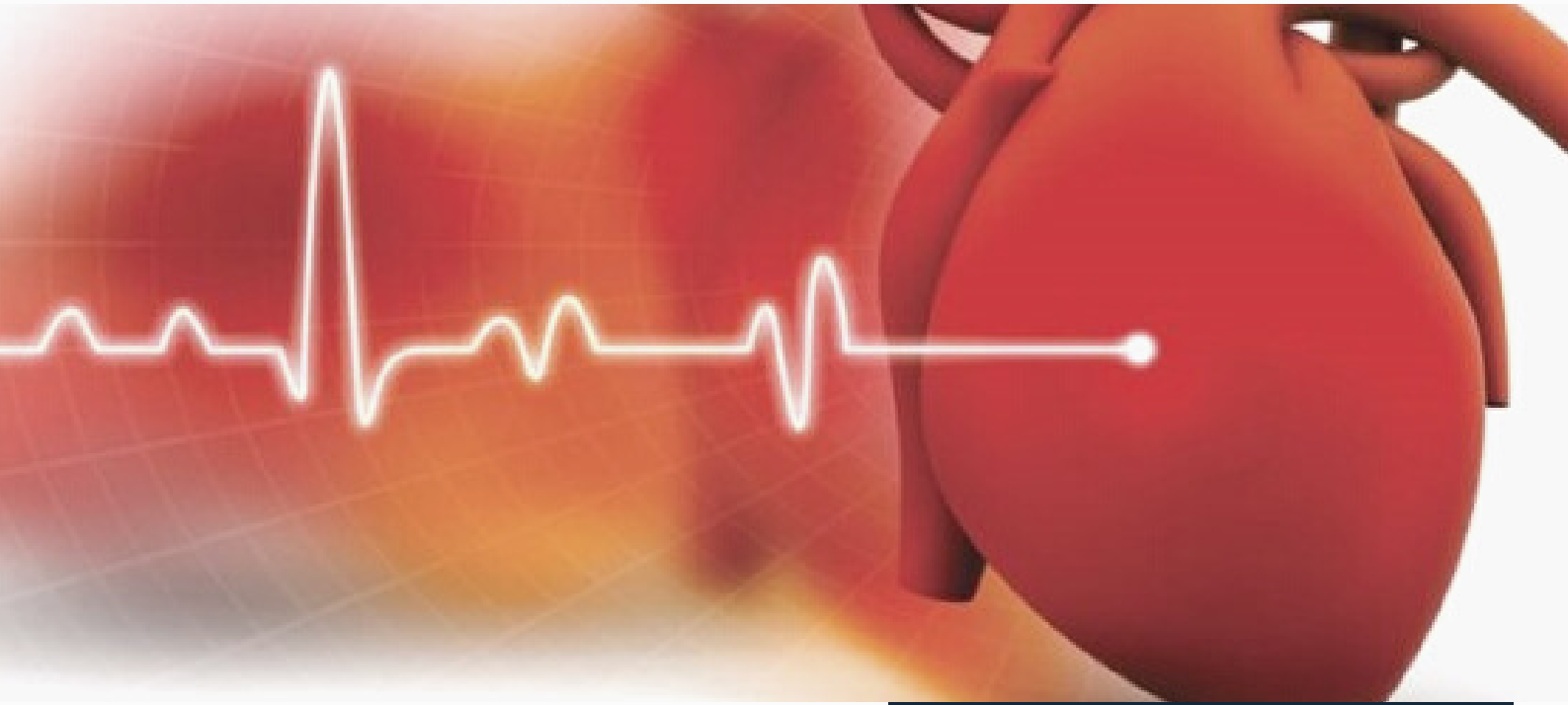


CARE FOR YOUR HEART

*World Heart Day
Public Awareness Booklet*



GREETINGS TO ALL

It is essential to prioritize heart health, as it plays a pivotal role in our overall well-being.

We wanted to reach out and share some valuable information about protecting your heart, as it is one of the most crucial organs in our body.

Remember that prevention is key when it comes to maintaining a healthy heart. By adopting these practices given in booklet into your lifestyle, you can significantly reduce the risk of cardiovascular diseases and enjoy a stronger future.

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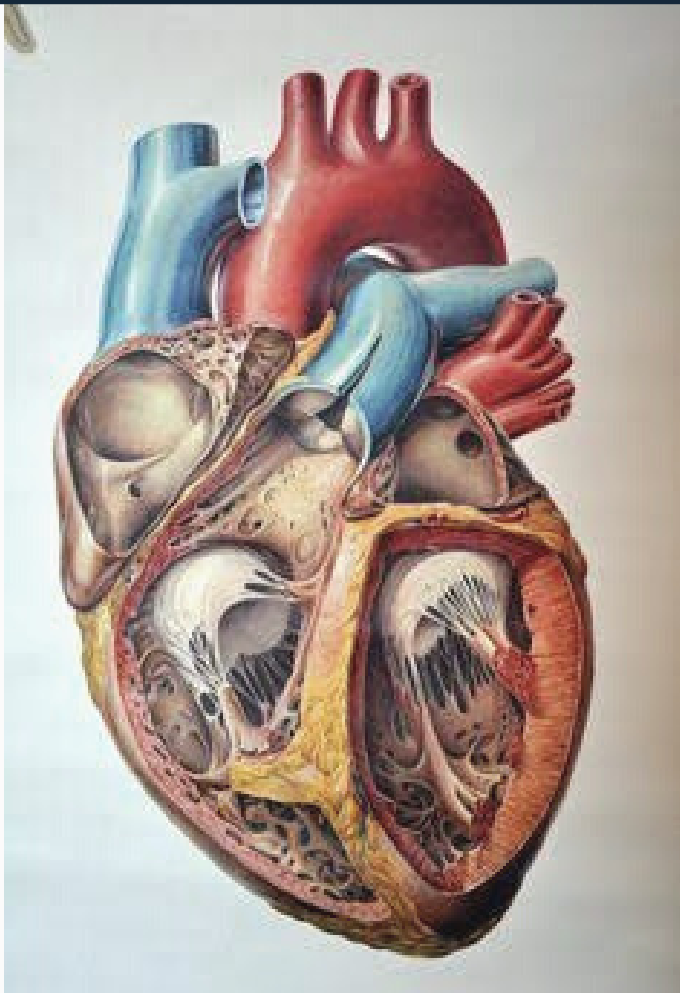
**DR ABHIMANYU SINGH
(DM CARDIOLOGIST)**

**BOOKLET COMPILED BY
DR MAULIK PATEL**



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ADIPUR**



Heart has 4 Chambers, 4 valves with Main circulatory systems in form of Aorta and Pulmonary Trunk

ATHEROSCLEROSIS

Atherosclerosis is thickening or hardening of the arteries caused by a buildup of plaque in the inner lining of an artery. Risk factors may include high cholesterol and triglyceride levels, high blood pressure, smoking, diabetes, obesity, physical activity, and eating saturated fats

Atherosclerosis begins in childhood as an accumulation of fatty streaks-lipid-engorged macrophages (foam cells) and T lymphocytes in the intima of the arteries. Fatty streaks may or may not progress, and may regress.

Heart

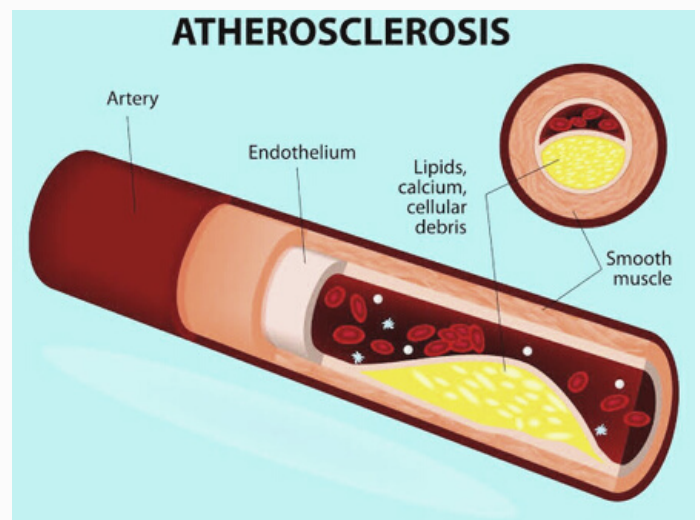
It is most Important **MUSCLE** supplying 4-5 liters of blood every Minute.

It supplied Nutrient Rich Blood to all Parts of Body & itself.

Coronary Arteries

It supplies heart and keeps it nourished with blood

Do your part, care for your heart



Common Heart Attack Warning Signs



Heart Attack

- Chest discomfort. Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes – or it may go away and then return. It can feel like uncomfortable pressure, squeezing, fullness or pain.
- Discomfort in other areas of the upper body. Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- Shortness of breath. This can occur with or without chest discomfort.
- Other signs. Other possible signs include breaking out in a cold sweat, nausea or lightheadedness.

CARDIAC ARREST

Sudden, unexpected loss of heart function, breathing and consciousness.

In cardiac arrest, the heart abruptly stops beating. Without prompt intervention, it can result in the person's death.



CARDIAC ARREST

- Unconscious
- Unresponsive
- Absent or abnormal breathing

VS

HEART ATTACK

- Chest pain
- Difficulty breathing
- Nauseous
- Light-headed



C
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C

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R
R
E
S
T




RESUSCITATION (CPR)

D
DANGER
Check for hazards & ensure safety

R
RESPONSE
Check to see if Unresponsive/Unconscious

S
SEND FOR HELP
Call the ambulance on 000

Adults & Children

A casualty who is unresponsive and not breathing normally needs urgent resuscitation




A
AIRWAY
Open airway, Head tilt/Chin Lift

B
BREATHING
Check breathing, if not breathing / abnormal breathing commence CPR

C
CPR
30 compressions : 2 breaths (if unwilling or unable to do breaths, consider doing chest compressions only)

D
DEFIBRILLATOR (AED)
Attach AED as soon as available and follow its prompts

Infants Under 12 months

Continue sequence until responsiveness or normal breathing returns, or help arrives

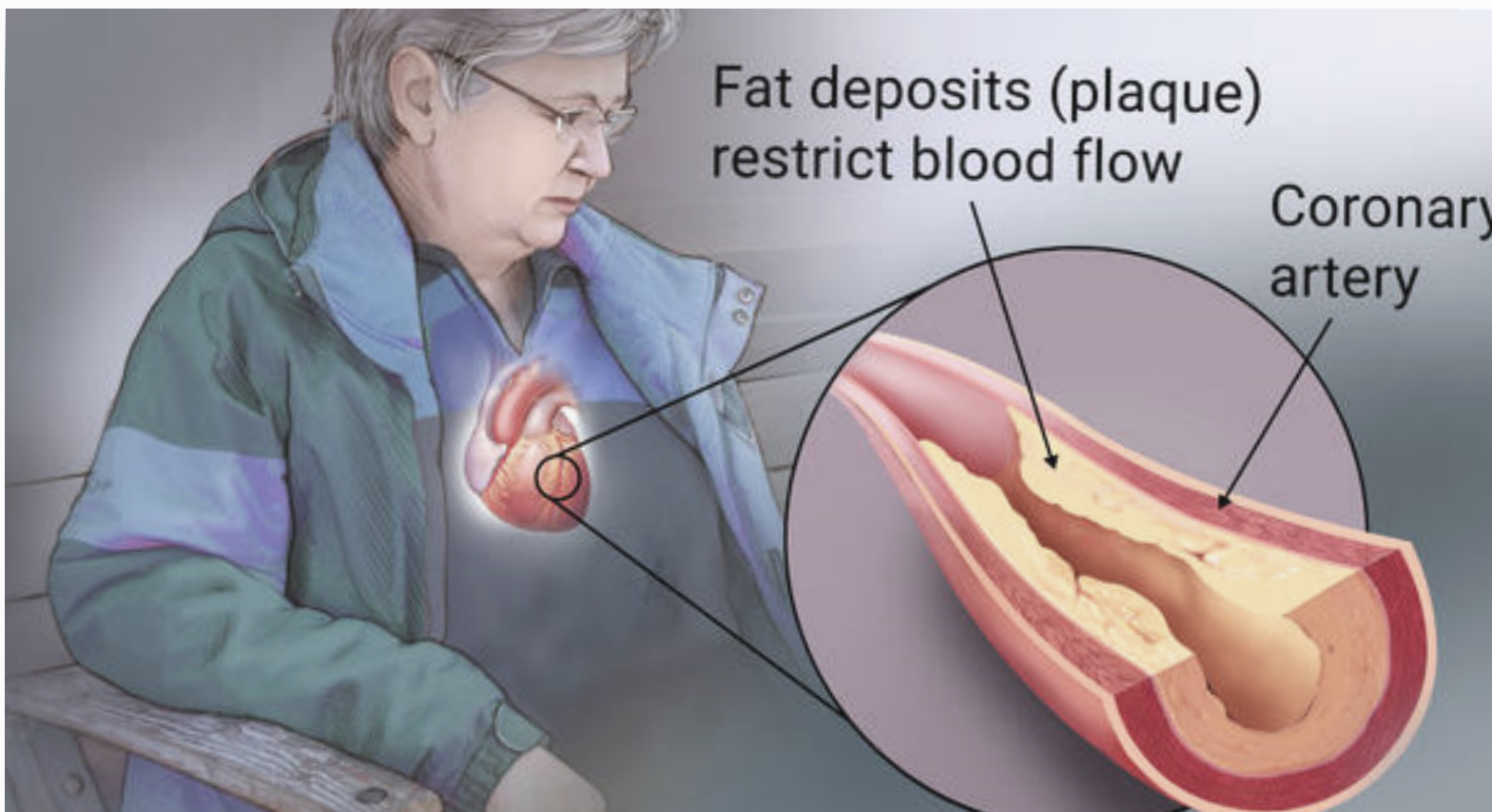
	HEAD TILT	PRESSURE	DEPTH	BREATHS	RATIO	COMPRESSION RATE
ADULTS & CHILDREN	Yes	2 Hands	1/3 chest depth (Approx 5 cm)	Full breaths	30 Compressions:2 Breaths	Compressions should be performed at the rate of almost 2 per second (i.e. continuous rate of 100 per minute)
INFANT (birth - 1)	No	2 Fingers	1/3 chest depth (Approx 4 cm)	Puffs	30 Compressions:2 Breaths	



CARDIOPULMONARY RESUSCITATION

we can take the following steps when somebody has cardiac arrest in our presence:

1. Open the person's airways. Tilt the head and lift the chin as shown in the pictures.
2. Check the person's breathing first. If the person is not breathing or the breathing is abnormal, then, give the person 2 rescue breaths and 30 chest compressions as shown in the pictures. Repeat this until help arrives or till the person is resuscitated.



Coronary Artery Disease

CORONARY ARTERY DISEASE



- Coronary heart disease is the most common type of heart disease, killing 375,476 people in 2021.
- About 1 in 20 adults age 20 and older have CAD (about 5%).
- In 2021, about 2 in 10 deaths from CAD happen in adults less than 65 years old. Every year, about 805,000 people have a heart attack.² Of these,
 - 605,000 are a first heart attack
 - 200,000 happen to people who have already had a heart attack
- About 1 in 5 heart attacks are silent—the damage is done, but the person is not aware of it

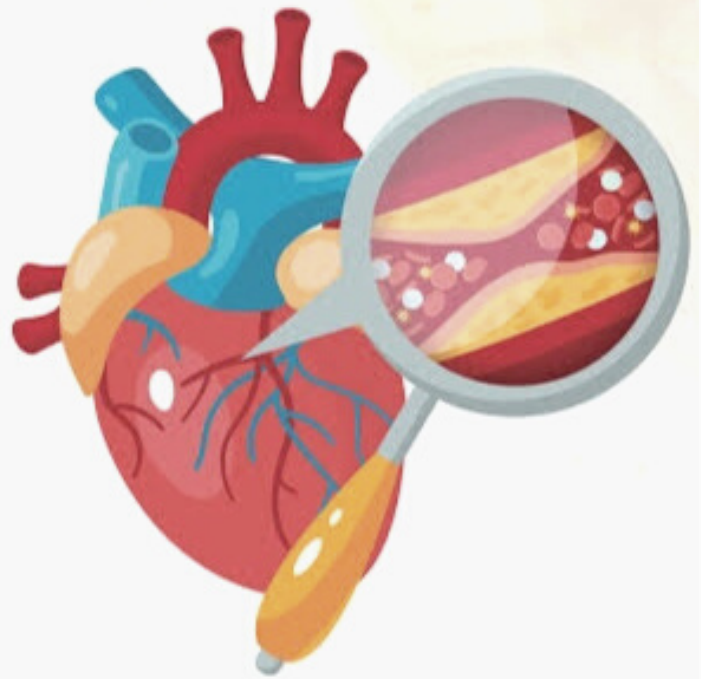
HOW DOES **HIGH CHOLESTEROL** CAUSE **HEART DISEASE** ?

When there is too much cholesterol in your blood, it builds up in the walls of your arteries, a form of heart disease. The arteries become narrowed and blood flow to the heart is slowed down or blocked. If not enough blood and oxygen reach your heart, you may suffer chest pain. If the blood supply to the heart is completely cut off by a blockage, the result is a heart attack.

TWO FORMS OF CHOLESTEROL

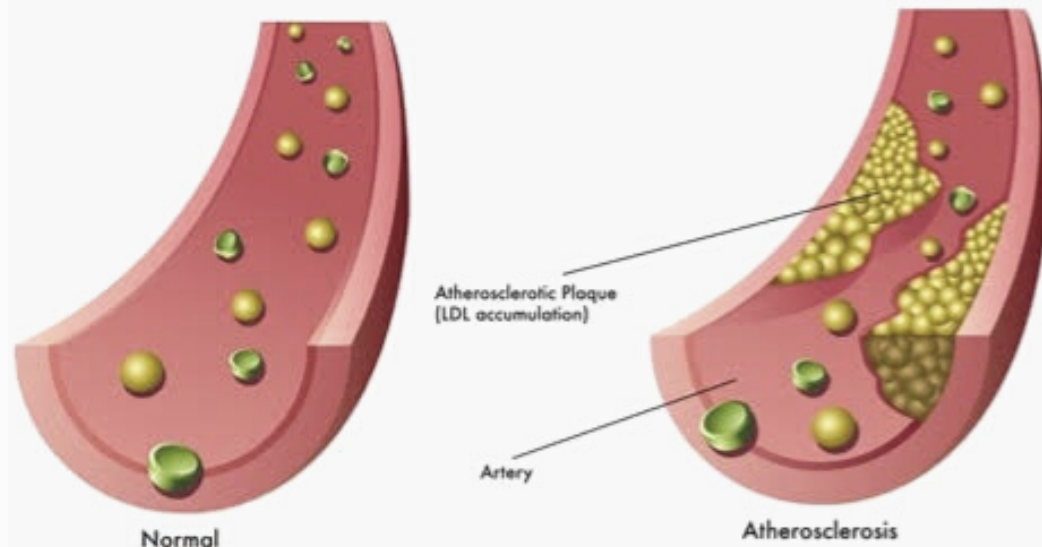
Two forms of cholesterol that many people are familiar with:

- Low-density lipoprotein (LDL or "bad" cholesterol)
- High-density lipoprotein (HDL or "good" cholesterol.)



The optimum level
of blood
cholesterol should
be at the upper
end of normal
around 200 mg/dl.

Bad vs. Good Cholesterol

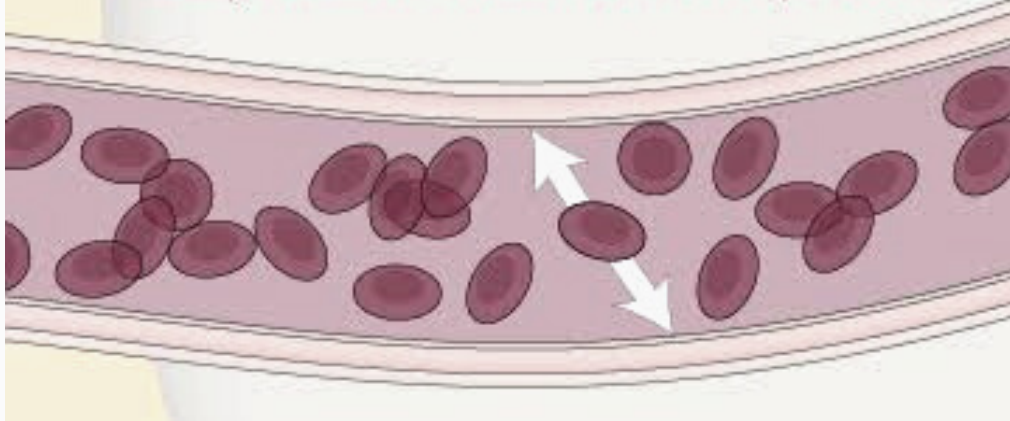


CHOLESTEROL AND HEART

High total serum cholesterol and LDL cholesterol are significant risk factors for cardiovascular disease.

When the HDL cholesterol level is high, it is more cardioprotective. Therefore, HDL cholesterol is considered "good" cholesterol. LDL is the carrier of oxidized cholesterol from the liver to individual cells. Elevated LDL cholesterol is directly correlated with increased cardiovascular risk

When the heart pumps blood through the arteries, the blood puts pressure on the artery walls. This is known as **blood pressure**.



High blood pressure can damage your arteries by making them less elastic, which decreases the flow of blood and oxygen to your heart and leads to heart disease. In addition, decreased blood flow to the heart can cause: Chest pain, also called angina.

High blood pressure is a 'silent killer.'



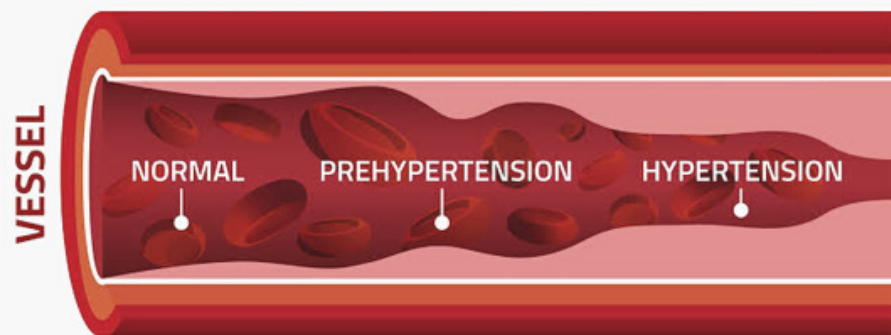
BLOOD PRESSURE AND HEART

Normal blood pressure levels are 120 mmHg/80 mmHg or lower. At risk levels are 120-139 mmHg/80-89 mmHg. Readings of 140 mmHg/90 mmHg or higher are defined as high blood pressure.

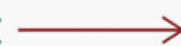
SYSTOLIC PRESSURE



Is measured between when the heart contracts



DIASTOLIC PRESSURE



Is measured between beats when the heart relaxes

Ranges are in **millimeters of mercury (mm)**

High blood pressure



140+ —AND/OR— 90+	Stage 2 Hypertension
130-139 —AND/OR— 80-89	Stage 1 Hypertension
120-129 —AND— < 80	Elevated Blood Pressure



Reducing salt intake to
less than 5 grams per day
(about 1 teaspoon)

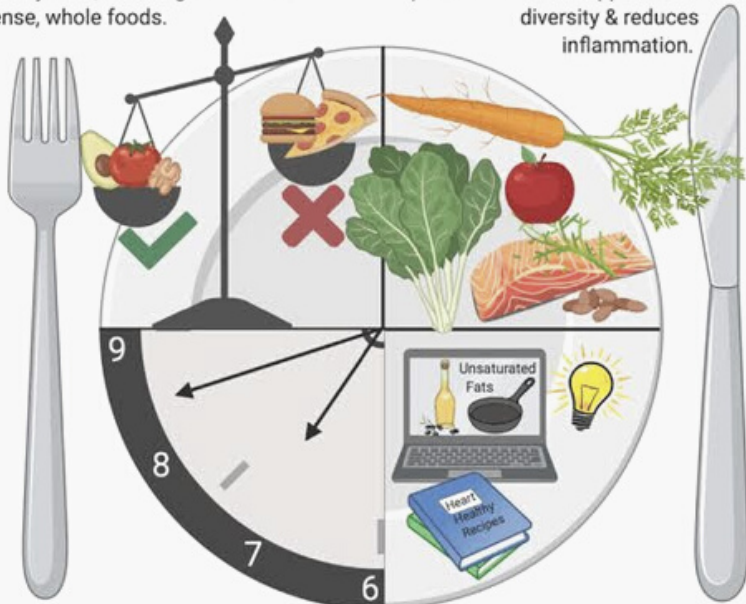
means less death,
disability and suffering
from heart disease
and stroke



sodium in the diet can lead to high blood pressure, heart disease, and stroke. It can also cause calcium losses, some of which may be pulled from bone. Most Americans consume at least 1.5 teaspoons of salt per day, or about 3400 mg of sodium, which contains far more than our bodies need

Calories should be limited to 1,600 - 3,000 per day based on age, sex, & activity level, focusing on nutrient dense, whole foods.

The Mediterranean Diet & DASH Diet have the most evidence for CVD prevention. Fiber supports microbiome diversity & reduces inflammation.



Timing

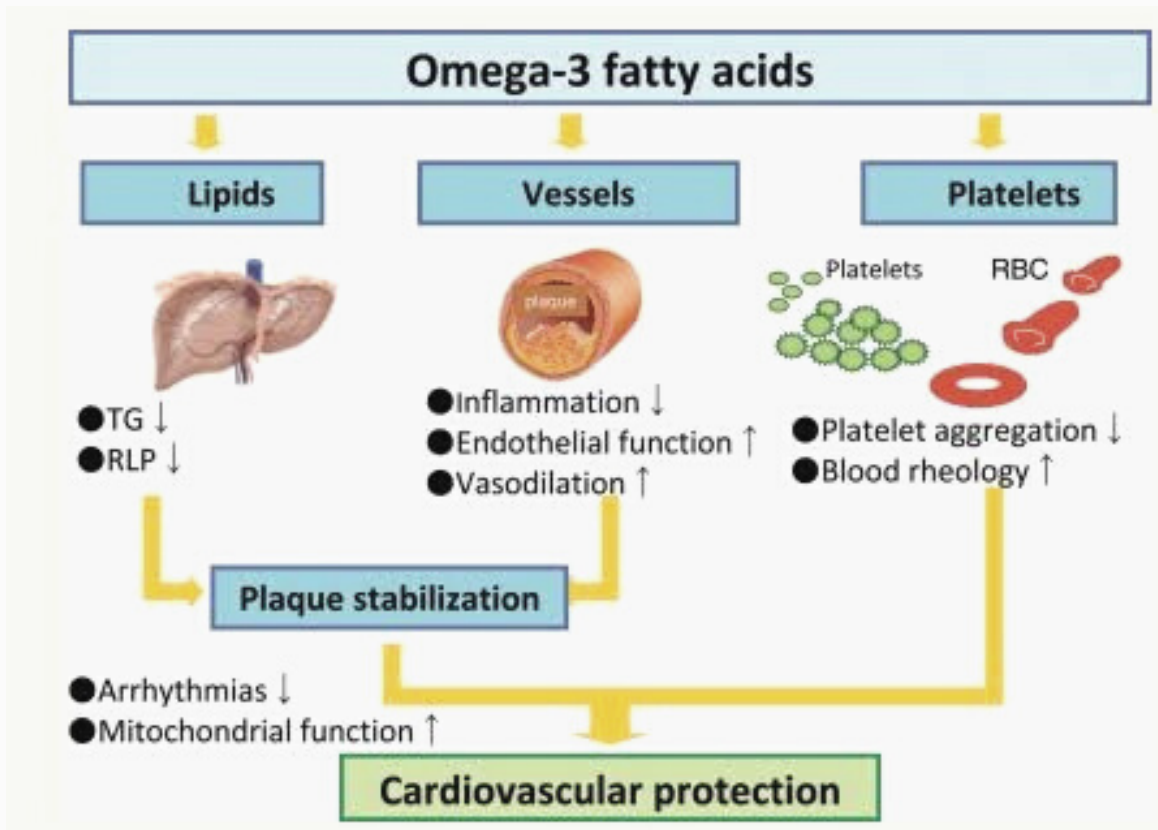
Time-restricted eating with a 14-hour fasting interval has benefits for weight

Patient Engagement

Patients may be referred to cardiac rehab, dieticians, or shared medical



The DASH diet focuses on vegetables, fruits and whole grains. It includes fat-free or low-fat dairy products, fish, poultry, beans and nuts. The diet limits foods that are high in salt, also called sodium. It also limits added sugar and saturated fat, such as in fatty meats and full-fat dairy products



Omega-3 fatty acids are a type of polyunsaturated fat. We need these fats to build brain cells and for other important functions. Omega-3s help keep your heart healthy and protected against stroke. They also help improve your heart health if you already have heart disease.





Healthy Diet for Healthy Heart



Count your calories



Keep yourself hydrated



Have complex carbs



Include good Fats



No to junk foods

Doctors recommend increasing your fiber intake and supplementing your diet with omega 3, vitamin D, and magnesium if you want to reduce the risk of heart disease. People with heart problems can strengthen their hearts by supplementing their diet with CoQ10 or vitamin K2.1



Tomatoes

High in lycopene

May improve endothelial function, blood lipids, and blood pressure



Extra-virgin olive oil

Contains heart-healthy monounsaturated fatty acids and antioxidants

May reduce inflammation that can lead to the development of cardiovascular decline



Seafood

Excellent source of omega-3 fatty acids

Increases high-density lipoprotein levels and decreases triglyceride levels



Spinach

Contains nitrates that convert to nitric oxide

Nitric oxide may improve endothelial function and lower blood pressure

Top 7 foods for cardiovascular health



Flaxseeds

Rich in fiber, omega-3 fatty acids, and alpha-linolenic acid (ALA)

Helps regulate cholesterol levels and reduce arterial inflammation



Berries

Rich in fiber and antioxidants

May reduce low-density lipoprotein oxidation and total plasma antioxidant capacity



Garlic

Rich in sulfur-containing compounds

May reduce blood pressure, lipid levels, and blood glucose concentration



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4

Facts about Heart Disease and Tobacco Use



2-4X 

Smokers are **2 to 4 times** more likely to get heart disease than nonsmokers.

2X 

Smoking **doubles** a person's risk for stroke.

Vaping and smoking can cause a **similar level of damage** to the arteries.



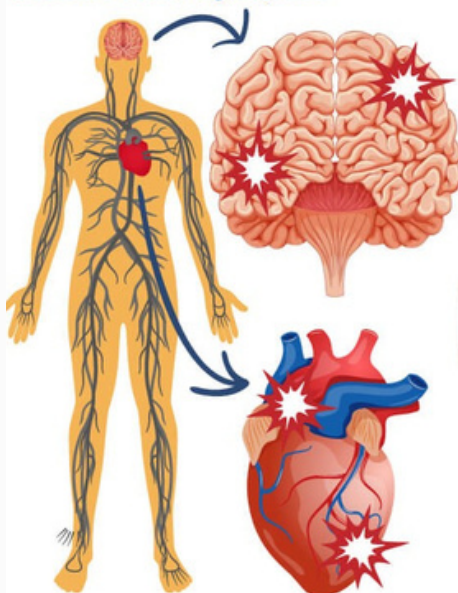
Long-term use of smokeless tobacco can **increase risk of dying** of heart disease and stroke.



One out of every 5 smoking-related deaths is caused by heart disease. Cigarette smokers are 2 to 4 times more likely to get heart disease than nonsmokers.

THE MYTH ABOUT MODERATE DRINKING AND HEART HEALTH

High level of alcohol use can actually be devastating, as well the previously mentioned issues alcohol can raise the fat levels in your blood which can have the following impact:



Increased Risk of Heart Attack and Stroke

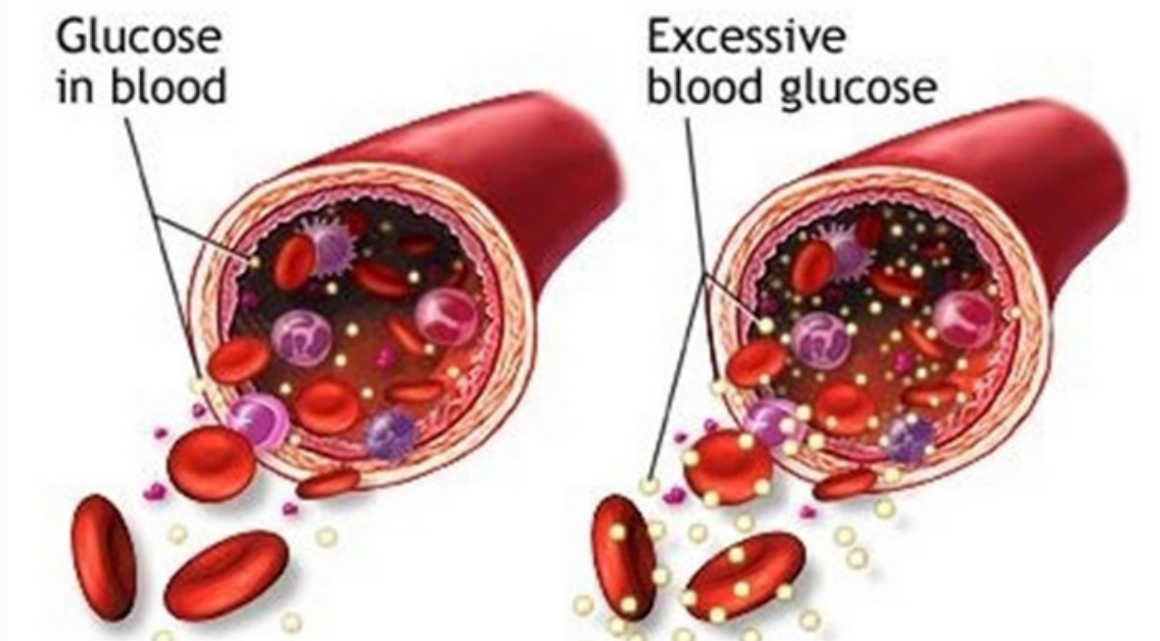
THE HIGH FAT LEVELS IN YOUR BLOOD CAN LEAD TO CLOTS BEING FORMED WHICH CAN INCREASE YOUR BLOOD PRESSURE POTENTIALLY CAUSING THE CLOTS TO BREAK OFF AND ENTER THE BLOODSTREAM. THIS IN TURN CAN POTENTIALLY TRIGGER STROKES AND HEART ATTACKS.

Ultimately red wine or any kind of alcohol is unlikely to have a positive impact on a person's health.



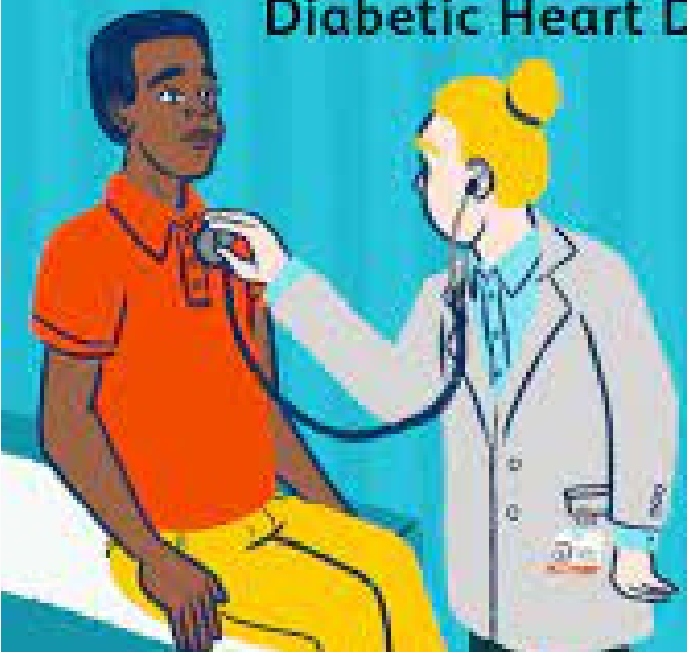
There's no safe level of alcohol use for heart health. In recent years, clearer evidence has emerged about how even small amounts of alcohol can increase the risk of cardiovascular disease.

Your goal is to maintain normal blood glucose levels

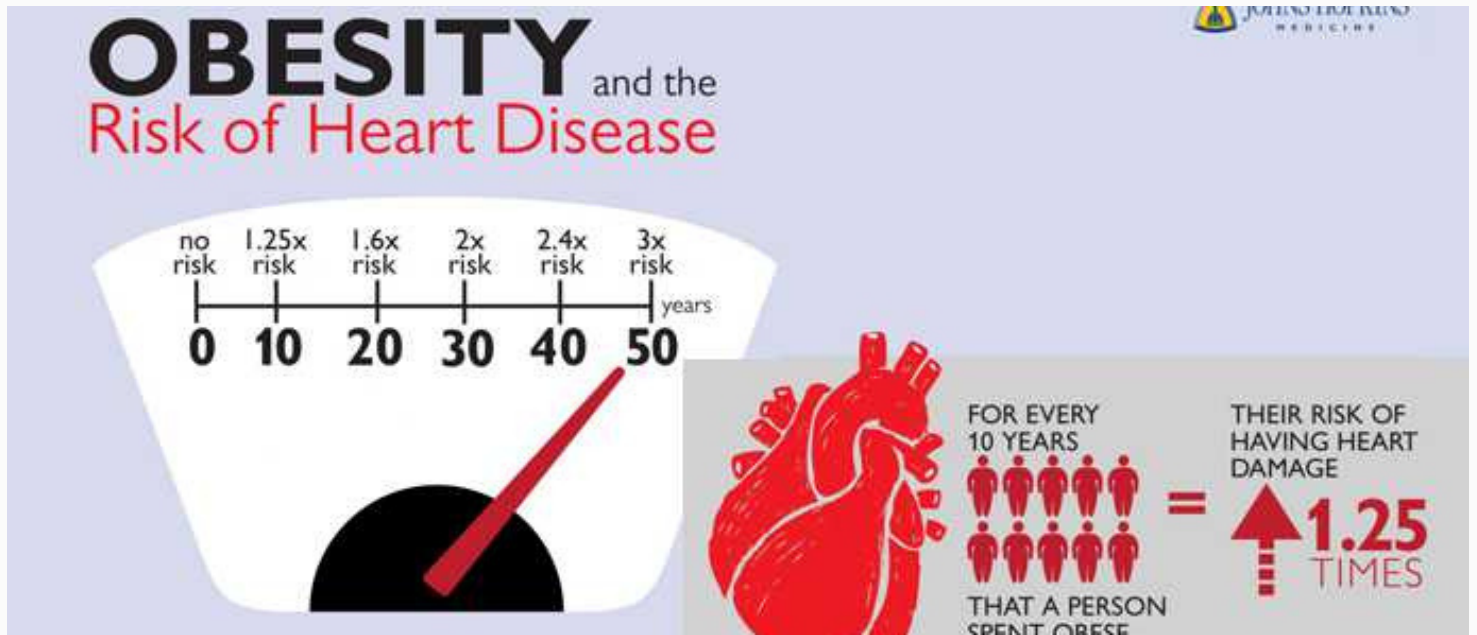


If you have high blood sugar levels for a period of time, even slightly high, your blood vessels can start to get damaged and this can lead to serious heart complications. This is because your body can't use all of this sugar properly, so more of it sticks to your red blood cells and builds up in your blood

Ways to Treat and Prevent Diabetic Heart Disease



- Monitor blood sugar at home
- Have your A1C checked every 3-6 months
- Get your cholesterol checked
- Choose to eat unsaturated fats
- Aim for 30 minutes of exercise most days
- Sleep 7-9 hours each night
- Manage stress



Excess weight can lead to fatty material building up in your arteries (the blood vessels that carry blood to your organs). If the arteries that carry blood to your heart get damaged and clogged, it can lead to a heart attack.

Weight Category	Body Mass Index
Underweight	Below 18.5
Healthy weight	18.5 to 24.9
Overweight	25 to 29.9
Obese	30 or above

A healthy weight for adults is generally a body mass index (BMI) between 18.5 and 24.9.

A waist circumference of more than 35 inches for women or more than 40 inches for men increases your risk.

How much activity do I need?

Moderate-intensity aerobic activity

Anything that gets your heart beating faster counts.

at least
150
minutes
a week

AND


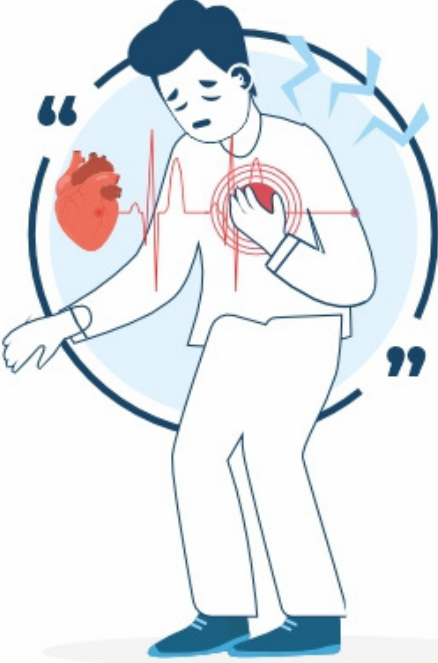
at least
2
days
a week



Tight on time this week? **Start with just 5 minutes.** It all adds up!

Physical activity is anything that gets your body moving. Each week adults need 150 minutes of moderate-intensity physical activity and 2 days of muscle strengthening activity

Who is at Increased Risk of Heart Attack While Exercising?



- Overweight
- Diabetes
- Lack of a Balanced Nutritious Diet
- Smoking

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People with pre-existing heart conditions are more likely to suffer from a heart attack while exercising. Those who are overweight, have high blood pressure, or suffer from diabetes are all at greater risk than those who don't have any of these conditions.

10 Medical Tests for Heart Disease



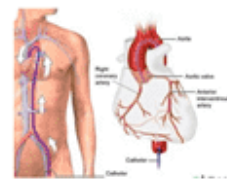
ECG



CTMT



Echo



Angiogram



CT Coronary Angiogram



Stress Thallium



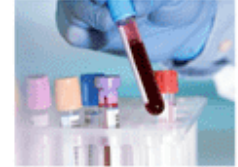
Cardiac MRI



Holter



Cardiac Markers

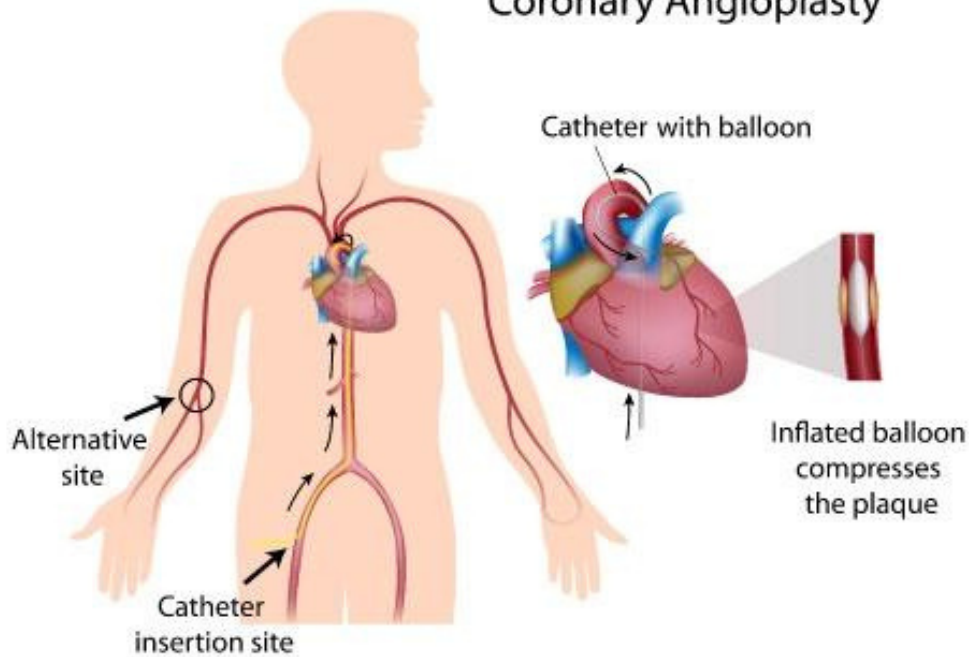


Blood Tests

www.peoplehearthealth.com

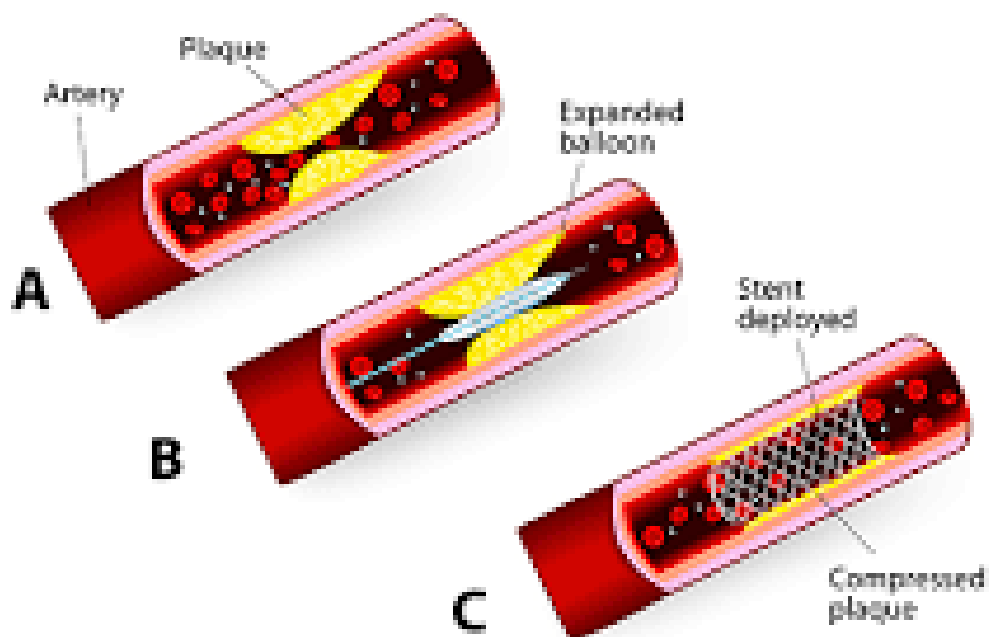
1. ECG / Electrocardiogram – This is the primary test.
2. Treadmill Test / Stress Test – This test comes positive, then the chances of having heart blockage becomes very high.
3. 2-D Echocardiogram – This test tells about heart valves, heart chambers, heart wall motion, heart's pumping, heart function, heart's effusion, vegetation, clot or cardiac masses etc.
4. Heart's Angiogram – This test tells about heart blockages;
5. CT Coronary Angiogram (CCTA) – This test in a minimal invasive test for heart blockages.
6. Stress Thallium Scan / Nuclear Cardiac Scan – This test measures how much blood supply your heart is getting when it is at rest and when it is at stress.
7. Cardiac MR – Patients who's heart pumping is weak, who are not eligible for an angiography and stress thallium are advised by the doctors for an cardiac MRI.
8. Holter – This test is done to monitor electrical activity of the heart, ECG, pulse rate for 24 hours to 72 hours.
9. Cardiac Markers Test – When doctor's suspects that patient suffered a heart attack then cardiac enzymes tests – Trop-T, Trop-I and CPKMB will be done for confirmation of heart attack and measure the severity of a heart attack.
10. Blood tests – Simple blood tests Lipid Profile, HBA1c, CBC, LFT, RFT, are done at the primary level for health analysis of the patient. Lipid profile is the main indicator that tells about the cholesterol and triglyceride level in the blood

Coronary Angioplasty

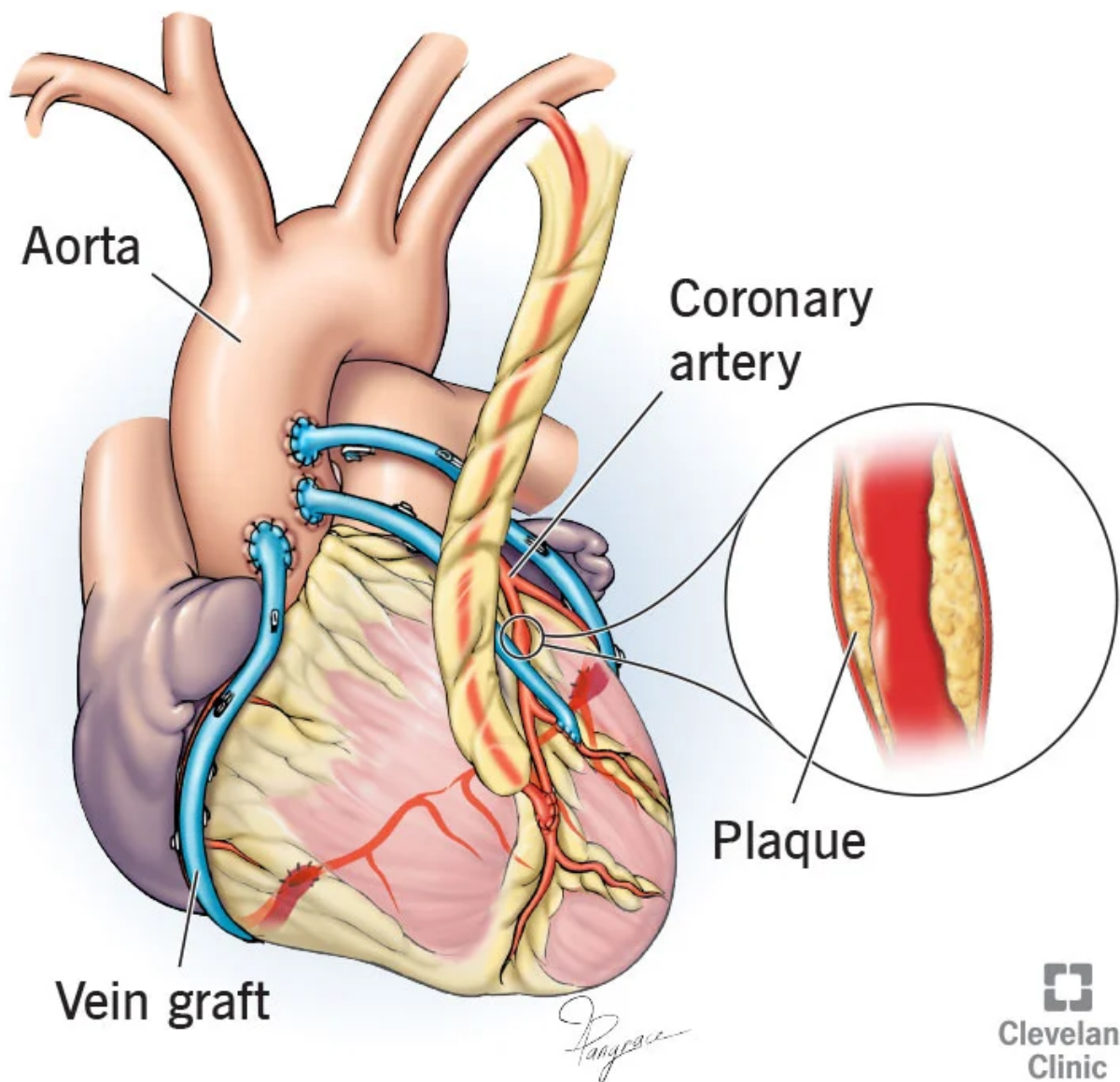


The term "angioplasty" means using a balloon to stretch open a narrowed or blocked artery. However, most modern angioplasty procedures also involve inserting a short wire mesh tube, called a stent, into the artery during the procedure. The stent is left in place permanently to allow blood to flow more freely.

ANGIOPLASTY



Coronary artery bypass grafting (CABG)



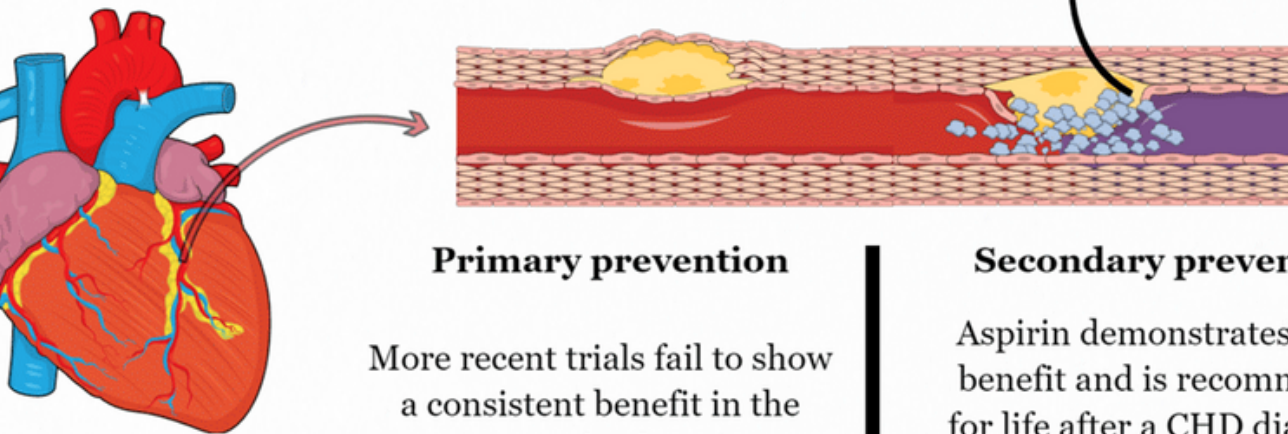

Cleveland
Clinic
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Coronary artery bypass grafting (CABG) is the most common type of open heart surgery performed on adults today. This procedure is often used for patients suffering from coronary heart disease and atherosclerosis.

Aspirin: Its role in coronary heart disease

Aspirin reduces platelet aggregation and thrombus formation by COX-1 inhibition and impeding thromboxane A₂ production.

Higher doses lead to COX-inhibition and subsequent decreased prostacyclin and prostaglandin E production which results in analgesic and antipyretic effects.



Primary prevention

More recent trials fail to show a consistent benefit in the context of a changing population with greater control of other risk factors.

Secondary prevention

Aspirin demonstrates a clear benefit and is recommended for life after a CHD diagnosis; however, further studies are needed to clarify whether aspirin vs a P₂Y₁₂ inhibitor is the better monotherapy after 12 months of DAPT.

When arteries are already narrowed by the buildup of plaque, a clot can block a blood vessel and stop the flow of blood to the brain or heart. Taking a regular dose of aspirin diminishes the ability of your blood to clump together into clots by targeting the body's smallest blood cells.

A person can also take 160–325 mg during a heart attack



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AVOIDING HEART PROBLEMS



Stop smoking

Keep your blood
sugar levels
under control

Keep your blood
pressure in the
proper range,

Lose weight if
you are
overweight,

Get regular
physical activity

Keep your blood fats
and cholesterol levels
in a healthy range.


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Mr Jayesh: 99797 94727

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PREVENTION IS THE
IDEAL.**

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Christopher Howson



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