

# Welcome!

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Important info for today's session:

1. Slides are available on the event page:  
<https://militaryfamilieslearningnetwork.org/event/34426>
2. Need tech support? Email us at [MilFamLN@gmail.com](mailto:MilFamLN@gmail.com)  
(write this down in case you need it later)
3. Select “All Panelists & Attendees” from the drop-down when commenting in the chat pod.

# Incorporating DASH Principles into Everyday Living

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Connecting military family service providers  
and Cooperative Extension professionals to  
research and to each other through engaging  
online learning opportunities

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# Today's Presenter

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## **Rosanne Rust, MS, RDN, LDN**

- Nutrition consultant and freelance author, Rust Nutrition Services
- Research Interests: cardiovascular disease, nutrigenomics, and biotech in agriculture



# Objectives

After this webinar, the attendee should be able to:

1. Locate references about the Dietary Approaches to Stop Hypertension clinical trials and other references about diet and high blood pressure
2. Present the dietary pattern of the DASH Diet to both patients and colleagues
3. Explain the new high blood pressure guidelines to patients in the context of other risk factors
4. Help patients set goals that work toward adopting a DASH diet eating style

# Pop Quiz



**What does  
"DASH" stand  
for?**

**Please type your answer into the chat box.**

# Pop Quiz

Which food has more sodium – 2 slices of bread or a serving of pouch/canned tuna?

- a. Bread
- b. Canned/pouch Tuna
- c. They are about the same

# DASH Diet

## What is DASH?

- DASH - Dietary Approaches to Stop Hypertension
- Landmark clinical trial in 1997 that sought to evaluate the effects a variety of easily available food have on blood pressure
- Study participants found that their blood pressure dropped by eating a diet rich fruits, vegetables, whole grains and low fat dairy products. The diet was also low in saturated fat and sodium.

# Not a Fad

## Well-researched

- Several studies beyond first trials
- RCT
- Shown to be effective for blood pressure
- Components of the diet related to reducing risk of common diseases (cancer, heart disease, diabetes)

## Fad or Popular Diets

- No clinical evidence
- No RCTs
- Observational effects (i.e., weight loss on Keto or Carnivore diets)
- No evidence of long term health or disease risk impact
- Sometimes dangerous

# Hypertension - Why Care?

## “The Silent Killer”

- 1 in 15 people under 40
- >30% middle aged (40-60)
- 65% everyone in their 60s

## 80 million people...

- Adversely affects kidneys, brain, and heart
- Leading risk factor for stroke and vascular diseases



# The Original Research

**Landmark clinical RCT, 1997 - Tested the effect foods have on blood pressure.**

- Randomized Control Trial
- 4 Sites
- Subjects - men, women (half), racial/ethnic minorities (60% African American), white individuals
- Both hypertensive and prehypertensive participants [Baseline BP had to be borderline HTN ( $>120/70$  but  $<160/95$ )]
- Reductions in systolic and diastolic blood pressure (5.5 and 3.0 mm Hg, respectively), evident as early as 2 weeks

# DASH Trial

## Diet Intervention

- Randomized controlled
- 459 men and women
- Calorie-controlled, no weight changes
  1. Control Diet (SAD)
  2. Fruits and Veg: 3-5 svgs; 3450 mg sodium; plant-based foods; same amt fat and meats/fish; less sweets
  3. DASH Diet: Same as #2 but adding 2 servings low fat dairy per day; less meat, more fish; less fat; less sweets

## Results

- Fruit & Veg diet reduced systolic by 2.8 points, diastolic by 1.1 points
- DASH lowered systolic by 5.5 and diastolic by 3

### Sodium variations:

- 3450 mg
- 2300 mg
- 1500 mg

2 weeks on higher, then randomized for 30 days: Lower sodium, lower BP, especially in those with HTN



# **DASH Diet Research**

# OMNI-Heart Study

## Optimal Macronutrient Intake Trial to Prevent Heart Disease

### The Study

- 2003, Johns Hopkins & Harvard researchers
- Funded by NIH
- 164 subjects, avg 54 yrs old, 45% female, 55% black (similar to DASH)
- Most overweight or obese with baseline BP 120/80 or higher
- All food prepped
- 6 weeks on each diet, randomly assigned sequence

### The Diets

- CHO Diet: DASH with 58% CHO, less Pro
- PRO Diet: 25% Protein, half plant-based; carbs at 48%
- UNSAT FAT Diet: 37% fat with half of that mono, carbs at 48%, pro at 15%

All 2300 mg Na+

# OMNI Heart Study

## Diet interventions

Very similar, with slight increases in protein or monounsaturated fat, while making a reduction in carbohydrate.

All 2300 mg Na+

## Results

- BP improved on each of the three diets
- DASH style 13 point systolic reduction, 6 diastolic
- Higher protein and higher fat diets has a significantly greater impact on BP - 16 points reduction in systolic, 8 points diastolic
- Improved LDLs

# BOLD

## Beef in an Optimal Lean Diet study

### Diet Intervention

Goal: To see effect on LDL cholesterol of cholesterol-lowering diets.

36 hypercholesterolemic participants randomly assigned to consume each of the 4 diets:

- HAD: 33% total fat, 12% SFA, 17% protein, and 20 g beef/d
- DASH: 27% total fat, 6% SFA, 18% protein, and 28 g beef/d
- BOLD: 28% total fat, 6% SFA, 19% protein, and 113 g beef/d
- BOLD+: 28% total fat, 6% SFA, 27% protein, and 153 g beef/d for 5 wk

### Results

Decrease in total cholesterol and LDL-cholesterol concentrations ( $P < 0.05$ ) after consumption of the DASH, Bold and Bold+

### Conclusion

If your patients enjoy beef, they can include lean beef and lower Chol and LDL

# Encore Study

## Diet Intervention

- Randomized, controlled trial
- Tertiary care medical center
- Overweight/obese
- Unmedicated with HTN
- Assessments at baseline and 4 months.
- Control Diet, DASH diet alone, DASH+Wt Management (exercise) program

Enrollment began October 29, 2003 and ended July 28, 2008

## Results

For overweight or obese persons with above-normal BP, the addition of exercise and weight loss to the DASH diet resulted in even larger BP reductions, and greater improvements in vascular function.

# Medicine still has its place...

## Systolic Blood Pressure Intervention Trial (SPRINT) Study

### Intervention

2010

Treatment with 2-3 drugs.

9,361 adults age 50 and older with >130 systolic, and at least one additional CVD risk factor, but no history of diabetes or stroke.

### Results

Target systolic blood pressure <120 mm Hg reduced rates of high blood pressure complications (heart attack, heart failure, and stroke) by 25 percent.

# Assessing Risk

# Blood Pressure Guidelines

Most researchers suggest 115/75 is “ideal” ...

- New 2017 guidelines lowered BP goals
- Physicians opinions vary (risk)
  - Normal: <120 systolic, <80 diastolic
  - Elevated: 120 to 129 systolic, <80 diastolic
  - Stage 1: 130-139/80-89
  - Stage 2: >140/>90
- Physician evaluates overall risk



# Cholesterol, Weight, Diabetes

Assessed on an individual basis based on risk

American College of Cardiology/American Heart Association Task Force

- Adults  $\geq 21$  years of age with a primary LDL-C  $\geq 190$  mg/dL should be treated with high-intensity statin therapy unless contraindicated.
- Adults 40-75 years of age with an LDL-C 70-189 mg/dL without clinical ASCVD or diabetes and an estimated ten-year ASCVD risk  $\geq 7.5\%$  should be treated with moderate- to high-intensity statin therapy.
- Adults 40-75 years of age with an LDL-C 70-189 mg/dL without clinical ASCVD or diabetes and an estimated ten-year ASCVD risk 5- 7.4% may consider moderate intensity statin therapy if there are additional risk factors. The decision to treat should include a discussion of the benefits and risks between the patient and clinician.
- Adults 40-75 years of age with diabetes mellitus and an LDL-C 70-189 mg/dL should be treated with moderate-intensity statin therapy.

<https://www.aafp.org/patient-care/clinical-recommendations/all/cholesterol.html>

# 10-year CV Risk Assessment

Assess the 10-year risk for heart disease and stroke using the atherosclerotic cardiovascular disease (ASCVD) risk calculator

- If risk is less than 10%, start with healthy lifestyle recommendations and reassess in 3-6 months
- If risk is greater than 10% or the patient has known clinical cardiovascular disease (CVD), diabetes mellitus, or chronic kidney disease, recommend lifestyle changes and BP-lowering medication (1 medication)

# **DASH Diet in Action**

# Test Your DASH Knowledge

1. How many daily servings of dairy should be included in DASH eating plan?
  - a. 3-4
  - b. 2-3
  - c. 1
2. How much sodium should be prescribed per day to lower blood pressure?
  - a. 1500 mg
  - b. 2300 mg
  - c. 3450 mg
  - d. Any of the above
3. In trials, did adding low-fat dairy increase or decrease blood pressure?
  - a. Increase
  - b. Decrease
  - c. Neither

# Basic Guidelines of DASH

## Daily:

- 4-5 Servings each of Fruits and Vegetables
- 2-3 Servings low fat dairy
- 6-8 Servings grains
- <6-8 ounces meat/poultry/fish
- 3-4 servings fats/oils w/ focus on Mono-oils
  
- Nuts and seeds, 4-5x per week
- <5 servings per week of sweets/high fat extras (dessert, candy, jams, baked goods, etc)

# Other Lifestyle Factors

- Moving more - 150 minutes per week of accumulated moderate-intensity physical activity or 75 minutes per week of vigorous-intensity physical activity.
- Cutting back on caffeine, alcohol and smoking
- Stress reduction

...Adopting an Eating Lifestyle (not a diet)

# Your Clients

Have you recommended DASH to clients?

What are the barriers your clients express concerns about?

Remember: They are adopting an Eating Lifestyle (not a diet)

# Helping Your Clients

Are people following the DASH guidelines?

- 2007 to 2012 NHANES data showed poor adherence, with only 20% meeting half of the recommendations.
- How can you make it easier for them?





# Lifestyle Factors

Keeping a Goal Journal Can Help

## Dietary Goals

- Look for ways to reduce sodium
- Easy ways to add fruit
- Easy vegetable side dishes
- Adding veggies to favs
- Including 2-3 servings of dairy - cooking with milk, adding snacks
- Fewer sweet treats

## Fitness Goals

- Setting daily goals
- Something is better than nothing
- Finding enjoyable activities
- Enlisting a trainer or buddy
- Non-exercise activity

# Provide Culinary References

- Recommend easy cookbooks
- Refer to community cooking classes
- Encourage basic cooking skills (sauté, roast, simple cream sauce, simple tomato sauce)
- Provide a DASH Diet pantry list (brown rice, pasta, barley, quinoa, canned beans, low sodium canned tomato sauce)
- Shopping staples (fresh & frozen vegetables, fresh & canned fruit, low-fat Greek yogurt, 1% milk)
- Other shopping tips: Look for sales in produce aisle, shop nuts/seeds in bulk

# Finding Easy Ways to Add Veggies, Fruit and Dairy

## Fruit & Veggies

- Add vegetables to breakfast & lunch
- Spinach in eggs or on sandwiches
- Fresh salsas
- Dried fruit - snacks, salads
- Add extra fruits & veg to salads
- Include an extra vegetable at meals
- Roast vegetables in batches

## Dairy

- Whole grain cereal w milk
- Fruit with plain Greek yogurt
- Use greek yogurt for dips, sauces
- Create low fat cream sauces with milk
- 8 oz milk with a meal

# Sodium

## Hidden Sodium & Ways to Reduce

- Better is better than “optimal”
- Look for reduced sodium cans
- Choose more fresh and frozen vegetables
- Read and compare bread labels
- Look for lower sodium cottage cheese
- Add less salt in cooking
- No salt at table
- Rinse canned beans and other canned veggies

# Keep it Doable

- Review health risks – focus on health
- Include at least 2 follow up appointments every 3-4 weeks
- Make changes sound, doable, and easy
- Focus on tangible results
- Provide printed references

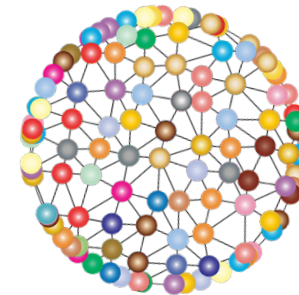
## Results your patients can see ...

- More energy
- Lower blood pressure within weeks
- Weight loss
- Improved cholesterol, LDL, HDL

# References

- DASH DIET; <https://www.ncbi.nlm.nih.gov/books/NBK482514/>
- DASH Diet, 20 Years Later; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5509411/>
- The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of HPB: <http://www.nhlbi.nih.gov/health-pro/guidelines/current/hypertension-jnc-7>
- Consumer guide: [https://www.nhlbi.nih.gov/files/docs/public/heart/dash\\_brief.pdf](https://www.nhlbi.nih.gov/files/docs/public/heart/dash_brief.pdf)
- Encore study; <https://www.ncbi.nlm.nih.gov/pubmed/20101007>
- Historical reference: [http://www.nhlbi.nih.gov/files/docs/guidelines/jnc6\\_archive.pdf](http://www.nhlbi.nih.gov/files/docs/guidelines/jnc6_archive.pdf)
- Ongoing Sprint Trials: <https://www.nhlbi.nih.gov/science/systolic-blood-pressure-intervention-trial-sprint-study>; <https://www.nhlbi.nih.gov/science/systolic-blood-pressure-intervention-trial-sprint-study#ataglance>
- High Blood Pressure guidelines; <http://csc.cma.org.cn/attachment/2014315/1394884955972.pdf>
- DASH Diet For Dummies®

# Questions?



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# Building Partnerships Beyond Policy with Your Commissary

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**October 23, 2019 | 11:00 am – 12:00 pm EST**

**<https://militaryfamilieslearningnetwork.org/event/34434>**

# Evaluation & Continuing Education

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Today's webinar is valid for 1.0 CPEU from the Commission on Dietetic Registration (CDR).

**Go to the event page for evaluation and post-test link:**  
**<https://militaryfamilieslearningnetwork.org/event/34426>**

Continuing Education Credit/Certificate

Questions? Email Kristen DiFilippo at [kdifilip@illinois.edu](mailto:kdifilip@illinois.edu)