

## February - Men's Focus

### Medical Enemy #1: Heart Disease

Ask any man what medical problem worries him most and he's likely to say prostate cancer — or possibly even erectile dysfunction. But the number one threat to American men's health is heart disease. A man's risk of developing heart disease remains stubbornly high and has not declined appreciably in the last 10 years.

Today a healthy 40-year-old man faces a 49% chance of developing coronary artery disease during the rest of his life; for women the risk is 32%. This is in spite of the fact that the heart disease rate has fallen by about 60% since its peak in 1950 due to the remarkable progress scientists have made in understanding the causes of coronary artery disease and in diagnosing and treating it.

#### The Toll of Heart Disease

Heart disease is the leading cause of death in the United States. Except for the flu epidemic of 1918, it has held that dubious distinction every year since 1900.

- Nearly 2,500 Americans die of heart disease each day — that's one every 35 seconds.
- More than 71 million American adults are living with some form of cardiovascular disease (diseases affecting the heart or blood vessels), including 13 million with coronary artery disease.
- About 1,200,000 Americans will have heart attacks this year, and over 220,000 will die as a result.

Coronary artery disease is so common that most men assume it's an inevitable part of the aging process. But it's not. In fact, heart disease is largely preventable. The key is to understand what causes it, know the factors that put you at risk, and then take steps to reduce your risk.

#### What is coronary artery disease?

Coronary artery disease is the result of a process called atherosclerosis. Atherosclerosis is usually called "hardening of the arteries." It's a slow-developing disease involving blood vessels anywhere in the body. The middle layer of an artery becomes filled with soft, mushy material. Only later does the artery develop stiffness and hardening (sclerosis).

It begins when LDL ("bad") cholesterol gets into the artery wall. HDL ("good") cholesterol carries away some LDL cholesterol from the arteries so the liver can get rid of it. But if LDL accumulates

in the artery wall, free radicals — molecules that can damage cells — can turn it into oxidized LDL. It's oxidized cholesterol that gets atherosclerosis started because it triggers inflammation in the artery wall.

Until recently, doctors wrongly assumed that deposits of cholesterol — called plaques — were simply passive and that the largest plaques were the most dangerous. But smooth muscle cells in the artery wall enlarge and try to form a hard cap over the inflammatory plaque. Large plaques with firm caps are serious: They narrow coronary arteries and reduce blood flow. They also cause angina, the chest pain that develops when the heart muscle can't get the oxygen-rich blood it needs. But it's the smaller, softer plaques that cause heart attacks when they rupture, triggering the formation of a blood clot. It's the clot that finally blocks the artery, killing the heart muscle cells that depend on the artery to supply oxygen. And if enough muscle cells are damaged, the heart may never recover.

### **Know your risks**

America's heart disease epidemic began in the 1920s and 1930s. From the earliest days, doctors suspected that being male, advancing age, a family history of heart disease, and diabetes were important contributors to coronary artery disease. But they didn't begin to suspect smoking, the most dangerous risk factor of all, until the 1950s. The cholesterol connection wasn't made until the 1960s. Now, 10 major risk factors have been firmly identified:

- Risk factors you can't change
  - Male gender
  - Family history
  - Advancing age
- Risk factors you can change
  - Smoking or using tobacco; exposure to passive smoke
  - Abnormal cholesterol – high LDL, low HDL
  - High blood pressure
  - Lack of exercise
  - Diabetes
  - Obesity
  - Psychological factors such as stress, anger, depression, and social isolation

Many of these risk factors can be improved by simple lifestyle changes and, if necessary, medications to improve cholesterol, lower blood pressure, and manage diabetes.

### **"Why me?"**

Sometimes a person has a heart attack in spite of having few if any risk factors. Why? Scientists have identified five new risk factors that answer this question:

1. C-reactive protein — a measure of inflammation
2. Fibrinogen — a clotting protein
3. Triglycerides — a blood fat
4. Lipoprotein (a) — a blood fat

## 5. Microalbuminuria — protein in the urine

Many other markers of inflammation in arterial plaques are emerging as risk factors, all reflecting the active — and destructive — nature of inflammation. On the other hand, some new research has cast doubt on the importance of previously accepted risk factors. One example is homocysteine, a blood amino acid. Although doctors had good reason to suspect that a high level of homocysteine contributed to atherosclerosis, large studies have found that treating high homocysteine is of no benefit. The same is true for the bacterium, *C. pneumoniae*.

### **What you can do**

Don't wait for a heart attack to happen. Instead, evaluate your personal risk; then take action to stay healthy. You can use the [Framingham Heart Attack Calculator](#) to find out your heart attack risk.

Next in our series: Exercise – No pain, big gains.

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