

# Are you at risk of Heart Attack?

A common answer would be “I feel fine” or “I have no chest pain” or “I have no problem.” This answer may be true in majority of the cases. However, feeling fine and not having symptoms of heart disease is no guarantee against having silent coronary artery heart disease, which may lead to a heart attack.

The reason being that coronary artery disease or “hardening of the arteries of the heart” does not produce symptoms until disease is advanced. In that case, it is generally late to reverse the disease process. Coronary heart disease is the leading cause of deaths in the United States, more than cancer deaths.

## Some heart facts:

- Americans with cardiovascular disease      79 millions
- Americans with coronary heart disease      15.8 millions
- Heart attack victims per year      1 million
- Those who die of heart attack      ½ million
- Those who die before reaching a hospital      ¼ million

## In one out of six heart attack victims, the only symptom of heart disease is sudden cardiac death (SCD)

In men heart attack frequently is the first indication that they have, or they had heart problem.

An accelerated form of coronary artery disease leading to heart attack and sudden cardiac death has been identified in relatively young Asian Americans from Indian subcontinent living in the United States. These are very successful individuals, who are otherwise healthy. Stressful lives, genetics, lack of exercise, along with other risk factors are implicated.

“**Prevention is better than cure.**” This adage is much more relevant today than it was in the past. This is mainly due to enhanced diagnostic tools, better understanding of the disease process and improved preventive measures available.

## Risk factors for coronary heart disease (Coronary Atherosclerosis)

- High blood pressure
- High bad (LDL) cholesterol
- Low good (HDL) cholesterol
- Cigarette smoking
- Diabetes
- Obesity
- Sedentary life style
- Family history of heart attacks.
- Male gender. (men are more prone to heart attacks)
- Old age (men over 45 years and women over 55 year)
- Inflammatory conditions, etc.

**Cholesterol:** This is a fat like substance in the blood that can deposit in the walls of coronary arteries causing hardening and blockage. This leads to angina pain (chest pain from lack of oxygen to heart). It can lead to heart attack.

High blood cholesterol is a common disorder. As we grow older, cholesterol level tends to increase. It causes no symptoms and thus is undetected, unless a blood test is performed.

**High cholesterol containing foods:** These include Red meats, eggs, dairy products, shrimps, etc.

**Low (relatively) cholesterol containing foods:** Non-red meats, lean meats, fish, chicken (minus the skin).

**Cholesterol free foods.** These include vegetables, grains, seeds, nuts, fruits, etc.

Cholesterol is also manufactured by the liver. The amount manufactured is genetically determined. Certain enzyme deficiencies may lead to high cholesterol as a familial disorder.

**Cholesterol is of two types:**

- **Bad cholesterol (LDL cholesterol)** or low-density lipoprotein cholesterol This promotes hardening of arteries
- **Good cholesterol (HDL cholesterol)**, or high-density lipoprotein cholesterol. This fights hardening of the arteries.

A 2% reduction in bad cholesterol reduces coronary heart attacks deaths by 1%

**Normal values of cholesterol**

Total cholesterol	less than 200 mg per DL (deciliter)
LDL cholesterol	Less than 160 mg per DL (If no risk factors)
LDL cholesterol	Less than 100 mg per DL (if known heart disease or diabetic)
HDL cholesterol	Greater than 40 mg per DL

**High blood pressure: (Hypertension)**

High blood pressure promotes hardening of the arteries and heart attack. Unfortunately, it causes no symptoms for a long time. In the mean time, it is damaging the blood vessels all over the body. The consequences of untreated high blood pressure include heart attack, enlarged heart leading to congestive heart failure, stroke, kidney failure, rupture of main artery called aorta leading to sudden death, blindness, etc.

- Normal blood pressure\*\* less than 120 mmHg systolic or less than 80 mm Hg diastolic

\*\* These readings apply to all age groups, even elderly.

- Borderline high BP (Pre-hypertension) 120-139 mm Hg systolic or 80-89 mm Hg diastolic
- Hypertension (High) 140 mm Hg or higher systolic or 90 mm Hg or higher diastolic

**Cigarette Smoking:** It increases risk of heart attacks several folds. It is the single greatest preventable cause of death in United States today.

**Sedentary life style:** It increases the risk of heart attack, high blood pressure, osteoporosis (weakening of bones), overweight and obesity.

**Overweight and Obesity:** This has reached epidemic proportions in United States and in other industrialized countries. Teenage and child obesity is increasing. Adverse health effects of overweight and obesity include early diabetes, increased heart attacks, high blood pressure, diabetes, and many others. In some medical circles, obesity has been termed “**mother of all diseases.**”

**Diabetes:** Elevated blood sugar could be due to lack of insulin. It is termed **insulin dependent diabetes**. It usually starts in young age. It is usually familial. Majority of Diabetic patients suffer from **Non-insulin dependent diabetes**. It occurs in older age group, especially in those who are overweight or obese. It is also termed **adult onset diabetes**.

Diabetes is a strong risk factor for all type cardiovascular diseases, including heart attacks, strokes, peripheral vascular disease especially involving lower extremities, diabetic retinopathy leading to blindness, diabetic kidney disease leading to kidney failure requiring kidney transplant, etc. **Diabetes shortens life span.**

### **What can you do?**

- **Prevention is better than cure.** Do not wait until you have symptoms. Routine preventive health checks, including blood pressure check, blood tests will identify most of the risk factors.
- **High blood pressure:** If your doctor diagnoses high blood press then make sure blood pressure readings return to normal with a combination of diet, exercise, and in some cases with additional medications. **The goal should be to bring down the blood pressure to normal values, regardless of the number of medications you may need.**
- **High cholesterol:** If diet, exercise and life-style changes do not bring cholesterol down satisfactorily, then your doctor will prescribe medications. Chances are that with a few exceptions you will need the medication(s) indefinitely. Periodic blood testing is generally required.
- **Smoking:** seek professional help and counseling to overcome nicotine addiction
- **Diabetes:** Good control of blood sugar with the help of diet, exercise, weight reduction is mandatory. Some patients may need oral medications, and some other may need to take insulin injection, additionally. It is an incurable disease as of today, and lifelong precautions/ treatment are mandatory. Again, the endpoint is control of blood sugar, regardless of any number of medications taken or lifestyle changes made. Uncontrolled diabetes is disastrous to health resulting in heart attacks, strokes, blindness, loss of limbs, life-threatening infections.

**Physical Exercise:** American Heart Association recommends 30-60 minutes of aerobic exercise four to five days a week. Exercise on a given day may be divided into more than one session. It may be in the form of jogging, running, fast walking, bicycling, treadmill exercise, stationary bicycle or treadmill exercise. Gardening and lawn work is helpful. Exercise has many benefits by modifying several cardiovascular risk factors. Caution: If you have heart disease or suspect that you may have one, then consult your doctor before starting an exercise program.

### **Diet and Nutrition.**

Diet plays an important role in our health. Diet of Asians may be particularly “heart unhealthy” Excess of dairy products, meat, oils and carbohydrates should be avoided. Below are some tips for a healthy diet.

### **Herbal, Nutritional Supplement, and diet.**

Some of the herbal and nutritional supplements available include:

- **Garlic:** According to some studies, garlic may decrease blood levels of total cholesterol by a few percentage points. Other studies, however, suggest that it may not be as beneficial as once thought. It may also have significant side effects and/or interactions with certain medications. Consult your doctor before starting over the counter garlic supplements
- **Dietary Fiber:** Increased consumption of dietary fiber, soy foods, and plant compounds (plant stanols and sterols) can significantly reduce LDL cholesterol or bad cholesterol. Only plant foods like vegetables, fruits, legumes, unrefined grains contain dietary fiber. The soluble fiber found in foods such as oat bran, barley, psyllium seeds, flax seed meal, apples, citrus fruits, lentils and beans are particularly effective in lowering cholesterol.
- **Soybeans:** Soybeans have been shown to prevent coronary heart disease by lowering LDL cholesterol and triglycerides. Soy protein is present in tofu, soy milk, soy yogurt, soy nuts and in many other food products made from soybeans.
- **Phytosterols:** Phytosterols (plant sterol and stanol esters) are compounds found in small amounts in foods such as whole grains as well as in many vegetables, fruits, and vegetable oils. They decrease LDL cholesterol, mostly by interfering with the intestinal absorption of cholesterol.
- **Fish oils and foods rich in omega-3 fatty acids** Including these in your diet may also help lower cholesterol. Aim for at least 2 servings of fatty fish like salmon, mackerel, herring, tuna and sardines per week. Other dietary sources of omega-3 fatty acids include flax seed and walnuts.

Over the counter (OTC) omega 3 fatty acid capsules (Fish oils) help lower cholesterol and triglycerides, as well as slightly increase good cholesterol. Check with your doctor before starting these or any other OTC medicines.

**Foods to avoid.** Avoid partially hydrogenated and hydrogenated vegetable oil. These come in the form of margarine and cooked foods, confectionaries. These man-made oils are sources of trans fatty acids known to increase blood LDL cholesterol, promoting coronary artery blockage and heart attack. They lower heart-protecting HDL (good) cholesterol and increase the inflammatory response in the body. You can now find trans fats listed on the Nutrition Facts panel of packaged foods. Minimize consumption of trans-fatty acid containing foods. Some of the newer margarines like “Smart balance” and others do not contain trans-fats. These do not increase bad cholesterol. However, they are high in calories and should avoid their excessive use.

Other foods to avoid are red meat, butter, organ meats like liver, kidneys, brain, etc.

If a plant-based, low-fat diet alone is not effective at reducing cholesterol levels, such a diet should be combined with cholesterol-lowering medications prescribed by your doctor.

**“A stitch in time is better than nine.” Periodic health checks may prevent serious ill effects of silent and undetected high blood pressure, diabetes, heart disease, cancer and other serious cardiovascular diseases.**

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