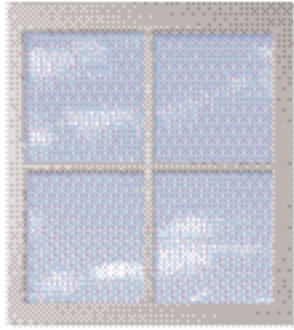


Fall 2006 / Winter 2007



BARI 2Day & 2Morrow

A MESSAGE FROM THE BARI 2D DIABETES MANAGEMENT CENTER

Saul Genuth, MD, Director of the Diabetes Management Center for BARI 2D

Dear BARI 2D Participant:

Welcome to all my BARI 2D research partners from the BARI 2D Diabetes Management Center. Because we are research partners and not “investigators and research subjects.” The job of the Diabetes Management Center is to monitor your diabetes treatment to be sure that it is as satisfactory as we can make it and in keeping with the research aims of BARI 2D. Although we explained the purposes and treatment procedures as completely as possible before you volunteered for BARI 2D, some of you might still have questions about the diabetes treatment you are receiving. So let me explain a little more.

Two basic facts underlie BARI 2D. First, coronary artery disease and other components of cardiovascular disease are the most important complications of type 2 diabetes because they affect lifespan, as well as quality of life. Second, high blood sugar (glucose) levels in diabetes result from two problems: not enough insulin is being produced by the pancreas and the insulin that is produced doesn't work on the heart and other tissues as well as it should.

What we don't know is whether giving you insulin and drugs that increase your own body's production of insulin or giving you drugs that improve the way your own insulin works is better for your heart, that is, will prevent heart attacks and prolong life. Obviously, the answer to this question is very important to you as well as to more than 20 million people in the United States, Canada and Mexico and hundreds of millions more people with type 2 diabetes in the whole world, including participating BARI 2D clinics in countries like Brazil, Austria and the Czech Republic.

To get a true answer to this question, half of you were assigned to insulin providing (IP) drugs, the first group mentioned above, and half to insulin sensitizing (IS) drugs,

the second group, by a computerized flip of a coin. This is so the two treatment groups start out equal with the same characteristics and the same chances of having a cardiovascular disease event in the 5 years of follow-up. In 2009, we will learn if one group did any better than the other, and the answer will be correct and completely believable.

Obviously, if we gave all of you both types of drugs, we would learn nothing of benefit to you or all the other people with type 2 diabetes. That is why we ask you to stick faithfully to the drugs you were assigned by chance and why we avoid giving you drugs from the other group as much as possible. But don't worry! If your blood glucose, measured as A1c every 3 months, should stay above an acceptable limit (8.0%), we will give you a drug from the other class to bring your A1c down, whether it requires giving insulin to an IS participant or giving Glucophage or Avandia to an IP participant. Your Diabetes Management Center monitors that too.

So please take your BARI 2D assigned drugs for your diabetes every day. And look forward to seeing the BARI 2D results with us, your research partners, in 2009. We'll then celebrate together a successful conclusion to BARI 2D.

Sincerely,



FOOD FOR THOUGHT:

Expiration Dates: What do they mean?

You may be surprised to find out that expiration dates don't mean as much as many people think they do. Most food is still edible after the expiration date, but may not be very tasty.

Surprising facts about expiration dates:

Stores are not legally required to remove food from grocery shelves once the expiration date has passed. Expiration dates are strictly "advisory" in nature.

Food dating is not federally required in the United States, except for infant formula and baby food. States have varying laws. Most states require that milk and other perishables be sold before the expiration date.

Learn the Lingo of Expiration Dates

This brings us to terminology. Different foods are stamped with different dates.

- ★ "Expiration Date" refers to the last date a food should be eaten or used. Expiration literally means last; after that date, proceed at your own risk.
- ★ "Sell by" refers to the last date the store should sell the product. Don't buy the product after this date.
- ★ "Best if used by" (or "before") is the date that flavor or quality is best. The product is edible after that date, but of lesser quality.
- ★ "Born on" is the date of manufacture and is used to date some products, like beer. Beer can become subpar after three months. Beer is affected by exposure to light, so be especially careful with beer bottled in clear bottles, as opposed to brown or green.
- ★ "Guaranteed fresh" date usually refers to bakery goods. Goods are edible after the date, but are not at peak freshness.
- ★ "Use by" is the last date recommended for the use of the product while at peak quality. The date has been determined by the manufacturer of the product.
- ★ "Pack date" can be found on canned or packaged goods. Pack dates can be tricky and may be in code. It can be month-date-year (MMDDYY) or the date might be converted to the Julian calendar. January would then be 001-031 and December 334-365.

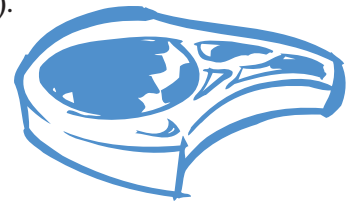
How Long Are Foods Ok to Eat?



- ★ Milk: Usually fine until a week after the "Sell By" date.
- ★ Eggs: Good for 3-5 weeks after you bring them home (assuming you bought them before the "sell by" date

and stored them properly).

- ★ Poultry and seafood: Cook or freeze within a day or two of purchase.
- ★ Beef and pork: Cook or freeze within three to five days of purchase.
- ★ Canned goods: High-acid foods like tomato sauce can keep 18 months or more. Low-acid foods like canned green beans are probably risk-free for up to five years if stored properly. Don't store cans in a hot place like a crawl space or garage.



Food Safety Tips

Since product dates don't give you a true guide for safe use, here are some other tips from the U.S. Department of Agriculture Food Safety and Inspections Services:

- + Purchase the product before the date expires.
- + If perishable, take the food home immediately after purchase and refrigerate it promptly. If you can't use it within the time recommended, freeze it.
- + Foods kept frozen continuously are safe indefinitely. If a perishable product is frozen promptly, it doesn't matter if the date expires.

It is very important to store foods in the right containers. Air tight containers are best. Be sure to follow manufacturer information and government recommendations about keeping food safe during power outages and floods.

In the United States, the USDA Meat and Poultry Hotline is available to answer questions about safe storage, handling and preparation of meat, poultry and egg products. You may speak with a food specialist in English or Spanish weekdays from 10:00 am to 4:00 pm Eastern Standard Time or listen to pre-recorded food safety messages 24 hours a day. Call toll free: 1-888-674-6854 (TTY 1-800-256-7072 for the hearing impaired).

Sources: USDA.gov: Education/Food Safety Food Shelf Life Recommendations, Version 2.0
Consumeraffairs.com: Expiration Dates
WebMed: Do Food Expiration Dates Really Matter?

Note from the BARI 2Day and 2Morrow Staff:

Effective 2006, the BARI 2D patient newsletter will be printed twice a year (Fall/Winter and Spring/Summer)

PATIENT SUCCESS STORIES: A.C.'s Story

A.C. joined the BARI 2D study in August, 2004. He had poorly controlled type 2 diabetes for 19 years. He had used oral drugs to maximum doses with pretty bad control. His usual fasting glucose values were between 160 and 180 mg/dl.

At the age of 55, A.C. had a heart attack, so he quit smoking his daily pack of cigarettes. Six years later, he had angina and a catheterization was done, showing that the three main vessels that supply blood to his heart were significantly occluded. A.C. decided to accept an invitation to join the BARI 2D study.

On entering the study, A.C. had 9.2 % glycated hemoglobin (HbA1c), his bad cholesterol (LDL) was 134 mg/dl and his triglycerides were 200 mg/dl. A.C. was randomly assigned to medical treatment for his heart disease and to insulin for his diabetes. At first, he was quite afraid of using insulin, so an intense talk was needed to address his concerns about using this drug.

A.C. talked to our Diabetes Educator and to our Nutritionist and he started to make changes in his diet and physical activity. His drugs were adjusted and at the fourth month on BARI 2D his HbA1c was 6.1%, his bad cholesterol 84 mg/dl and his triglycerides 68 mg/dl. Now, two years later, all his cardiovascular risk factors (cholesterol, triglycerides, blood pressure, weight, HbA1c, etc.) are under control.

“I have completely changed my lifestyle. Now, I follow the healthy diet that I'd never followed and I do more exercise than when I was younger. Up to now I have avoided surgery!” a happy A.C. says, admitting that he had realized that while using insulin, he hadn't lost his sight or his teeth, as some people had told him to believe.

A.C. celebrated last February his 64th birthday (just like that old Beatles' song) with that happiness of feeling healthier than before, willing to keep on living well.

BEATING DIABETES: Heart failure: What is it?

You may feel just fine, despite being diagnosed with "heart failure" or "CHF-congestive heart failure." Heart failure is a condition where the heart cannot pump enough blood through the body. Heart failure does not mean that your heart has stopped or is about to stop working. It means that your heart is not able to pump blood the way that it should. The heart cannot fill with enough blood or pump with enough force or both. Heart failure develops over time as the pumping action of the heart grows weaker. This leads to:

- ◆ blood and fluid “back up” into the lungs.
- ◆ buildup of fluid in the feet, ankles and legs.
- ◆ tiredness and shortness of breath.

Heart failure is caused by diseases or conditions that damage or overwork the heart muscle. The leading causes of heart failure are coronary artery disease (CAD), high blood pressure and diabetes. CAD, including angina and heart attack, is the most common underlying cause of heart failure. Persons who have a heart attack are at high risk of developing it. Most people with heart failure also have high blood pressure, and about one in three has diabetes.

There is not a specific test to determine if you have heart failure. A clinical diagnosis is usually made when symptoms appear. The symptoms – shortness of breath, tiredness and fluid buildup – are common in other conditions as well. Your doctor will determine if you have heart failure by doing a detailed medical history, a physical examination and several tests. If you are diagnosed as having heart failure, it is important to seek and continue treatment. Your physician, nurse and dietitian can help you take action. Your doctor will prescribe medicines to help improve your heart function and symptoms. The goals of treatment are to:

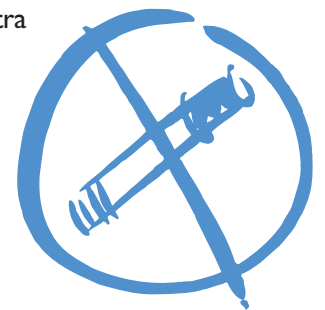
- ▼ treat the underlying cause of your heart failure.
- ▼ improve your symptoms and quality of life.
- ▼ stop your heart failure from getting worse.
- ▼ prolong your life span.

There are things that you can do to help with your treatment. Your doctor will recommend that you:

- ✓ follow a diet low in salt. Salt can cause extra fluid to build up in your body making your heart failure worse.
- ✓ exercise as directed to help build up your fitness level and ability to be more active.
- ✓ lose weight if you are overweight.
- ✓ quit smoking if you smoke.

Should you or someone you know develop heart failure, be assured that a productive life is still possible!

Adapted from the National Heart, Lung, and Blood Institute Diseases and Conditions Index: Heart Failure





SAUTÉED MINI CHICKEN (OR TURKEY) BURGERS WITH HERBS

Prep and cook time: 20 min

8 servings of 2 small burgers each

2 pounds ground chicken or turkey

1 1/2 teaspoons minced garlic (3 cloves)

1/2 cup minced fresh parsley

1/2 teaspoon dried oregano

1/2 teaspoon dried basil

2 tablespoons lemon juice (about 1/2 lemon)

1/2 cup bread crumbs

1-2 tablespoons olive oil

1. Combine all ingredients except breadcrumbs. Season with salt and pepper. Form into small patties and press into bread crumbs (in shallow dish) to coat each side. You will have 16 mini patties.

2. In large nonstick skillet, heat the oil over medium heat. Cook patties until they are browned on each side and cooked through, about 10 minutes total.

3. Serve hot over a spinach salad or with your favorite veggie side. No bun required.

Cal: 210

Total fat: 11 gm

Sat fat: 2.5 gm

Chol: 95 mg

Sodium: 140 mg

Total carb: 5 gm

Dietary fiber: 0 gm

Protein: 21 gm

Sugar: 0 gm

Exchanges:

3 Medium Fat Meat

1/2 Starch

BEAT OF BARI 2D: Coffee Consumption and the Heart

Many of us can't start a day without a cup of caffeinated coffee. It's often a tradition to end a meal with a cup of joe as well and why not? Coffee is appreciated for its aroma, the "buzz" we feel and its low number of calories (when consumed black).

But what are we really getting from a cup of coffee? Is it a healthy beverage to consume for those treated for heart disease?

Are there benefits to drinking coffee?

Coffee contains some healthy compounds we call plant phenols that can play a role in protection against heart disease. These same compounds are found for example in a variety of fruits and vegetables. There have been some limited health benefits linked to coffee. Human studies have found that coffee drinkers have a lower risk of Parkinson's disease.

What about caffeine?

Coffee accounts for about 70 percent of the caffeine we consume. Sensitivity to caffeine increases with age, so you might find that you feel the effects more quickly each year. Small amounts of caffeine (less than 300 mg) tend to improve your mental acuity, physical performance, reaction time and even your mood! However, after consuming 400-500 mg of caffeine, performance and mood can be adversely affected.

Some folks relate difficulty sleeping to caffeine consumption; it appears that caffeine acts from approximately 20 minutes after drinking and its effects can last for up to 10 hours. This varies from person to person.

The Bottom Line...

Moderate amounts of coffee (not more than 2-3 cups per day) probably do not increase the risk of coronary heart disease, raise cholesterol or disrupt heart rhythm. Just remember that unless you drink it black or with artificial sweetener only, you could be adding a significant number of calories that are not providing much in the way of good nutrition.

Here are some average caffeine and calorie levels of popular coffee drinks.

Please note that decaffeinated beverages also contain some caffeine:

Beverage	Caffeine (mg)	Calories
Decaffeinated Coffee 12 oz	10	5
Decaffeinated Coffee 20 oz	20	15
Starbucks Caffee Latte, tall 12 oz	90	120
Starbucks Espresso, solo 1 oz	90	5
Coffee filtered, drip 8 oz	100	2
Starbucks Coffee Frappuccino, grande 16 oz	170	260
Starbucks Caffee Latte, venti 20 oz	270	340
Regular Brewed Coffee 12 oz	300	5
Regular Brewed Coffee 16 oz	400	10
Regular Brewed Coffee 20 oz	500	15

Resource: Center For Science in the Public Interest Nutrition Action Health Letter, June 2006.

BARI 2D Frequently Asked Questions

Regular eye exams – Why are they important for people with diabetes?

- ▲ Diabetes increases your risk for eye diseases, including diabetic retinopathy, cataracts and glaucoma.
- ▲ Blood sugar self-management and annual dilated eye exams will reduce your risk of developing vision loss.
- ▲ Early detection of problems is critical since prompt treatment can prevent or reduce vision loss.
- ▲ There may be no symptoms to alert you that a problem is occurring.
- ▲ You should have your eyes examined at least once a year.

What is the most common diabetic eye disease?

- Diabetic retinopathy is the most common.
- In the United States, it is the leading cause of blindness in adults.
- It is caused by changes in blood vessels within the retina, the inside lining of the back of the eye.
- In some cases the blood vessels may swell and leak fluid or there may be overgrowth of new blood vessels resulting in vision loss or blindness.

What are the symptoms of diabetic retinopathy?

- There may be no symptoms while the disease is developing. Vision may not deteriorate until the disease has become severe.
- There is no pain.
- Blurred vision may occur if the macula, the central part of the retina, swells from leaking fluid. This is known as macular edema.
- If blood vessels overgrow on the retina, they can bleed into the eye, blocking vision.

What is the treatment for diabetic retinopathy?

- * Laser surgery, a procedure in which a strong light beam is focused on the retina, may be recommended

by your eye care professional. Laser surgery and appropriate management can substantially decrease the risk of blindness.

What other eye diseases may occur with diabetes?

- * Cataracts, a form of clouding that develops in the lens of the eye, develop at an earlier age in people with diabetes.
- * Cataracts can usually be treated with vision improvement through an operation in which the clouded lens is removed and replaced with a new lens implant. In some cases cryotherapy is performed to remove the clouding protein matter from the natural lens.
- * Glaucoma occurs more often in people with diabetes.
- * Glaucoma is caused by a number of different eye diseases which in most cases produce increased pressure within the eye. This elevated pressure is caused by a backup of fluid in the eye. Over time, it causes damage to the optic nerve.
- * Glaucoma can be treated with eye drops, pills, laser surgery, eye operations or a combination of methods.

What can you do to protect your vision?

- * Good blood sugar control will reduce your risk of developing diabetic eye disease and will reduce the progression of existing disease.
- * Regular eye exams will uncover any existing problems to allow early treatment and follow-up care.

Through early detection, diagnosis and treatment, you and your doctor can help to preserve your vision.

Sources: *Preventive Care Guards Against Vision Loss of Diabetic Eye Disease, Health and Wellness, Winter 2005*

THE GLAUCOMA FOUNDATION©, www.glaucomafoundation.org
www.healthline.com

MOVING RIGHT ALONG: Get Moving

Why is it that about 75 percent of all Americans have trouble meeting the public health recommendations of light to moderate physical activity for 30 minutes a day? Research shows that women are less likely to exercise than men and that women participate less in physical activity as they get older.

Researchers from the University of Michigan and the University of Southern California at Los Angeles looked at motives that discourage women from exercising. Their findings showed that women using exercise to lose weight or to change body shape were less likely to participate in exercise. Women who had other motives, such as exercising for stress reduction, to maintain health and vitality, or for simple enjoyment, were more likely to engage in physical activity.

So, if you are having trouble getting motivated to exercise, ask yourself what you want from the exercise. Answers that include “feeling good mentally and physically,” “enjoying the view and fresh air,” “feeling good because I am doing something good for my body,” or “it helps me relax and sleep better” show that you have the motivation to be successful in meeting physical activity recommendations. Focus on these positive motives to get up, get going and keep going every day for your benefit and enjoyment.

Reference: Segar M, Spruijt-Mets D, Nolen-Hoeksma S. *Go Figure? Body Shape Motives are Associated with Decreased Physical Activity Participation in Midlife Women. Sex Roles, 54:3/4, 175-87, Feb 2006.*

A Clinical Study
BARI 2D



BARI 2Day & 2Morrow

Fall 2006 / Winter 2007

BARI 2Day & 2Morrow Staff

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