

Mary E. Bourland, M.D., F.A.C.S., heart and vascular surgeon, joined Mercy Health System of Northwest Arkansas' physician team in 2005 after working the previous twelve years on the medical staff at St. John's Regional Medical Center in Joplin, Missouri. In her practice, she is particularly focused on endovascular surgery and women's heart and vascular preventative health. In her first year in Northwest Arkansas alone, she spoke to over 3,000 people, screened about 4,000 individuals and performed approximately 750 cases.

Dr. Bourland is board certified by the American Board of Surgery and the American Board of Thoracic Surgery. She earned a Bachelor of Science degree in biology from Murray State University in Murray, Kentucky. From there, she went on to earn a Doctor of Medicine from Southern Illinois University in Springfield, Illinois, where she also completed a residency in general surgery. After completing her residency, Dr. Bourland completed a clinical rotation in cardiothoracic surgery at Duke University Medical Center in Durham, North Carolina, and a fellowship in cardiothoracic surgery at State University of New York at Buffalo in Buffalo, New York.

Since 1993, Dr. Bourland has been educating and entertaining communities throughout the four-state area with her high-energy and personable presentations. Her emphasis on a healthy, Mediterranean-inspired diet and proper exercise helps to demystify the methodology to maintaining good cardiovascular health.



**ARKANSAS HEART
AND VASCULAR INSTITUTE**

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**ARKANSAS HEART
AND VASCULAR INSTITUTE**

Women's Heart Health

Mary E. Bourland, M.D.
Heart & Vascular Surgeon

The vast majority of heart disease could be prevented with lifestyle modifications.

the facts

Half of all
HEART ATTACKS
with **NORMAL**
cholesterol levels.

sicilian style tuna

Ingredients for 4 servings
Fresh Tuna 1 1/2 lbs in one slice

Anchovies 4

Garlic 1 clove

Lemon Juice from 1 lemon

Rosemary 1 sprig

Allspice a pinch

Breadcrumbs 3 tablespoons

Dry white wine about 3 cups

Extra virgin olive oil 6 tablespoons

Salt & Pepper to taste

Difficulty - average

Preparation time 40 minutes

plus marinating time

Calories 465



- Rinse the tuna fish and dry well. Place in a towel and sprinkle with a pinch of allspice, a pinch of salt and pepper. Pour enough white wine over the tuna to cover it - about 3 cups - and set aside for 2 hours. During this time, rinse and dry the rosemary and chop finely with the garlic clove. Remove the tuna from the marinade and with a sharp kitchen knife, make incisions all over the fish. Fill holes with garlic and rosemary preparation.
- Brush the tuna with 2 tablespoons of extra virgin olive oil. Heat a cast iron pan and add the tuna. Brown the tuna on each side. Remove the piece of tuna and cover with the bread crumbs. Return to the pan on medium heat, until thoroughly cooked, basting often with marinade.
- Rinse and debone the anchovies. When the tuna is almost cooked, place the anchovies and remaining extra virgin olive oil in a saucepan on medium heat and cook, stirring all the time until the anchovies are completely dissolved. Place the tuna fish on a warm serving dish. Pour the lemon juice and whisk it into the anchovy oil sauce. Pour prepared sauce over the tuna and serve.

fusilli with eggplant pine nuts, currants and capers

Ingredients for 6 servings

Eggplant 2 16-ounce
Extra virgin olive oil 2 tablespoons
Onion 1 medium, chopped
Garlic 4 cloves, minced
Pine nuts 3/4 cup, toasted
Dried currants 3/4 cup
Capers 1/2 cup, drained
Diced tomatoes 2 14.5-ounce cans
Fusilli pasta 1 pound
Pecorino Romano cheese 1 cup, grated
Basil 1/2 cup, chopped

Difficulty - average

Preparation time 1 hour



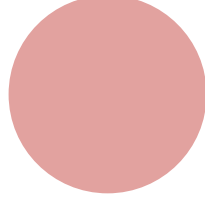
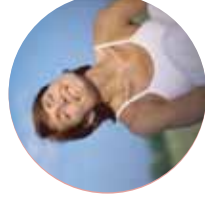
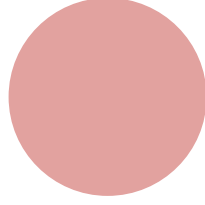
- Cut eggplant crosswise into 1/2-inch-thick slices and place on large rimmed baking sheet. Sprinkle with salt. Let stand over 20 minutes. Turn over and sprinkle with salt. Let stand 20 minutes longer. Rinse. Drain. Pat dry with paper towels. Cut into 1/2-inch cubes. Set aside.
- Heat olive oil in large, heavy skillet over medium-high heat. Add onion and saute until golden, about 4 minutes. Add garlic and saute for 1 minute. Add eggplant; saute until tender, about 10 minutes. Stir in pine nuts, currants and capers; saute 1 minute. Add tomatoes with juices. Bring to simmer. Season to taste with salt and pepper.
- Meanwhile, cook pasta in large pot of boiling salted water until just tender, but firm enough to bite. Drain. Return pasta to pot. Add eggplant mixture, 1/4 of cheese, and basil. Toss to combine. Transfer to large bowl. Serve, passing remaining cheese separately.

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Women whose lifestyles include:

- Good diet
- Moderate exercise
- Lower body fat
- No smoking
- Moderate alcohol consumption

Have an impressively low risk for heart disease and stroke.



Diet

- low fat intake
- low glyemic load
- high consumption of cereal fiber
- high Omega-3 fatty acids from fish
- high folate
- high ratio of polyunsaturated to saturated fats

Fiber

- Women who eat 22 grams of fiber a day have half the risk of having a heart attack.
- 37% risk reduction for every 5 grams a day increase.



Fats

Mono Unsaturated

- found in the following oils: olive, canola, almond and peanut
- decreases LDLs, no effect on HDLs

Poly Unsaturated

- found in the following oils: corn soybean, safflower and sunflower
- may lower LDLs, may also lower HDLs

Saturated

- found in meats, dairy, palm and coconut oils
- increases LDLs

Homocysteine

- Found in the blood of everyone and is increasingly being recognized as a risk factor just as important as cholesterol for causing damage to arteries.
- Homocysteine hurts the vessel wall. It acts like Velcro, which causes clots to stick to the wall.
- It also triggers plaque build up by layering LDL's "bad cholesterol" on the walls.

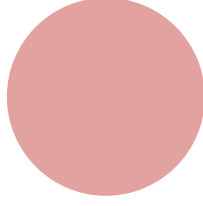
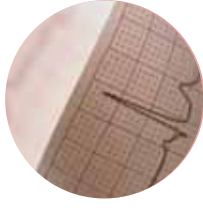
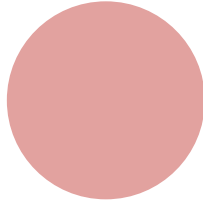


C-Reactive Protein (CRP)

- Produced by the liver in response to inflammation.
- Some of the statins have been found to lower CRP.

Nicotine Also

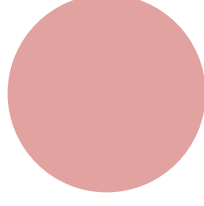
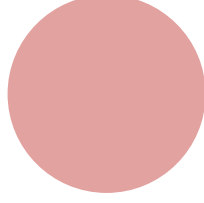
1. Destroys the protective lining of arteries
2. Promotes clotting
3. Smoking cessation decreases the risk of heart attack.
 - By 1/3 after one year
 - Back to baseline after five years



“Hydro” genated Fats

Hydrogenated fat is a liquid oil with hydrogen added to make it harder.

- Try to avoid hydrogenated or partially hydrogenated fats.



Try These Options Instead

Mayonnaise: Helman's low fat

Cheese: ricotta or feta

Eggs: Just use the whites~it's the yolks that are bad.

Milk: Use 1% low fat or soy milk

Cooking Oils: Use sparingly~even the best ones (canola, olive, almond and peanut oil) are still 100% FAT.

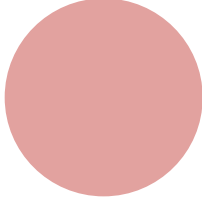
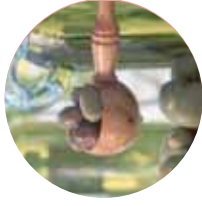
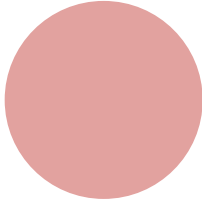
Meat: Lean cuts and white meat.

Stress and Anger

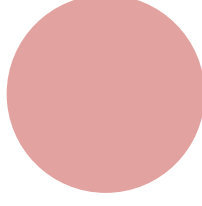
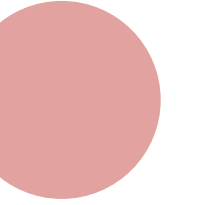
- Increase risk of heart attack and stroke
- Increase clot formation

The Mediterranean Diet is CARDIO PROTECTIVE

It promotes consumption of “tree” nuts, fruits, vegetables, beans and plant-based foods.



SMOKERS HAVE A 50% INCREASE OF STROKE AND HEART DISEASE.



Why are Mediterranean Foods the Best?

- Oils: olive, nut, seed and fish oils
- Meat is used sparingly as a side dish rather than a main course.
 - Lots of fish
 - Cheese is low fat Feta
 - Red wine in moderation
- Large salads, fresh vegetables, nuts and legumes

Women and Smoking

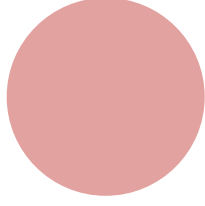
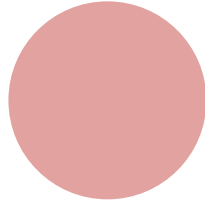
Women are more vulnerable than men.

- Smaller arteries
- More likely to have the bad k-ras gene which predisposes them to lung cancer (4 times as likely)
- Nicotine causes spasm and women are more prone to spasm.

Exercise

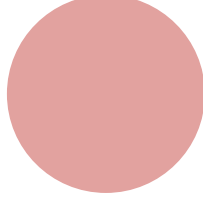
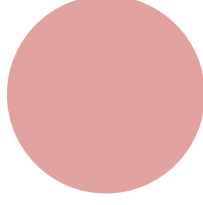
At least 30 minutes per day of brisk walking:

- Lowers blood pressure
- Lowers clot formation
- Lowers diabetes risk
- Increases HDLs (good)
- Lowers BMI



The French are Healthier Because They:

- Eat two-three times more cereal fiber
 - Eat twice as many nuts
 - Eat more fruits and vegetables
- Eat very few processed carbohydrates
 - Drink wine slowly with meals
- Eat portions half the size of what Americans eat



Is It Worth It?

Here are the minutes of exercise (or rest) needed to burn off calories in various foods:

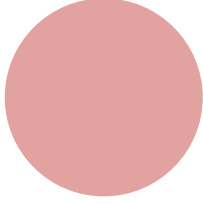
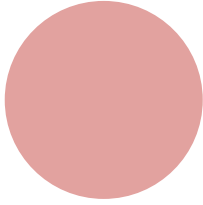
- Chicken, TV Dinner (542 calories)
Reclining - 417 min. / Walking - 104 min.
- Doughnut (151 calories)
Reclining - 116 min. / Walking - 29 min.
- Raw carrot (42 calories)
Reclining - 32 min. / Walking - 8 min.

Suggestions

- Eat unpeeled fruits for snacks and desserts
- Add beans to salads, stews and soups
- Choose high-fiber vegetables such as broccoli, cabbage, carrots and brussels sprouts

Omega-3's

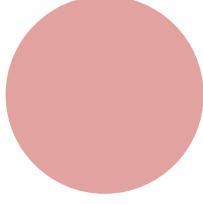
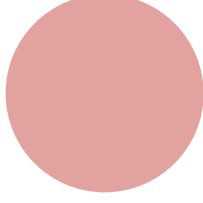
- Make blood vessel walls less “sticky,” therefore less clot
- One of the reasons Eskimos and Mediterraneans have such a low incidence of heart disease.



Obesity

A BMI more than 30 increases diabetes, high blood pressure, cholesterol, clotting and sleep apnea

Weight	Overweight Limit											Overweight																				
	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
5'0"	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
5'1"	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
5'2"	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
5'3"	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
5'4"	22	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	22	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
5'5"	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
5'6"	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
5'7"	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
5'8"	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
5'9"	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
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6'0"	18	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
6'1"	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
6'2"	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
6'3"	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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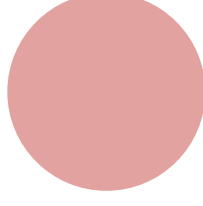
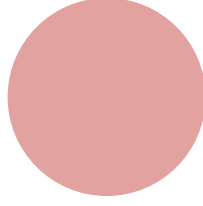
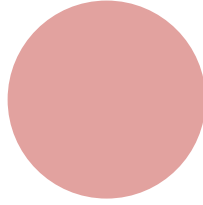
Omega-3 Actions

- Stimulates production of substances with anti-inflammatory effects
- Like aspirin, they thin blood by making platelets less sticky.
 - May decrease blood pressure

Diabetes

- 2/3 of diabetics die of heart disease. This risk is decreased proportional to the amount of exercise a diabetic does.
 - A BMI greater than 31 carries a 16 times greater risk of developing diabetes.
- Lack of physical activity predicts early death for diabetics.
 - One in five people over 65 have diabetes.
- How to avoid diabetes? Control your weight and WALK.

**FOR EVERY 10 POUNDS
A WOMAN GAINS, HER
BLOOD PRESSURE
INCREASES 20%.**



High Omega-3 Fish

- Salmon
- Trout
- Sardines
- White Tuna
- White Fish
- Pollock
- Herring
- Mackerel
- Halibut
- Anchovies

Body Mass Index (B.M.I.)

- 55% of Americans are overweight.
- What is a healthy B.M.I.?
 - Normal: 18-25
 - Overweight: 25-30
 - Obese: 30-40
 - Morbidly Obese: 40+

Other Sources of Omega-3's

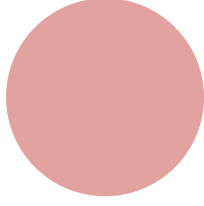
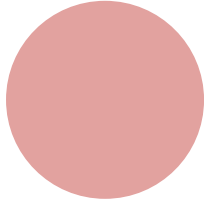
- Flaxseed
- Green, leafy vegetables
- Walnuts
- Canola oil

You need 750-1000 mg of Omega-3 daily!

Other Great Benefits of Omega-3's

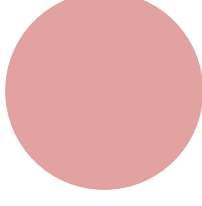
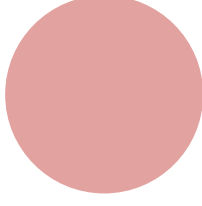
Omega-3's also help decrease:

- Arthritis
- Inflammatory conditions of the bowel
- Depression
- Alzheimer's Disease
- Menstrual cramps
- Diabetes
- Multiple Sclerosis
- Asthma



Where do you find folic acid and other B-vitamins?

- Vitamins
- Fruits
- Vegetables
- Whole grains
- Poultry
- Fish
- Nuts



B-Vitamins

B-vitamins, especially folic acid, have been proven to not only prevent development of heart and artery disease, but to actually cause the plaque to shrink

How much is enough?

A healthy amount of folic acid is .4 mg. 8 mg daily.

Note: coffee and tea drinks cause homocysteine levels to increase after 2 cups/day.