	Carbanzo Beans* 1/4
Spaghetti Sauce** 1/4 cup	Diced tomatoes 1/2 cup	(canned, low sodium)
Meatballs** 3 medium	Avocado* 1/4 cup,	Cheddar Cheese* 3 Tbsp
Parmesan cheese** 1 Tbsp	Ranch dressing *** 1 Tbsp	

507 calories

Lunch

Tuna Salad Sandwich with Lettuce & Mayo**	Carrots 4 Baby Carrots	Low-fat Milk(1%)* ** 1 cup
100% Whole** 2 slices	Raisins 1/4 cup	
Canned Tuna** 2 ounces	Mayonnaise** 2 tsp	
Chopped celery 2 Tbsp	Lettuce 1 medium leaf	

Total

Sodium: 2,253 mg
(Less than or equal to 2,300 mg)

Calories From Added Sugar: 164 (8% of total calories)
(Less than or equal to 10% of calories)

Calories From Saturated Fats: 153 (8% of total calories)
(Less than or equal to 10% of calories)

1,995 Calories



2015-2020 Dietary Guidelines for Americans

Dining Out with DASH

Tips for incorporating DASH with restaurant eating

- Cut back on salt – limit condiments, don't add salt, request food be prepared without salt, watch out for words like pickled, cured, smoked. Some menus indicate low-sodium choices with a symbol.
- DASH promotes healthy fat choices – trim visible fat from meat; keep meat portion to size of deck of cards; look for words like grilled, poached, broiled; get in fruit and veggies
- Remember DASH principles from beverage to dessert choices. Consider whole grain bread, fruit for dessert, oil-based dressing for salad, keep alcohol in moderation
- As a minimum keep portions in check



DASH Diet: Tips for Shopping

Keep DASH in mind while shopping

- Buy fresh
- Shop the periphery of the store for most items
- Read labels

Stock up on DASH staples

- Choose a variety of fruits & veggies
- Low-fat dairy products
- Buy whole grains
- Choose lean meats, poultry & fish
- Select unsalted nuts, seeds & legumes
- Keep condiments, seasonings & spreads low in sodium



DASH Diet: Tips for cooking

Choose the right cookware

- Nonstick cookware
- Vegetable steamer
- Spice mill or garlic press

Use healthy cooking techniques

- Spice it up
- Rinse it off
- Beware of broth
- Make lower fat substitutions
- Cut back on meat

Mayo Clinic Healthy Lifestyle

Altru



Altru

Starting/Transitioning to DASH

- Add a serving of vegetables to two meals a day
- Choose whole grains when possible
- Don't bring the salt-shaker to the table
- Limit lean meats to 6 ounces a day
- Two or more meatless meals a week
- Start reading nutrition facts

Academy of Nutrition and Dietetics evidence analysis library adult weight management guidelines

Strong Imperative Evidence to support

- Calorie controlled diet (nutritionally adequate guided by the registered dietitian)
- No one size fits all approach to macronutrient manipulation it all comes down to calorie restriction
- Use of various types of meal replacements or structured meal plans as part of a comprehensive weight management program
- Increasing physical activity
- Use of behavioral strategies
- Motivational interviewing
- Self- monitoring
- Goal Setting
- Problem solving



Physical Activity:
Goal 30 minutes per day

- Develop a “move more, sit less” mindset
- Wear an activity tracker
- Choose something over nothing
- Commit to regular activity
- Find your favorite exercise
- Put yourself on the calendar



Physical Activity:
Goal 30 minutes per day

- Embrace shorter workouts
- PLAY
- Find a workout buddy, join a group, try a class
- Create a “go-to” workout
- Make a motivation list
- Eliminate the excuses and GO!

Strategies to motivate your patients to make lifestyle changes



Emphasize patient ownership to health- We are here to coach but only they can make themselves healthier



Partner with patients to identify next steps - use motivational interviewing



Small steps - break the goals down into smaller achievable steps for continued success



Schedule frequent follow up with the team- use your team patient centered approach



Show care and concern – 56 seconds, empathy

“Growth is not steady, forward, upward progression. It is instead a switchback trail; three steps forward, two back, one around the bushes, and a few simply standing, before another forward leap.”

Dorothy Corkville Briggs

Case Studies

In Conclusion

- DASH diet is an effective approach to lifestyle modification for management of hypertension.
- DASH diet concepts can also be applied to help manage other chronic health issues - obesity, CVD, etc.
- Lifestyle changes should be tailored to fit the patient - dietitian is a key member of the health care team for management of hypertension.

Resources

www.nhlbi.nih.gov/health

www.americanheart.org

www.eatright.org

www.choosemyplate.gov

