

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**

*Heart Healthy Guide*

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

the facts

Half of all  
HEART ATTACKS  
occur with NORMAL  
cholesterol levels.

# sicilian style tuna

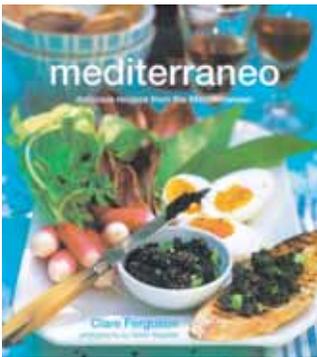
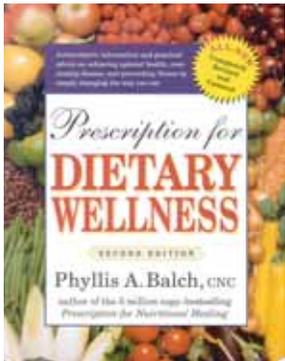
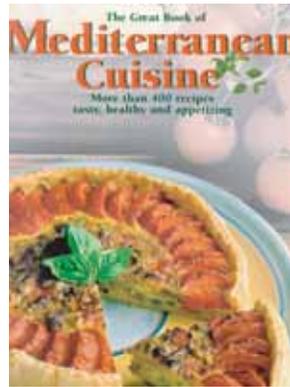
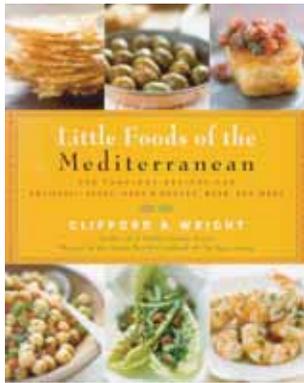
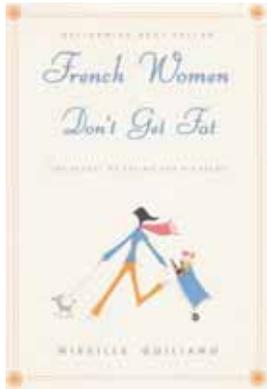
**Difficulty** - average  
**Preparation time** 40 minutes  
plus marinating time  
**Calories** 465

**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



- 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.

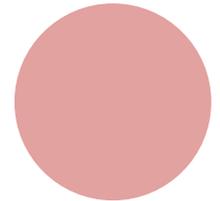
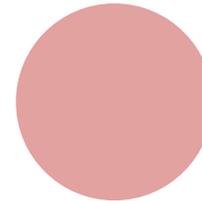
# suggested reading



## Lifestyles that include:

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

Result in an impressively low risk for heart disease and stroke.



## Diet

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

## Fiber

Eating 30 grams of fiber a day

- reduces the risk of having a heart attack by half
- 37% risk reduction for every 5 grams a day increase.



## 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.



## 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

## C-Reactive Protein (CRP)

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

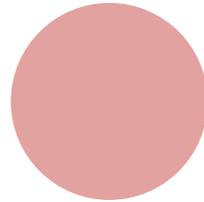
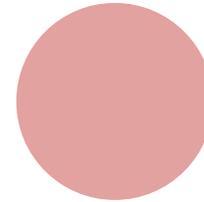
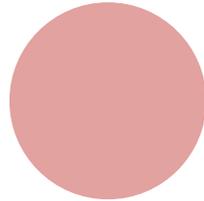
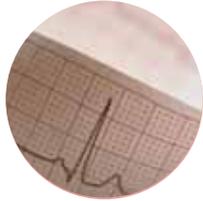
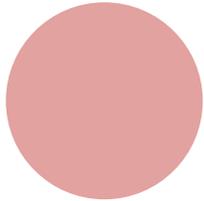
## Nicotine Also

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.



## Stress and Anger

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

## 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

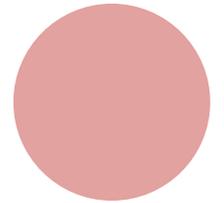
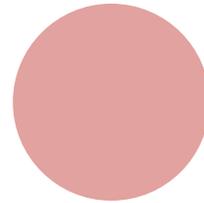
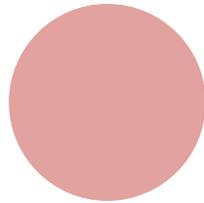
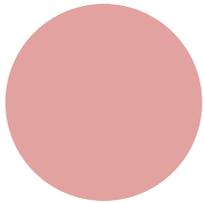
Cooking Oils: Use sparingly~even the best ones (canola, olive, almond and peanut oil) are still 100% FAT.

Meat: Lean cuts and white meat.

## 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

### Smoking and Clots

- Nicotine:
- Promotes spasm
  - Increases risk of clotting
  - Increases risk of lung cancer

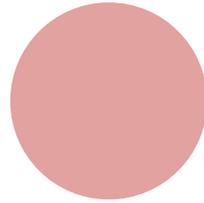
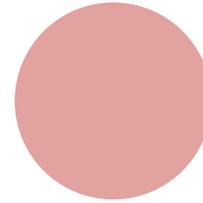
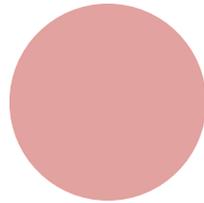
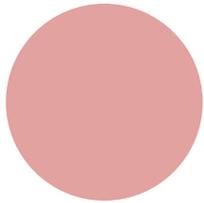
## Exercise

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:

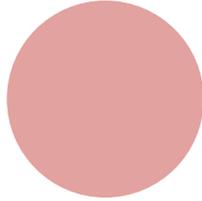
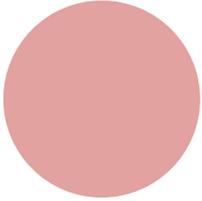
- Chicken, TV Dinner (542 calories)  
Reclining - 417 min. / Walking - 104 min.
- Doughnut (151 calories)  
Reclining - 116 min. / Walking - 29 min.
- Raw carrot (42 calories)  
Reclining - 32 min. / Walking - 8 min.

## 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.



## Omega-3 Actions

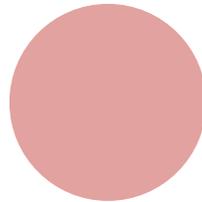
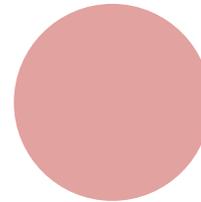
- Stimulates production of substances with anti-inflammatory effects
- Like aspirin, they thin blood by making platelets less sticky.
  - May decrease blood pressure

## Obesity

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

25 Overweight Limit    Overweight

Weight	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205
Height																
5'0"	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
5'1"	25	26	26	27	28	29	30	31	32	33	34	35	36	37	38	39
5'2"	24	25	26	27	27	28	29	30	31	32	33	34	35	36	37	37
5'3"	23	24	25	26	27	27	28	29	30	31	32	33	34	35	35	36
5'4"	22	23	24	25	26	27	27	28	29	30	31	32	33	33	34	35
5'5"	22	22	23	24	25	26	27	27	28	29	30	31	32	32	33	34
5'6"	21	22	23	23	24	25	26	27	27	28	29	30	30	31	32	33
5'7"	20	21	22	23	23	24	25	26	27	27	28	29	30	31	31	32
5'8"	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30	31
5'9"	19	20	21	21	22	23	24	24	25	26	27	27	28	29	30	30
5'10"	19	19	20	21	22	22	23	24	24	25	26	27	27	28	29	29
5'11"	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28	29
6'0"	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27	28
6'1"	17	18	18	19	20	20	21	22	22	23	24	24	25	26	26	27
6'2"	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26	26
6'3"	16	17	17	18	19	19	20	21	21	22	22	23	24	24	25	26
6'4"	16	16	17	18	18	19	19	20	21	21	22	23	23	24	24	25



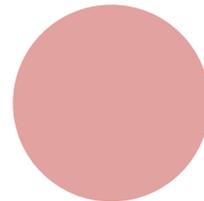
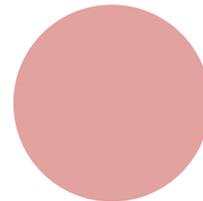
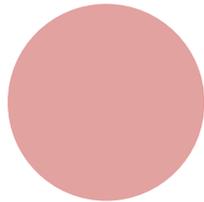
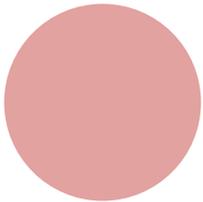
## Diabetes

- 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 GAINED,  
BLOOD PRESSURE  
INCREASES BY 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!

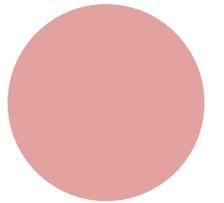
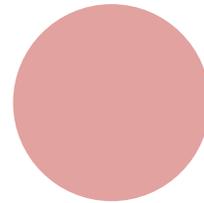
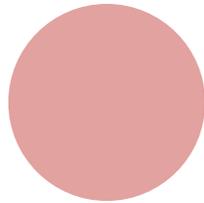
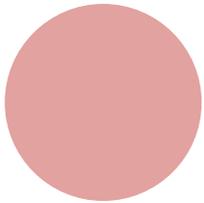
## Other Great Benefits of Omega-3's

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.*