

# Cardiovascular Health



Prevention and Health Education Unit  
Prepared by Licensed Health Educators

# Objectives

Describe the functions of the heart.

Identify cardiovascular diseases and their risk factors.

Explain the importance of modifying lifestyles.

# What is the heart?

The heart is a muscle that pumps oxygen- and nutrient-rich blood through the blood vessels.

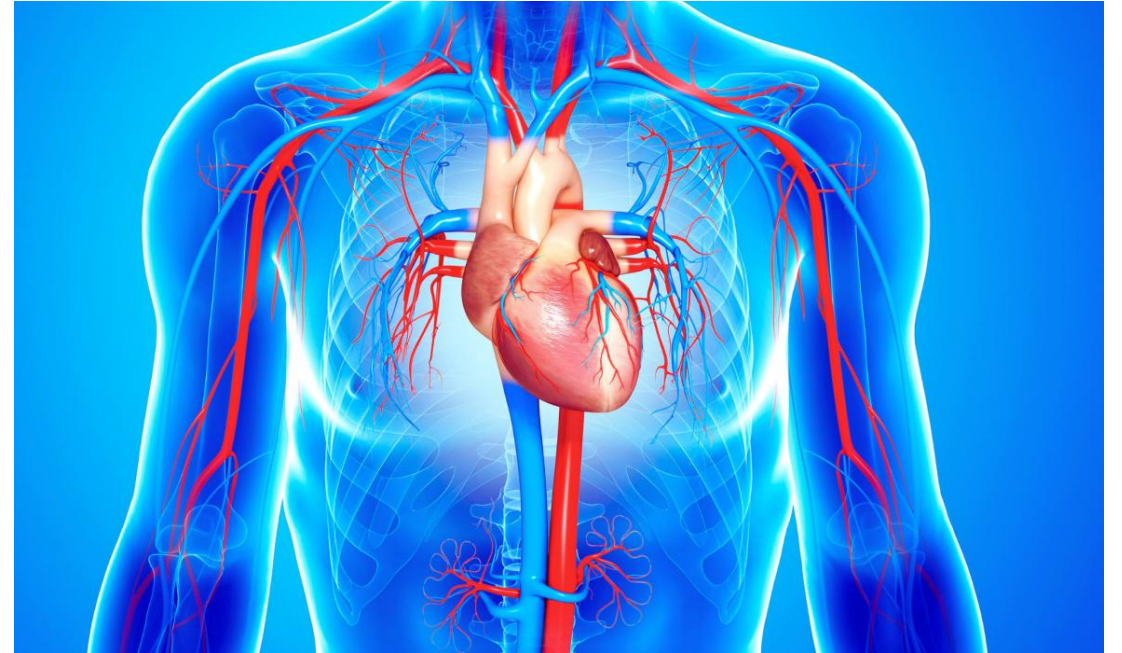


The heart's electrical system controls the rate of the heartbeat.

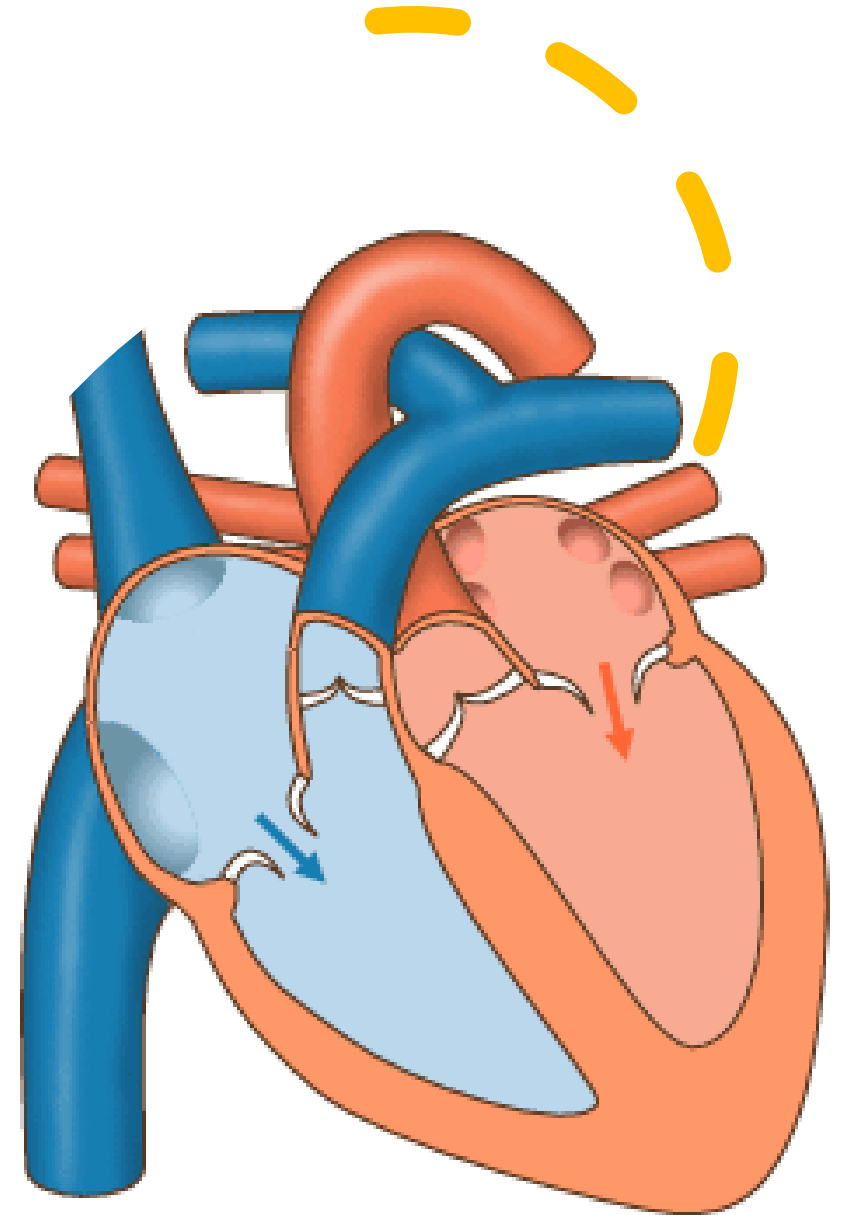
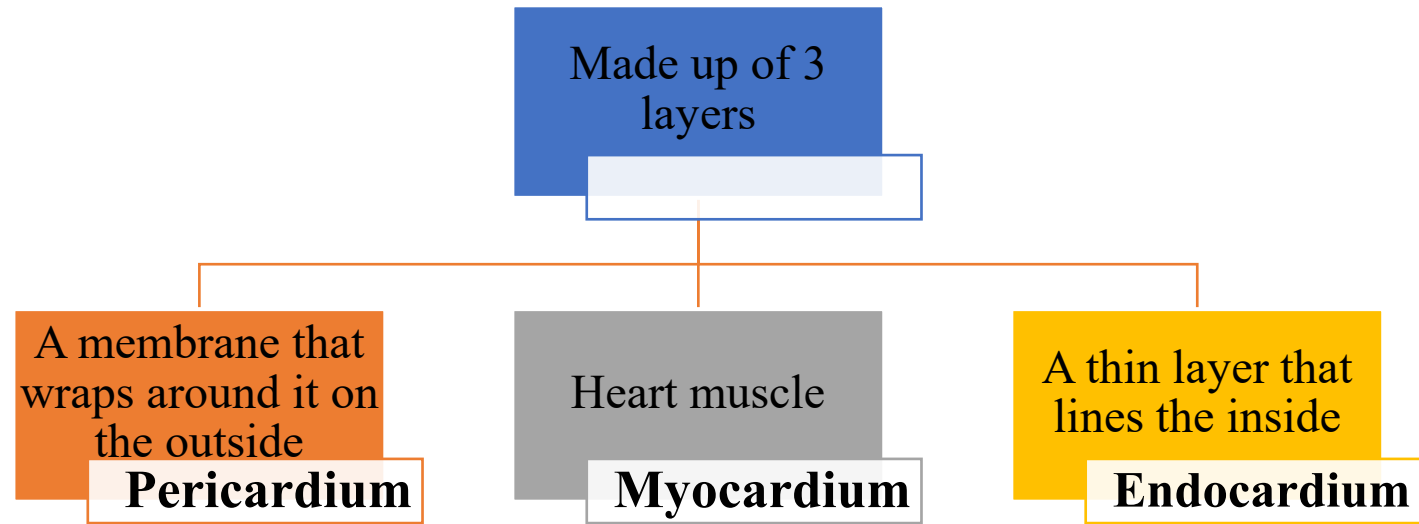
The heart keeps blood moving through the body in a unidirectional manner

# Did you know that...

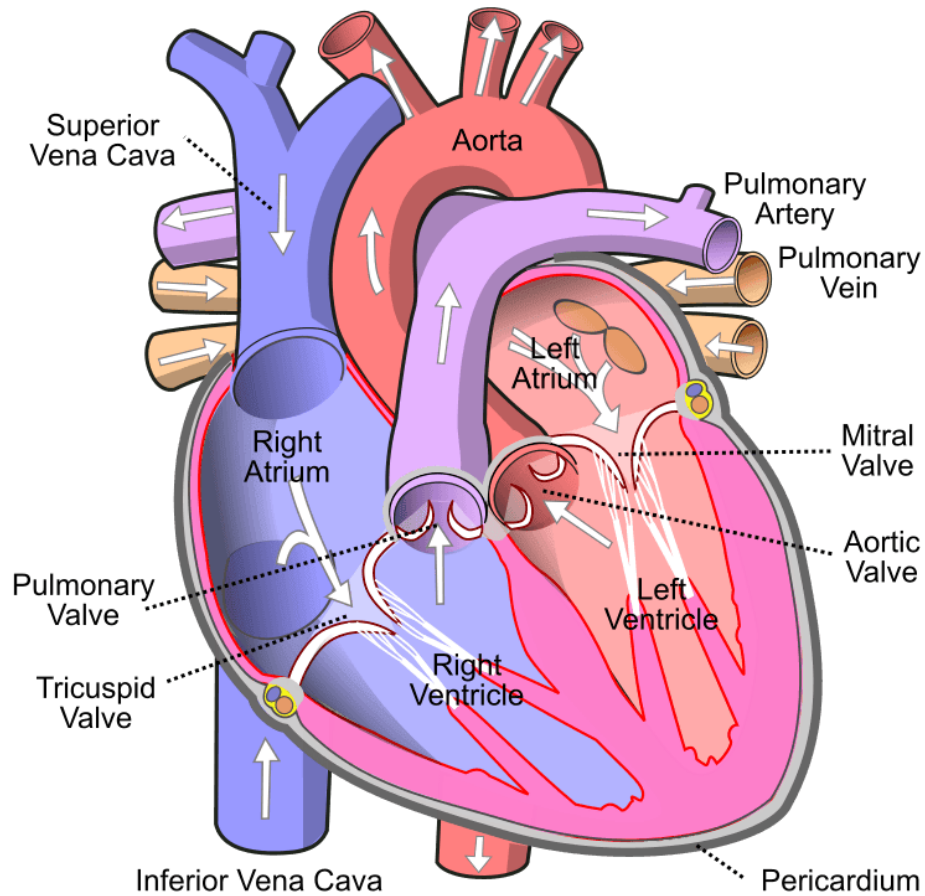
- The heart weighs between 7 and 15 ounces.
- It is slightly larger than the size of a closed fist.
- It is estimated to pump about 2,000 gallons (7.6 liters) of blood each day.



# Heart Structure



# Cardiovascular System



## Structure of Blood Vessels

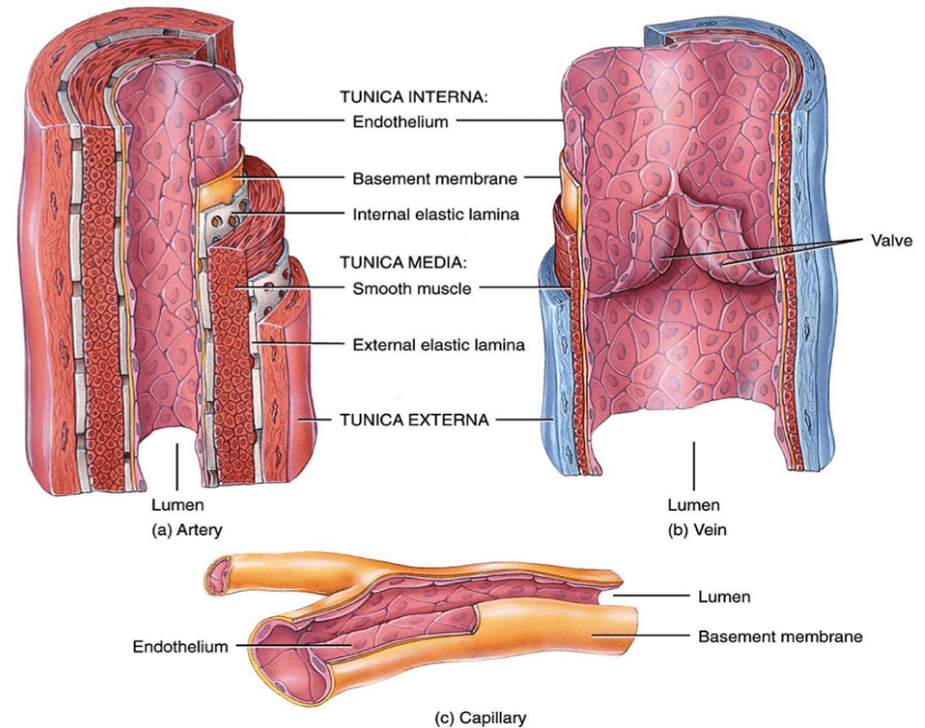
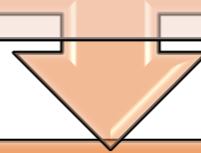


image via: pinterest.com

# Definitions

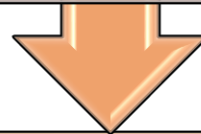
## Cardiovascular disease

A broad term that refers to diseases affecting the heart and blood vessels.



## Heart disease / Coronary artery disease

Conditions such as heart attack, angina, or heart failure caused by narrowed or blocked coronary arteries.



## Stroke

A condition caused by blocked or reduced blood flow to the brain, either from a blood clot or a ruptured blood vessel.

# Cardiovascular Disease



Cardiovascular diseases are among the leading causes of death in Puerto Rico.



It mainly affects older adults and involves problems with the heart and blood vessels.



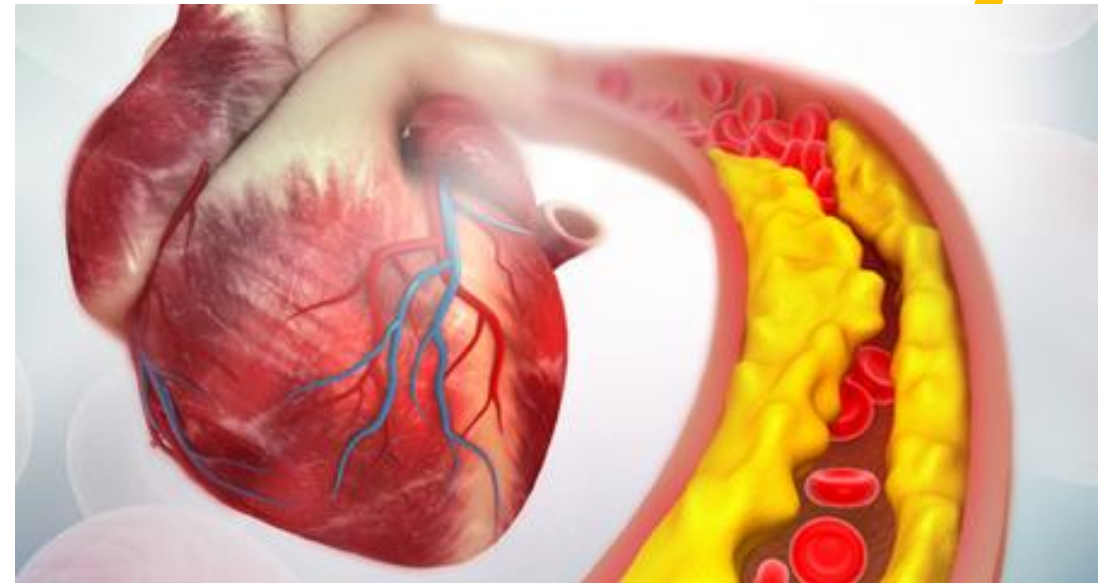
A group of disorders that occur when the heart and blood vessels are not functioning properly.

# Coronary Artery Disease

Plaque builds up on the walls of the coronary arteries that supply blood to the heart.

Over time, this buildup causes the arteries to narrow and harden.

This prevents the heart from receiving all the blood it needs. As a result, blood clots may form.



# Coronary Artery Disease

Arteriosclerosis refers to the hardening and loss of elasticity of the arteries.

The arteries become thicker and less flexible.

## Arteriosclerosis and Atherosclerosis

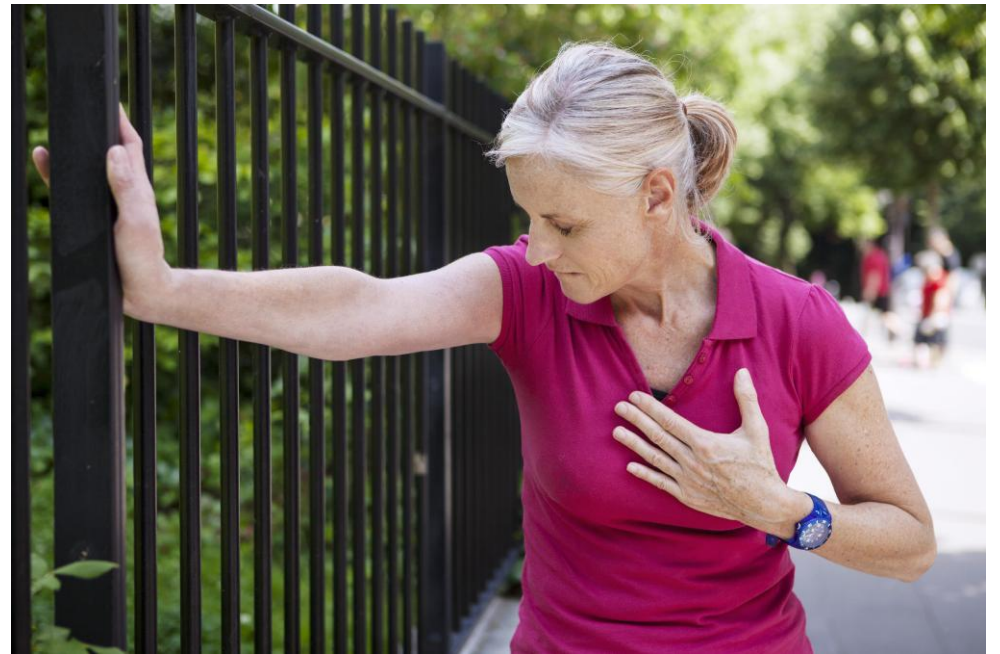
Atherosclerosis is the buildup of cholesterol and fatty deposits that leads to the narrowing of the arteries.

The amount of blood flowing through the artery is reduced. In addition, these deposits are known as plaque.

# Coronary Artery Disease

## Angina Pectoris

- Chest pain or discomfort that occurs when the heart muscle does not receive enough blood.
- Not all chest aches or pains are angina. If you experience chest pain, it's important to consult a healthcare professional.



# Coronary Artery Disease

## Heart Attack

It occurs when the heart does not receive enough blood flow.

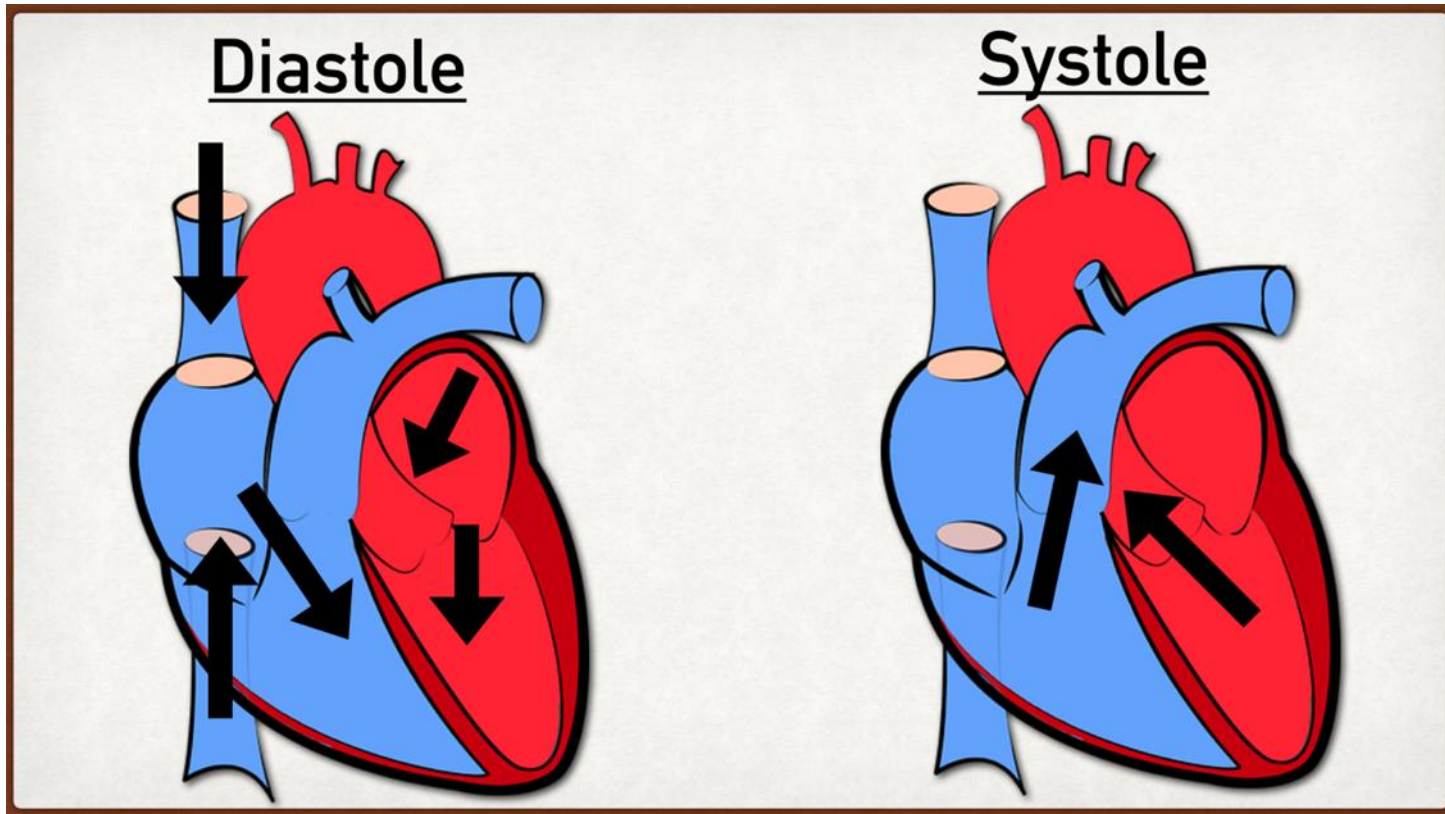
In most cases, it begins gradually with mild aches or discomfort.

The most common sign of a heart attack is pain or pressure in the center of the chest.



# Coronary Artery Disease

## Congestive Heart Failure



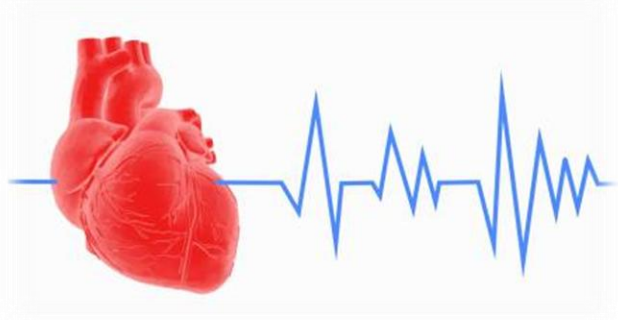
The heart stops pumping enough blood to supply the rest of the body.

Symptoms may include extreme tiredness, weight gain, shortness of breath, and a persistent cough.

Heart attacks can lead to heart failure because part of the heart muscle becomes damaged.

# Arrhythmias

It affects the heart's rhythm (pulse). This happens when the heart's electrical system is not working properly.

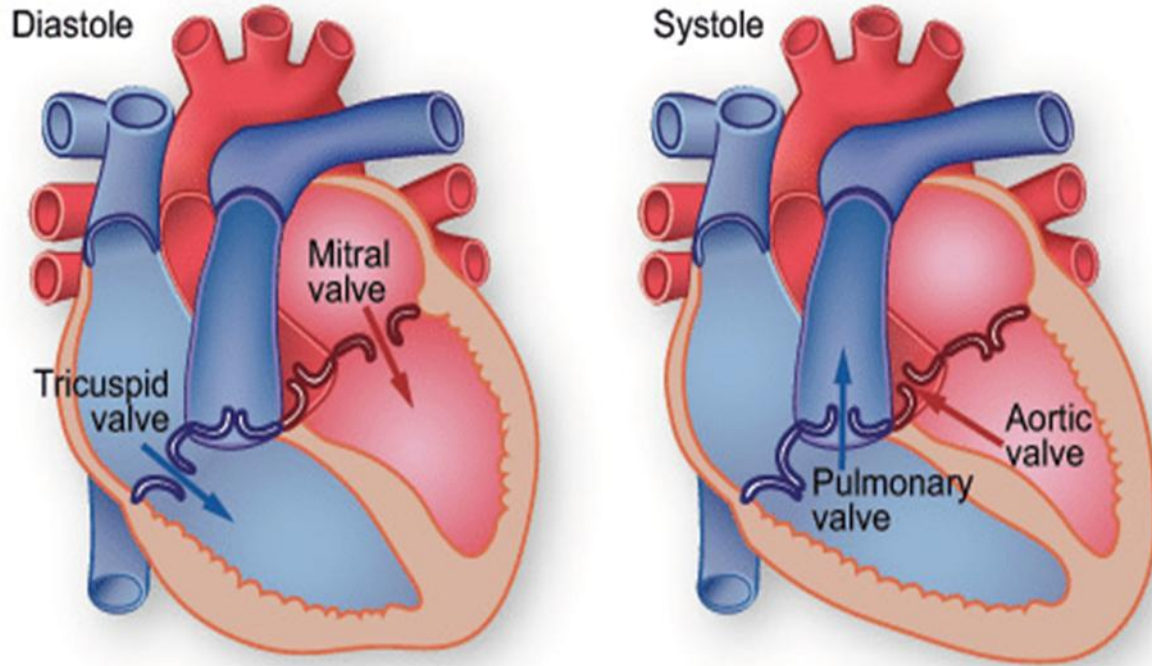


The heart may beat too fast, too slow, or irregularly.



Certain heart conditions, such as a heart attack or heart failure, can also disrupt the heart's electrical system.

# Heart valve diseases



It occurs when one of the four heart valves is not functioning properly.

- Blood may leak backward, flow in the wrong direction, or the valve may fail to open fully and restrict blood flow.

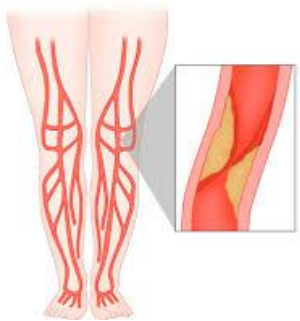
The most common sign is an unusual heart sound, known as a heart murmur.

# Peripheral Artery Disease

It occurs when the arteries in the legs and feet become narrowed by plaque buildup.

Narrowed arteries reduce or block blood flow.

When blood and oxygen cannot reach the legs, nerve and tissue damage can occur.



# Stroke

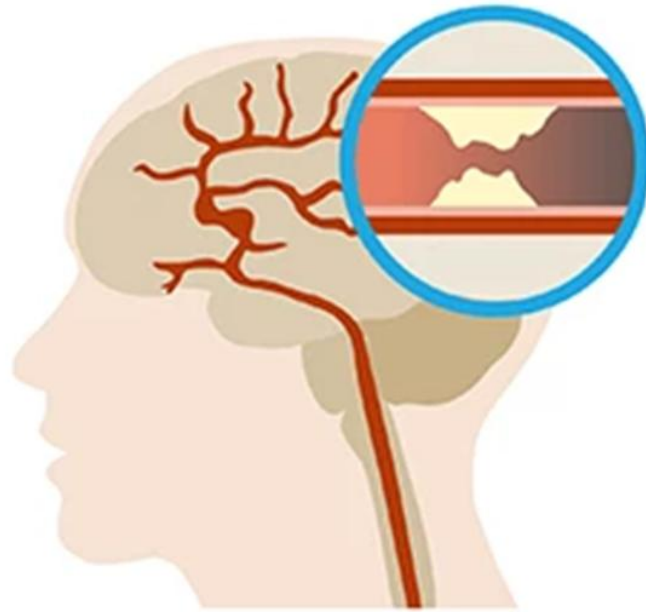
It occurs when a part of the brain does not receive the blood it needs.

During a stroke, brain cells can die.

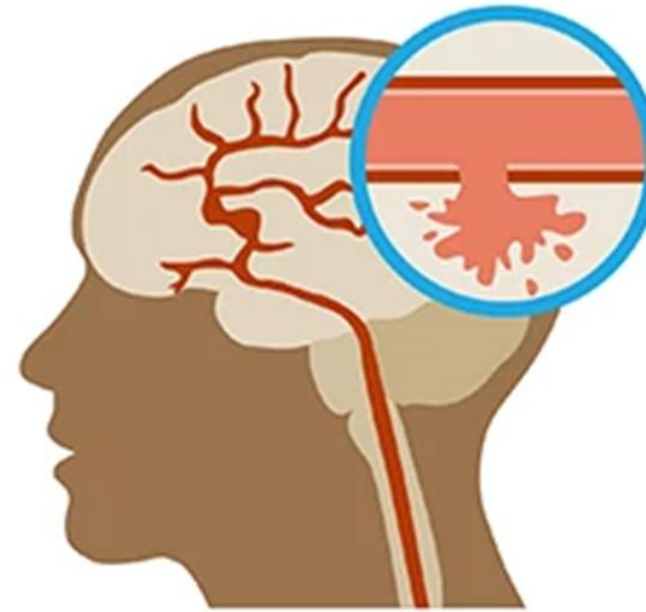
**Ischemic stroke** occurs when blood flow is blocked and cannot reach the brain.

**Hemorrhagic stroke** occurs when a blood vessel in the brain bursts and blood leaks into surrounding tissue.

# Stroke



Ischemic stroke



Hemorrhagic stroke

# Signs

The signs of a stroke appear suddenly and are different from those of a heart attack. Common signs include:

Numbness or weakness of the face, arm, or leg, especially on one side of the body.

Confusion or difficulty speaking or understanding speech.

Difficulty and or trouble walking, dizziness, or loss of balance or coordination.

Difficulty seeing in one or both eyes.

A severe headache with no known cause.

Following the F.A.S.T. recommendations is key to improving the chances of surviving a stroke.



**F-Face (CARA)**

Is one side of the face drooping when the person smiles?



**A-Arms (BRAZOS)**

Does one arm drift downward when both arms are raised?



**S-Speech (HABLA)**

Is the person slurring their words or saying something unusual when repeating a phrase?



**T-Time (TIEMPO)**

If you see any of these signs, call 9-1-1 immediately.

# Risk Factors



## Factors You Can't Control

- Age
- Family history
- Ethnicity

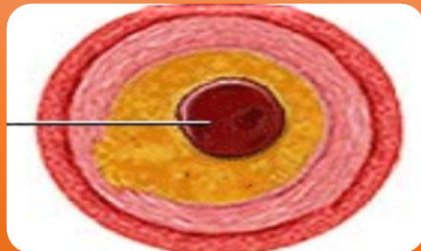
## Factors you can control

- Smoking
- High cholesterol levels
- Hypertension
- Feeding

# Risk Factors



Breathing tobacco smoke for long periods of time, or even constantly can increase the risk of cardiovascular disease, even if you are not a smoker.



High cholesterol increases the risk of heart disease because plaque buildup reduces blood flow.



High blood pressure makes it harder for blood to flow because the increased force against the artery walls causes them to narrow or stiffen.

# Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

# Cholesterol

- It is a fat-like substance found in all the cells of the body.
- Cholesterol is produced by the liver and is also found in certain foods, such as meat and dairy products.
- A blood test called a lipoprotein panel can be used to measure your cholesterol levels.

Type of cholesterol	Male 20 years or older Healthy range:	Female 20 yrs. or older Healthy range:
<b>Total cholesterol:</b> The total amount of cholesterol in the blood, including both LDL and HDL.	125 to 200 mg/dL	125 to 200 mg/dL
<b>Non-HDL cholesterol:</b> This value represents your total cholesterol minus your HDL (“good”) cholesterol. (HDL).	Less than 130 mg/dL	Less than 130 mg/dL
<b>LDL:</b> Often called “bad” cholesterol because it can build up in the arteries and cause blockages.	Less than 100 mg/dL	Less than 100 mg/dL
<b>HDL:</b> Good cholesterol that helps remove excess cholesterol from the arteries.	40 mg/dL or higher	50 mg/dL or higher

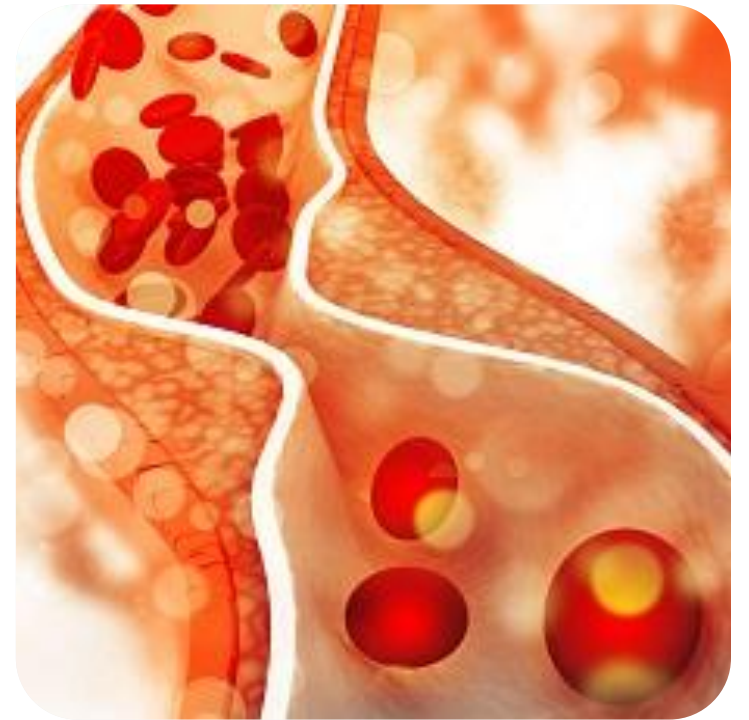
# How often should a person have a cholesterol test?

Adults ages 20 to 44  
should be tested every 5  
years.

Men ages 45 to 65 and  
women ages 55 to 65  
should be tested every 2  
years.

## **Risk factors:**

- Eating foods high in saturated fat and cholesterol
- Lack of physical activity
- Smoking
- Genetics



# Recommendations to reduce risks



Quit smoking. Talk to a professional if you need help quitting.



Reduce your intake of foods high in saturated fat and cholesterol.



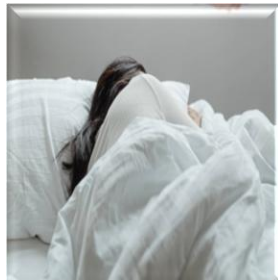
Maintain recommended levels of blood pressure, cholesterol, and blood sugar.

# Recommendations to reduce risks

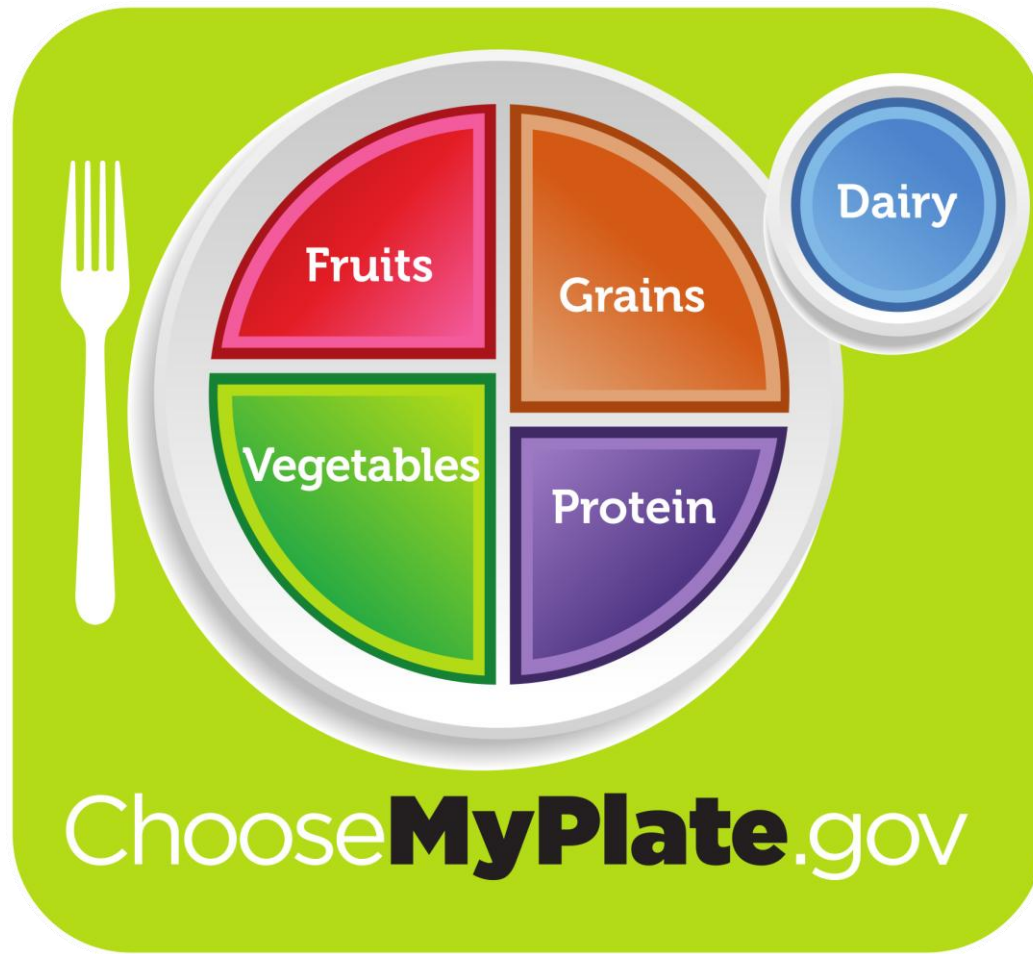


Get 30 minutes of physical activity a day, 3 to 5 days a week.

Maintain a healthy weight.



Get plenty of rest.



Choose **MyPlate**.gov

# The New Pyramid



## HEALTHY FATS

### UNSATURATED FATS

#### Monounsaturated fats

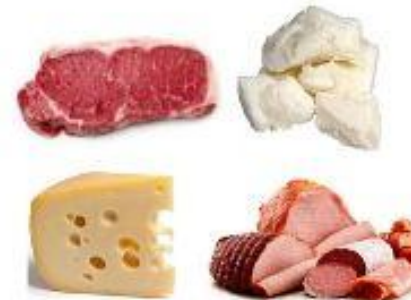


#### Polyunsaturated fats



## UNHEALTHY FATS

### SATURATED FATS



### TRANS FAT



# Don't forget about physical activity...



Get at least 60 minutes of exercise each day.



Aim for at least three days of structured exercise per week.



Limit the amount of time spent on sedentary activities.

# Social and Emotional Aspect

For tips, tools, and resources on how you and your family can cope with the emotional and physical concerns that arise during and after your medical treatment, please visit your primary care physician or call the following phone lines:

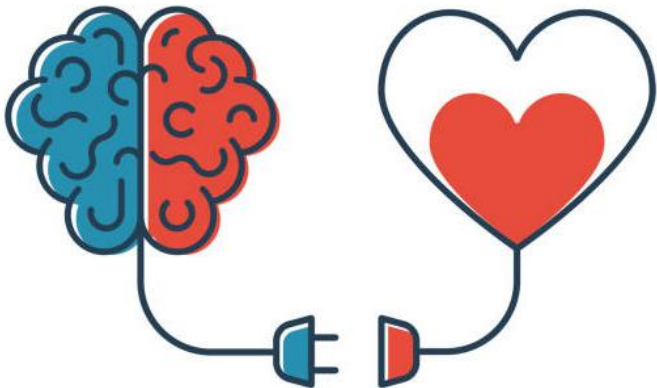
## Medical Advice Line

1-844-347-7801

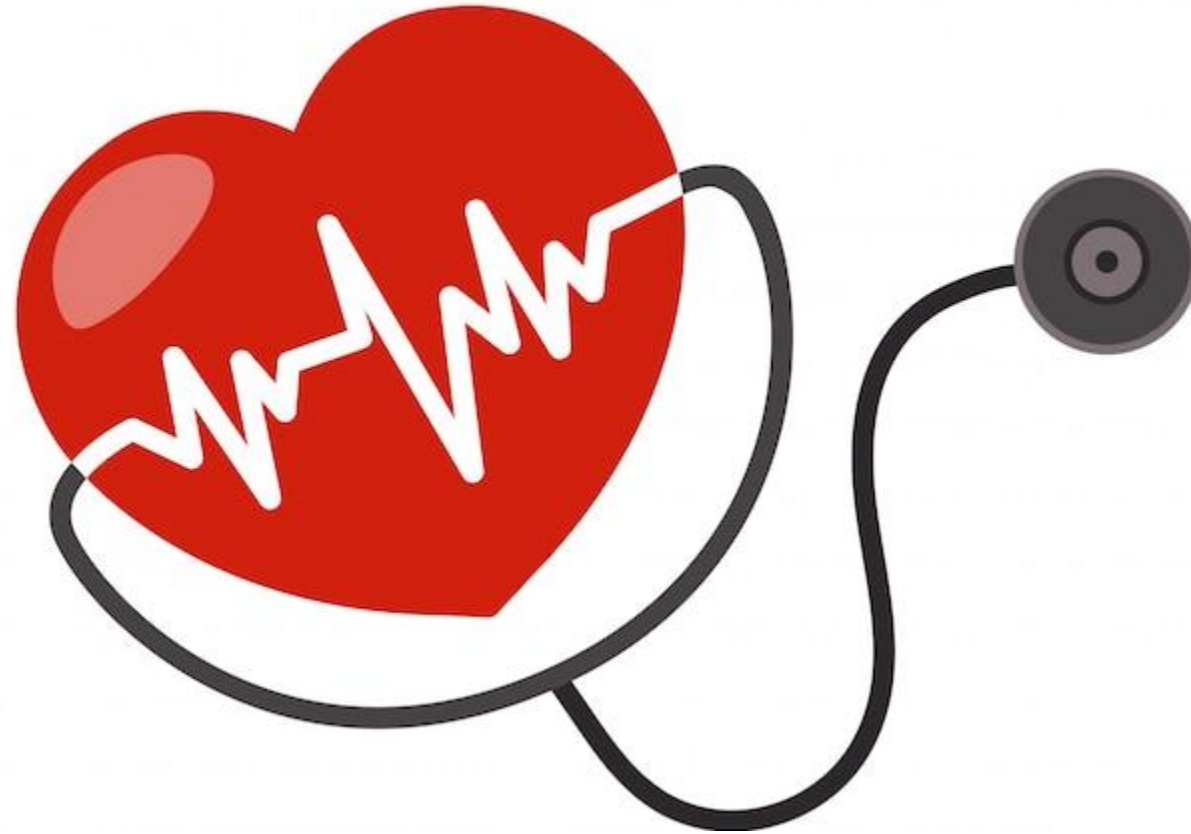
**TTY/TDD** 1-844-347-7805

**APS Health**

787-641-9133



**Thank you for your  
attention!**



# References:

- <https://fundaciondelcorazon.com/prevencion/como-funciona-el-corazon.html>
- <https://fundaciondelcorazon.com/prevencion/riesgo-cardiovascular/colesterol.html>
- <https://medlineplus.gov/spanish/ency/patientinstructions/000759.htm>
- <https://www.mayoclinic.org/es-es/diseases-conditions/high-blood-pressure/in-depth/high-blood-pressure/art-20046974>
- <https://www.bangkokhospital.com/en/bangkok-heart/content/8-lifestyle-changes-to-protect-your-heart>
- <https://medlineplus.gov/spanish/coronaryarterydisease.html>
- <https://wic.pr.gov/assets/pdf-web/material-recursos-adicionales/general/Mi%20Plato.pdf>
- <https://www.lavanguardia.com/comer/tendencias/20260112/11430614/nueva-piramide-nutricional-ee-uu-que-propone-que-cuestiona-evidencia-cientifica.html>
- <https://medlineplus.gov/spanish/ency/patientinstructions/000104.htm>
- <https://www.ahajournals.org/doi/10.1161/CIRCRESAHA.125.325526>

¿Ayuda con su Plan de Salud del Gobierno?



Línea libre de cargos  
**1-800-981-2737**  
TTY 787-474-3389