

BE Healthy

Sponsored by



Boston Public Health Commission

A BANNER PUBLICATION

© FEBRUARY 2007

NO. 6

Heart Disease: Unhealthy lifestyles are a factor

The exact medical term is myocardial infarction.

It comes from Greek and Latin meaning heart (cardio) and muscle (myo). Infarction is derived from the word *farcire* — meaning to plug up — and refers to the death of tissue due to lack of blood supply.

In plain English, myocardial infarction is a heart attack.

In more cases than not, it is caused by a blockage of one or more arteries leading to the heart. Those arteries transport much needed oxygen and other nutrients to the heart, and if blocked, the heart muscle begins to die.

As a cardiologist at Brigham and Women's Hospital and Chief

of the Division of Women's Health, Dr. Paula Johnson has seen her share of heart attacks and discusses that painful condition within the larger context of coronary heart disease.

Heart disease is the leading cause of death for both men and women in this country. It doesn't discriminate by race and accounts for roughly 30 percent of all deaths in a given year. Heart attacks alone

account for one out of every five of those deaths.

The exact number of heart attacks is not known since a percentage goes undetected — reasonable estimates hover around a million each year. What is known is that an estimated 300,000 people die each year before seeking medical help. What is also known is that heart attacks are a major cause of sudden death in adults.

Heart attacks are not necessarily fatal. Clot-busting drugs and other procedures used to open the arteries, such as angioplasty, can stop a heart attack and minimize the damage. But time is a factor. These treatments work better if performed within one hour of the start of symptoms.

The key is to recognize the symptoms of an attack and seek immediate medical attention.

Dr. Johnson has two bits of advice, especially for those with well-known risk factors such as high blood pressure, diabetes, high cholesterol and obesity. Smokers are particularly vulnerable. Family history and aging also play a role.

Perhaps the first, and arguably the more important, is to see a doctor immediately to learn how to minimize the impact of the risk factors and avoid a heart attack. The second is for patients to remain eternally vigilant about their condition and ongoing treatment.

"We as doctors really can't cure the disease," Dr. Johnson said. "It's a matter of treating it, and a lot of it depends on whether a patient is able to make the necessary changes in their lifestyles to remain as healthy as possible."

The culprit is atherosclerosis — fatty deposits, or plaque — that clog the arteries of the heart. In some instances, the plaque grows large enough to narrow the artery, reducing the flow of blood. An even more serious condition occurs when the plaque ruptures, causing the formation of blood clots that can partially or completely block blood flow. Clots can also break off and travel to other parts of the body. If a clot reaches the brain, for instance, it can cause a stroke.

The impact of atherosclerosis is great. It is the most frequent cause of myocardial infarction and angina, another word with Greek roots. Back then it meant "stran-

gling." But it is now used to describe the condition in which spasmodic attacks of pain occur, usually as a result of the lack of oxygen to the heart muscle.

Stable angina, the most common type of chest pain, results from physical exertion or extreme emotion during which the heart pumps faster and harder, thus requiring a greater supply of blood. Rest and medication can typically relieve stable angina.

Unstable angina, on the other hand, is more serious. It can occur even at rest, and does not respond to medication. Unstable angina poses a medical emergency, and is a sign that a heart attack could occur soon.

Not all heart attacks are alike. Some are sudden and intense. People have likened it to a herd of elephants stampeding on their chests. Heart attacks can be deceiving, however. Some start as a mild pain in the middle of the chest; in

Heart Disease, continued to page 4



It's not always what you think

SIGNS AND SYMPTOMS of a HEART ATTACK

Many people don't recognize the symptoms of a heart attack. They expect a severe, constant pain, but in actuality, the pain may be mild and come and go. Patients whose experience does not match their expectations wait too long before seeking treatment. The delay is costly. Call 911 should you experience:

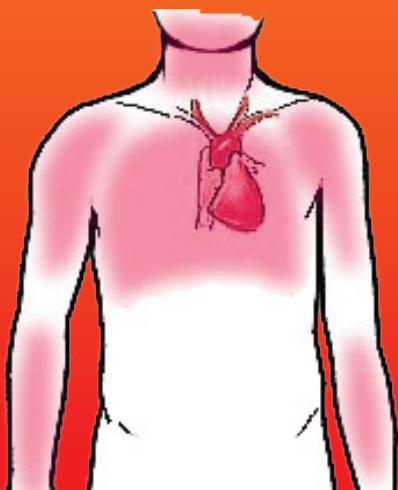
- ◆ Chest pain or discomfort, usually in the center of the chest that lasts for more than a few minutes, or goes away and comes back. The discomfort can feel like a burning, numbness, pressure, squeezing or fullness. It is sometimes thought to be indigestion or heartburn.
- ◆ Pain or discomfort in one or both arms, the back, neck, jaw or stomach
- ◆ Shortness of breath
- ◆ Cold sweat, nausea or lightheadedness

Women may also experience:

- ◆ Excessive fatigue
- ◆ Indigestion that is not relieved by an antacid

Emergency medical services personnel can begin treatment immediately. Patients with chest pain who arrive by ambulance are often treated more quickly upon arrival at the hospital.

Source: American Heart Association
Cleveland Clinic



Seconds matter

Rich Serino should know a thing or two about heart attacks.

He has worked at Boston Emergency Medical Services (EMS) for the last 34 years and has been chief since 1999.

In the last year alone, Boston EMS responded to 6,894 calls involving cardiac distress across the city. Nearly 35 percent of those calls were made from Roxbury, Dorchester and Mattapan.

By way of comparison, Boston EMS responded to about 439 calls involving gunshots — and many of them didn't require sending emergency personnel. In all, Boston EMS responded to 97,344 ambulance calls last year.

Heart attacks are a priority. "The first thing that people have to recognize is that they must call 911," Serino said. "Time is of the essence. There are so many more things that doctors can do in a hospital, so someone is much better off the sooner we can get to them."

On average, it takes Boston EMS a little more than six minutes to arrive at a caller's door. The department has 20 ambulances and other vehicles to transport emergency cases and uses 11 different emergency rooms throughout the city.

But it starts with the telephone call to 911. A call-taker at police headquarters in Roxbury routes the call to police, fire or medical. For medical, a trained Emergency Medical Technician (EMT) determines the level of urgency by asking basic questions at first — address, telephone number — and then more medical questions, starting with a description of the symptoms.

If the situation requires immediate attention and response, the EMT then dispatches an emergency vehicle to the location and, if needed, is able to deliver medical instructions — cardiopulmonary resuscitation (CPR), for example — over the telephone while the ambulance is en route.

EMS, continued to page 4

February 2007
S M T W T F S
1 2 3

February is National Heart Month

Jump Up and Go! 2sDays Challenge



Students from Roxbury's Orchard Gardens K-8 School (left) and Dorchester's Sarah Greenwood School are among 35,000 Massachusetts students who will be participating in the 2007 Jump Up and Go! 2sDays Challenge.

While genetics plays a role in cardiovascular disease, so does lifestyle. Research indicates that one of the most effective ways to prevent heart disease is to reduce the major risk factors that can contribute to its development, such as high blood pressure, high cholesterol, obesity and smoking. Reducing those risk factors can be accomplished by adopting healthy lifestyle habits, such as getting regular exercise and eating a healthy diet that is rich in high fiber foods, such as fruits and vegetables, as well as avoiding tobacco use.

Like all habits, the earlier they are formed, the better are the chances that they will become lifelong ways of living. One of the ways some Boston-area schools are trying to introduce these healthy habits to their students is by signing up for a Blue Cross Blue Shield of Massachusetts (BCBSMA) program called the Jump Up and Go! 2sDays Challenge.

Sponsored by BCBSMA's Jump Up and Go! youth health program, the 2sDays Challenge invites parents and teachers to help children designate the second Tuesday of each month from February to April as a day when their screen time — time spent watching TV, playing video games, or surfing the internet — will be limited to two hours. The hope is that this break from the screen will encourage children to spend that time engaged in healthier, less sedentary activities instead.

Children who watch more than two hours of TV a day are likely to experience:

- **Increased likelihood of being overweight and, as a result, an increased risk for diabetes, asthma and cardiovascular disease later in life**
- **Decreased interest in school activities and lower academic scores**
- **Less time being physically active and other more beneficial activities, like doing homework and spending time with family**
- **Increased exposure to advertising for fast food, sugared cereals and snacks**
- **Preferences for unhealthy snacks, specifically soda and other food low in nutritional value instead of fruits and vegetables**

To help motivate children to participate in the 2sDays Challenge, prizes will be awarded to participating students throughout the three-month challenge, and an end-of-year celebration will be held for those students in June at

the TD Banknorth Garden.

Participation in the Challenge is free, and BCBSMA will send out the Jump Up and Go! 2sDays Challenge kit — which includes the students' reward items, 2sDays activity logs and teacher instructions — to every school that requests one. There are still a limited number of openings available for this year's 2sDays Challenge. To register your school, call (617) 246-4649.

The two-hour screen time limit of the 2sDays Challenge corresponds to the Jump Up and Go! program's '5-2-1' message for healthy living. The '5-2-1' message encourages children to eat five or more fruits or vegetables a day, limit screen time to no more than two hours a day, and participate in at least one hour of daily physical activity.

Take care of your heart ... it works hard for you!

In recognition of National Heart Month this February, here is some information on how to take active steps to lower your risk of developing heart disease.

You Are What You Eat

A healthful eating plan means choosing the right foods to eat and preparing foods in a healthy way. Work with your doctor to develop a healthy lifestyle with a diet rich in fruits, vegetables, whole grains and lean proteins that is low in fat, cholesterol and sugars.

Exercise & Fitness

Heart disease can be a result of obesity and an inactive lifestyle. Excess weight increases the heart's work, raising blood pressure and cholesterol levels. Regular exercise, meanwhile, can help increase your HDL level — the amount of "good cholesterol" your body produces. Health experts advise that getting 30 minutes to one hour of moderate to vigorous exercise every day can help your heart.

Another Reason to Quit Smoking

Research reveals that smokers' risk of developing coronary heart disease is two to four times that of nonsmokers. Exposure to secondhand smoke has also been shown to increase an individual's risk, even if that person is not a smoker.

See the Dentist

A growing body of evidence points to a link between periodontal disease — chronic infection of the gums — and heart disease. Multiple studies have shown that people who have periodontal disease are almost twice as likely to suffer from coronary artery disease as those who don't. Chronic gum disease can also worsen existing heart conditions. A common theory is that over time, chronic oral infections can poison the bloodstream with dangerous bacteria that travel to the heart and contribute to its weakening or its disease. To help guard against these dangers, keep regular appointments with your dentist and take proper care of your teeth — brushing and flossing as your dentist recommends.

For more information on coronary health, visit the AHA at www.americanheart.org or Blue Cross Blue Shield of Massachusetts at www.ahealthyme.com.

For more information on exercise and fitness, visit the American Council on Exercise at www.acefitness.org or BCBSMA's website at www.ahealthyme.com.

Your heart works hard all your life. Take one day to say thanks.

Your heart pumps an average of 300 quarts of blood per hour, and will beat over 2 trillion times during your life. To thank the hardest working organ in your body, take just one day to visit your doctor and make sure that your heart is in good shape.



MASSACHUSETTS

Blue Cross Blue Shield of Massachusetts is an Independent Licensee of the Blue Cross and Blue Shield Association

Heart Disease

Questions & Answers

1. Chest pain, a common indicator of a heart attack, is a symptom of other illnesses as well. How can a person determine whether chest pain is from something other than a heart attack?

Frequently, chest pain or pressure that is associated with heart disease occurs with physical exertion or with other types of stress, such as emotional stress. It can also occur after meals and can sometimes be confused with a bad case of indigestion. The chest pain or pressure that relates to heart disease can also occur with other symptoms, such as shortness of breath, sweateness or even nausea. If you are experiencing these symptoms and they are different from what you have experienced in the past, it is important that you seek help from your physician.



Leroi S. Hicks, M.D., M.P.H.
Associate Physician
Brigham and Women's Hospital

2. Of the six major controllable risk factors for heart disease — diabetes, high cholesterol, high blood pressure, obesity, inactivity, and cigarette smoking — is there one factor principally responsible for most of the associated risk?

Although each risk factor is important, if you have diabetes, your risk of developing heart disease is very high. In fact, if you are diabetic you will be treated as if you have heart disease, using medications to lower your cholesterol and blood pressure, as well as aspirin. It is also important for you to know that if you have more than one risk factor, your risk of heart disease increases significantly. Each of the other risk factors is equally important and each of them should be addressed aggressively.

3. At what age should people begin screening for heart disease?

It is never too early to screen for the risk factors for heart disease, especially if you have a family history of heart disease or stroke. Unfortunately, greater numbers of children are developing Type II diabetes, and therefore it is important for pediatricians to look for risk factors at a young age.

4. Some heart attacks are silent, that is, a person experiences no symptoms. What should a person do to determine whether or not he or she has had an attack?

It is important to have a routine electrocardiogram (EKG) when you have your yearly physical examination. Although the EKG is not a perfect test, it can be an indicator that something has gone wrong. People with diabetes are more likely to have silent heart attacks. If you have diabetes, you should talk with your physician about having a stress test, even if you aren't having symptoms.

5. How does cigarette smoking damage the heart?

The toxins in cigarette smoke can promote the development of plaque in the arteries. In addition, the nicotine in the cigarette smoke causes the blood vessels to constrict, increasing blood pressure. Cigarette smoking also will decrease your ability to exercise, therefore increasing your risk. Your HDL, the "good" cholesterol, will decrease if you smoke. Women who take birth control pills and smoke are at much higher risk of heart disease and stroke.

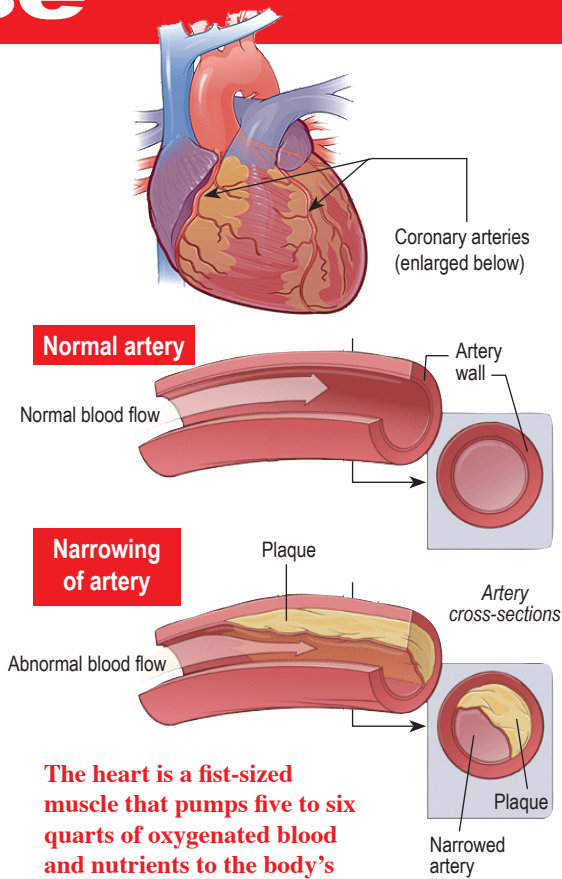
Cigarette smoke not only damages the blood vessels going to the heart but it damages blood vessels going to all of your major organs. Smokers are two to three times more likely to die of heart disease, and smoking is the leading cause of premature death in the United States.

6. Why is diabetes considered a risk factor for heart disease?

Type II Diabetes, especially when blood sugar is not well controlled, can damage the blood vessels going to the heart and to the rest of the major organs. People with diabetes are far more likely to suffer heart attacks, heart failure, and strokes. In addition, people with diabetes are more likely to have other risk factors for heart disease, such as obesity, abnormal cholesterol levels and high blood pressure, and are more likely to not exercise. The good news is that many of these risks are in your control. If you have diabetes, it is critically important that you work with your physician to control your blood sugar levels.

7. What is the maximum amount of time a person should wait before calling 911 if symptoms of a heart attack occur?

If you think you are having a heart attack, it is important to call 911 as soon as possible. Every minute counts and each minute that you do not receive care, the more likely it is that heart muscle is dying.



The heart is a fist-sized muscle that pumps five to six quarts of oxygenated blood and nutrients to the body's tissues each minute. The heart itself receives its blood supply from a network of vessels called the coronary arteries. In coronary heart disease, the most common and fatal type of heart disease, plaque develops in the arteries of the heart, partially or completely blocking the flow of blood. The blockage can lead to a heart attack or a cardiac arrest, in which the heart suddenly stops beating. Heart disease is the leading cause of death in this country.

Source: National Heart Lung and Blood Institute

RISK FACTORS

Risk factors are characteristics that can increase your chance of heart disease.

Some risk factors cannot be changed.

- **Age** — The incidence of heart disease increases with age. The majority of deaths from heart disease occurs in people age 65 and older.
- **Gender** — Although males are more prone to heart disease and at a younger age, after menopause, the risk increases in females.
- **Family history** — A father or brother diagnosed before age 55, or a mother or sister diagnosed before age 65, increases a person's risk.
- **Race** — Due to higher frequency of hypertension and diabetes, blacks are more likely to have heart disease.

Other risk factors can be controlled through screening, medicine, and lifestyle changes.

- **High blood pressure**
- **High blood cholesterol**
- **Diabetes**
- **Obesity, particularly a large waist**
- **Inactivity or lack of exercise**
- **Cigarette smoking**
- **Stress and anger**

Healing the racial divide in health care

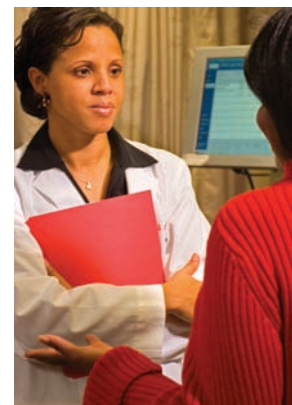
Dr. Elizabeth Garner is tackling the cruel paradox of cervical cancer affecting women of color.

In Boston, black women are more likely to be screened for cervical cancer than white women. Yet, paradoxically, black women are more than twice as likely to die from the disease. Boston is not alone. Nationally, deaths from cervical cancer are higher among blacks, Latinas, and immigrant women.

Elizabeth Onyemelukwe Garner, MD, MPH, a gynecologic oncologist at Brigham and Women's Hospital, is committed to eliminating this tragic health disparity.

Cervical cancer is largely preventable, and is highly curable if detected and treated early. Since the advent of the Pap smear 60 years ago, the number of women who die from cervical cancer has fallen steadily. But most women who get the disease have never had a Pap smear.

Dr. Garner's research shows that even women who do get regular Pap tests do not understand the purpose of the test, and may not see a doctor after an abnormal result. Some patients and doctors may be unaware that free follow-up care and treatment are available for uninsured women. Language, cultural barriers, and discrimination also contribute to disparities.



Elizabeth Onyemelukwe Garner, MD, MPH, is a gynecologic oncologist at Brigham and Women's Hospital and Dana-Farber Cancer Institute.

Almost all cases of cervical cancer are caused by the Human Papillomavirus, HPV, the most common sexually-transmitted infection. Dr. Garner found that, among women of color and low socioeconomic status, awareness of HPV is low. A new HPV vaccine was approved last June by the Food and Drug Administration, but education about HPV is essential to the success of a vaccination program.

When the Massachusetts legislature passed its landmark health reform measure, lawmakers wisely and compassionately included \$4 million for breast and cervical cancer screening and treatment for low-income uninsured women.

In the Boston area, free cervical cancer screening and follow-up care are available in community health centers through Partners HealthCare and the state's Women's Health Network program.

Dr. Garner is outspoken about cervical cancer. "No woman should die from a disease that can be so easily prevented."

For information on free screening call Breast and Cervical Screening Collaborative 1-800-449-0344.

BRIGHAM AND
WOMEN'S HOSPITAL

PARTNERS
HEALTHCARE
A charitable non-profit organization

MASSACHUSETTS
GENERAL HOSPITAL

others, the symptoms may come and go. In still others, the attack is silent and without warning.

The typical signs of a heart attack include shortness of breath, uncomfortable chest pain, and discomfort in other parts of the upper body — one or both arms, back, neck, jaw and stomach. Less common signs are nausea, sweating, or lightheadedness.

There are gender differences as well. “Women can have atypical symptoms that are difficult to diagnose,” Dr. Johnson explained. “It can be overwhelming fatigue or a feeling similar to indigestion that can’t be relieved with an antacid.”

Dr. Johnson further explained that standard diagnostic tests, such as x-rays of the arteries of the heart and stress tests, have often failed to reveal heart disease in women. Part of the reason is that some women experience microvascular dysfunction in which the smaller vessels of the heart become obstructed.

Although largely considered a man’s disease, heart disease is the leading cause of death in women, and increases in incidence after menopause.

To a large extent, coronary heart disease is preventable. Some factors, such as age, gender, and family history, including race, are not changeable. But several other risk factors can be modified and controlled through proper screening, lifestyle changes and medications.

Dr. Johnson has seen countless patients who are willing to make changes in their lifestyles but are unable to because of other physical ailments or lack of money.

Take exercise for one. It’s a well-known fact that 30 minutes of exercise a day can help speed up the heart rate and increase the flow of blood throughout the body. But what happens if a person has arthritis or a recent hip replacement? In those cases, Dr. Johnson suggests consulting with a patient’s primary care physician and possibly seeing a physical therapist.

More troublesome is nutrition. “Many people really want to eat in a healthier way,” Dr. Johnson said. “And even when people do understand the importance of nutrition, they might not be able to afford to eat a generous diet of fruits and vegetables, which really can be expensive.

What we must do as medical professionals is work with patients to improve their diets on a tight budget.”

When it comes to heart disease, Dr. Johnson adds, “Everything is inter-related.”

The most common controllable risk factors are diabetes, high blood cholesterol, high blood pressure, obesity, cigarette smoking and physical inactivity.

Although each factor by itself increases the risk of heart disease, factors often occur in clusters, further increasing the risk. The metabolic syndrome — a combination of moderately elevated blood pressure, abnormal cholesterol levels, and obesity, especially excess fat around the waist — is felt to be a strong indicator of heart disease. According to a recent study in the American Heart Journal, roughly 25 percent of the American population have the metabolic syndrome.

Screening plays a pivotal role in controlling or preventing heart disease. All the risk factors that make up the metabolic syndrome can be detected by simple and painless examinations. A mild pinprick can obtain enough blood to test for diabetes and total cholesterol — although a more sophisticated blood test is required to determine specific cholesterol levels, including HDL (“good”) and LDL (“bad”) cholesterol, and triglycerides.

A blood pressure cuff reveals blood pressure. A body mass index chart, using your height and weight, can determine obesity. And a common tape measure can reveal waist size.

Dr. Johnson was adamant about reducing the risks factors. She said she understands the difficulty in quitting smoking, for instance. She said she also understands just how busy many people are these days and the tendency to ignore medical problems.

But heart disease is very serious and requires a long-term commitment — even if many of the medical terms really are Greek.

“If anyone is diagnosed with the disease, they should be as aggressive as possible with the appropriate treatments,” Dr. Johnson said. “That means knowing your blood pressure and cholesterol levels, controlling diabetes, and exercising, for example. It is important to have tangible goals to reduce your risk of heart disease.”

“Most important,” Dr. Johnson said, “it means being vigilant about one’s health.”



Paula A. Johnson, M.D., M.P.H.
Chief, Division of Women’s Health
Executive Director, Connors
Center for Women’s Health and
Gender Biology, Brigham and
Women’s Hospital

A Quiz for the LADIES

What is the leading cause of death in women?

- Lung cancer Ovarian cancer
Breast cancer Heart disease

Although lung cancer is the leading cause of cancer deaths in women, heart disease kills more women than lung, breast, and ovarian cancers combined. Women account for almost half of all heart attack deaths each year, and are less likely to survive a heart attack than men.

It’s All About the Numbers

Test	Desired
Blood Pressure	120/80 mm Hg or lower
Total Cholesterol	Less than 200 mg/dL
● HDL — “Good” Cholesterol	Greater than 40 mg/dL
● LDL — “Bad” Cholesterol	Less than 100 mg/dL
Triglycerides	Less than 150 mg/dL
Blood Glucose	
● Fasting	Less than 100 mg/dL
● Random (after eating)	Less than 140 mg/dL
Body Mass Index (BMI)	18.5 - 24.9
Waist Circumference	
● Women	under 35 inches
● Men	under 40 inches

Sources: American Heart Association, American Diabetes Association

FREE CARDIOVASCULAR SCREENINGS

for high blood pressure, high cholesterol, diabetes, obesity (Body Mass Index)



The Family Van is temporarily housed in the Blum Family Resource Center Van.

Date	Institution	Address	Time
February 1, 8, 15, 22	Family Van	Codman Square	9 AM - 12 noon
		Grove Hall	1:30 - 4 PM
February 2, 16, 23	Family Van	Uphams Corner	9 AM - 12 noon
		Mattapan Square	1:30 - 4 PM
February 5, 12, 26	Family Van	Dudley Square	1:30 - 4:30 PM
February 6, 13, 20, 27	Family Van	Fields Corner	9 AM - 12 noon

For more information call The Family Van at (617) 442-3200

Let’s say a caller is experiencing chest pains and shortness of breath. The call is immediately categorized as a high priority and given preference over lower priority calls such as fractures, minor injuries or wound infections.

The questions might seem time-consuming but are important to make sure you receive the appropriate help for your particular situation. Do you have chest pains? When did they start? What were you doing when they started? Was the pain intense right away or did it gradually get worse? Do you have other symptoms — nausea, sweating, lightheadedness? How bad is the discomfort?

The emergency crew is equipped with advanced life support, 12-lead electrocardiograms (EKGs), oxygen tanks and all sorts of medicines — everything

from adult aspirin to nitroglycerin and morphine. In other words, it’s an emergency room on wheels.

Once on site, emergency medical personnel can take vital signs, assess your medical condition and, with a defibrillator, get a stopped heart pumping again. Using an EKG, they can record the electrical activity of the heart, as well as abnormal blood flow and irregular heartbeats. The EKG will tell them if a heart attack has occurred and the extent of damage. They can administer nitroglyc-

erin to relax blood vessels and morphine to ease the pain.

Communication is critical. En route to the hospital room, an EMT calls in to the emergency room. They determine where a patient should be taken. Depending on the situation, it could be to the emergency room or directly to a lab that is equipped with cardiac catheterization equipment to immediately diagnose and treat the attack.

But Serino is quick to point out that none of the city’s emergency services can start without that initial

telephone call to 911.

He explained that in some cases, a person having a heart attack either doesn’t recognize the symptoms or is in denial. “The biggest lag time we have in getting [our personnel] to a call is getting a patient to recognize that they are having a cardiac event,” Serino said. “Sometimes a person is in serious denial, believing that they couldn’t be having a heart attack because they believe they are healthy.”

All too often, that simply is not true, and in heart attack cases, seconds matter. “We can get to you pretty quickly,” Serino said. “And what we are really doing is bringing an emergency room to your house.

But the biggest lag time that we have is getting people to initiate the telephone call.”

“The first thing that people have to recognize is that they must call 911. Time is of the essence.”

— Rich Serino