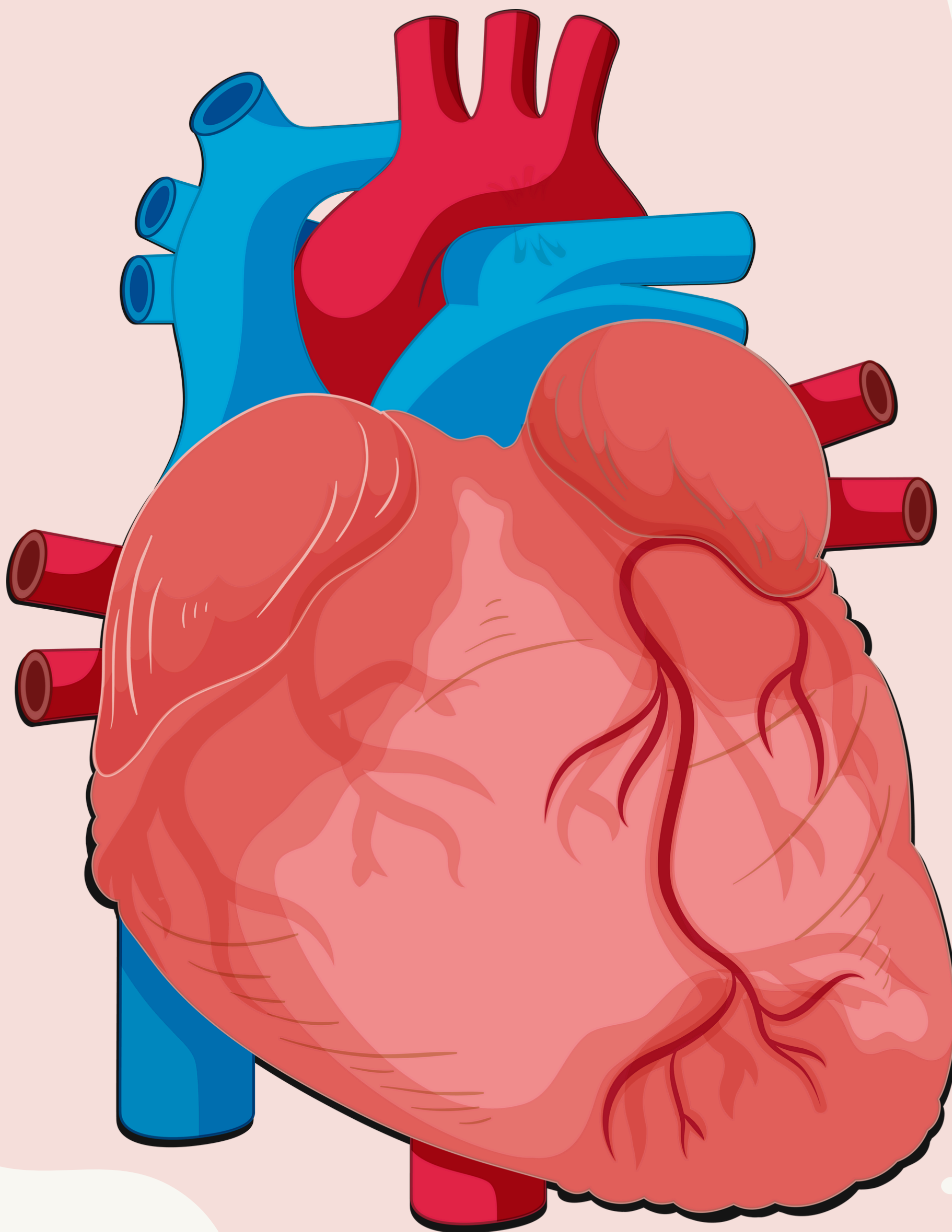


CARDIOVASCULAR DISEASE



**A Guide to
Cardiovascular Disease** ¹

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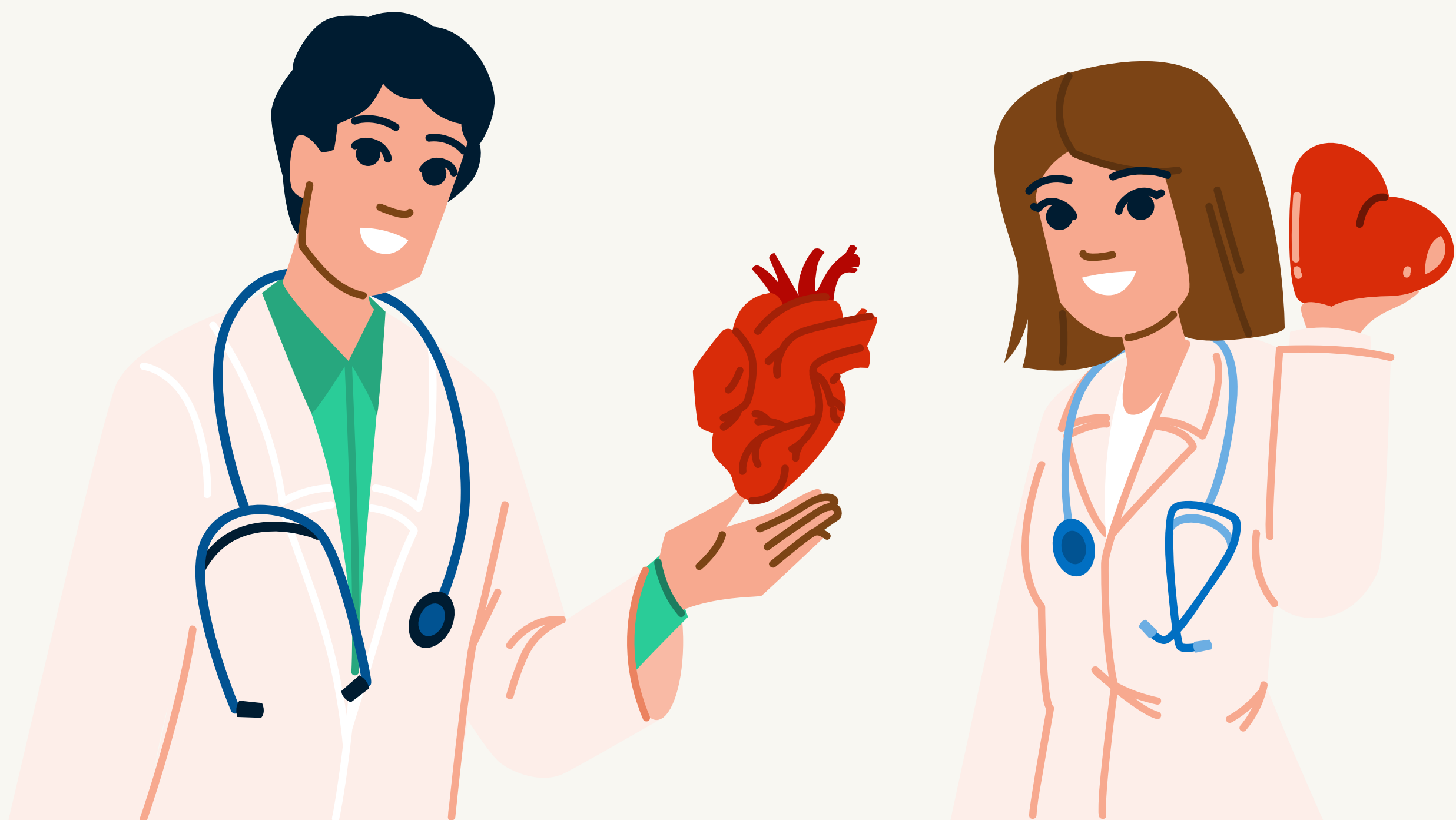
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CHAPTER 1:

Introduction



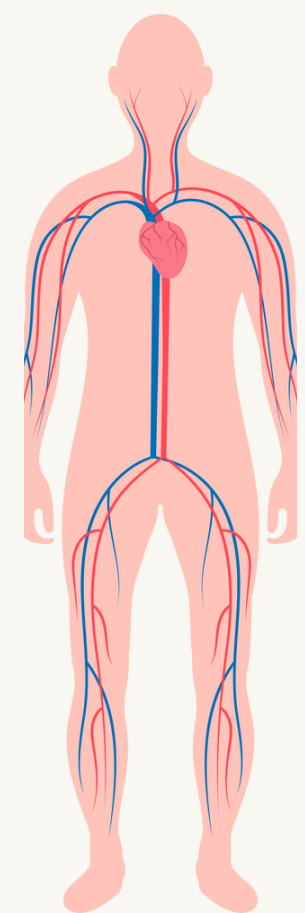
Definition and Relevant Information on Cardiovascular Disease

How to Use this Manual

This manual is written so readers can better understand what cardiovascular disease is, its symptoms, what can cause it, and tools and resources to combat or avoid developing it or any heart issues.

What is Cardiovascular Disease?

This is a multitude of conditions that will develop if plaque builds the walls of someone's arteries. This buildup narrows those arteries, making blood flow build up in pressure and eventually block.¹



Different Types of Cardiovascular Disease

Heart Attack

- The development of a clot in an artery that cuts off the blood flow completely, the part of the heart muscle supplied by that artery begins to die.

Stroke

- This occurs when a blood vessel that feeds the brain gets blocked, usually by a blood clot. When this happens, some brain cells will begin to die. This can result in the loss of functions controlled by that part of the brain.

Heart Failure

- The heart isn't pumping blood as well as it should be, and the body's need for blood and oxygen isn't being met.

Arrhythmia

- This is when the heart beats in an unnatural rhythm. ¹

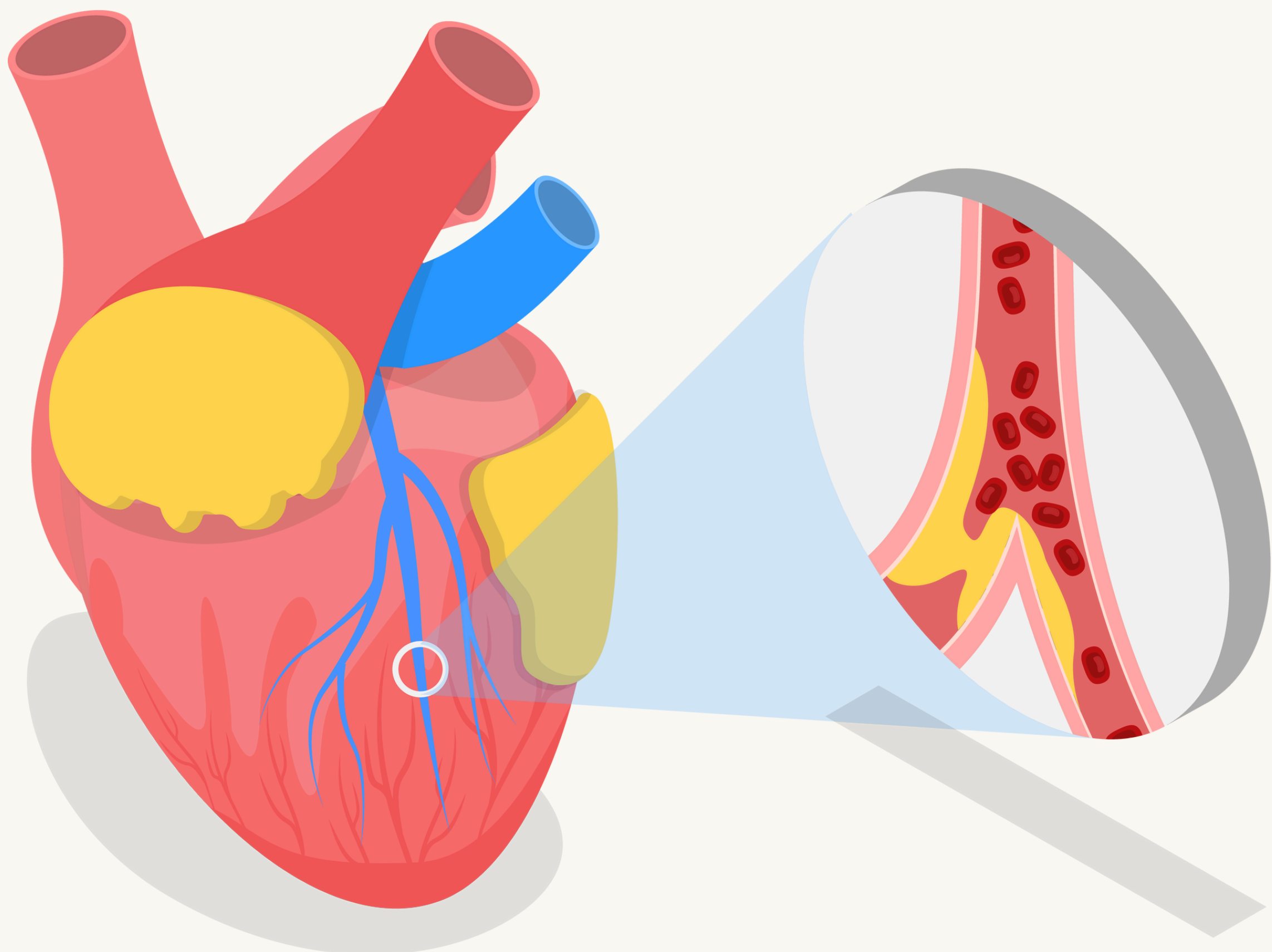


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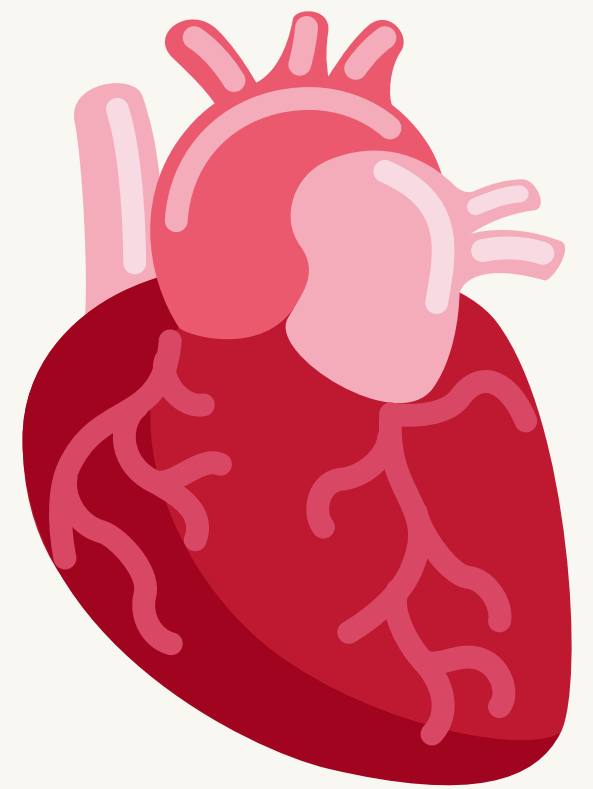
About the Cardiovascular System



About the Cardiovascular System

The Heart

The heart is in the center of the chest, near the lungs. It has four chambers surrounded by muscle and other heart tissue. The chambers are separated by heart valves, which make sure that the blood keeps flowing in the right direction. 1



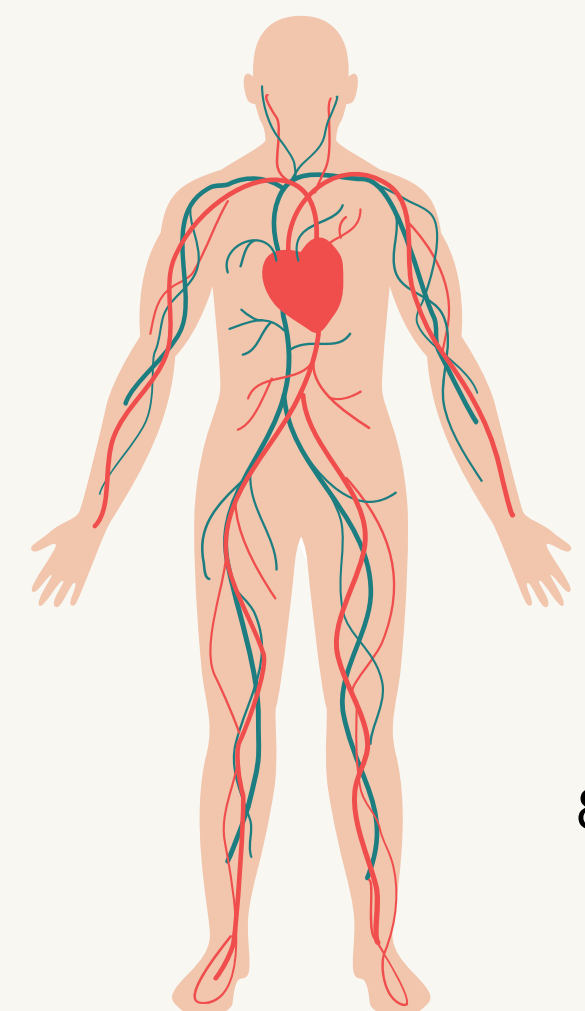
The Blood Vessels

Blood vessels are the channels or conduits through which blood is distributed to body tissues. The vessels make up two closed systems of tubes that begin and end at the heart. 2



The Circulatory System

The pulmonary vessels transport blood from the right ventricle to the lungs and back to the left atrium. The other system, the systemic vessels, carries blood from the left ventricle to the tissues in all parts of the body and then returns the blood to the right atrium. 3

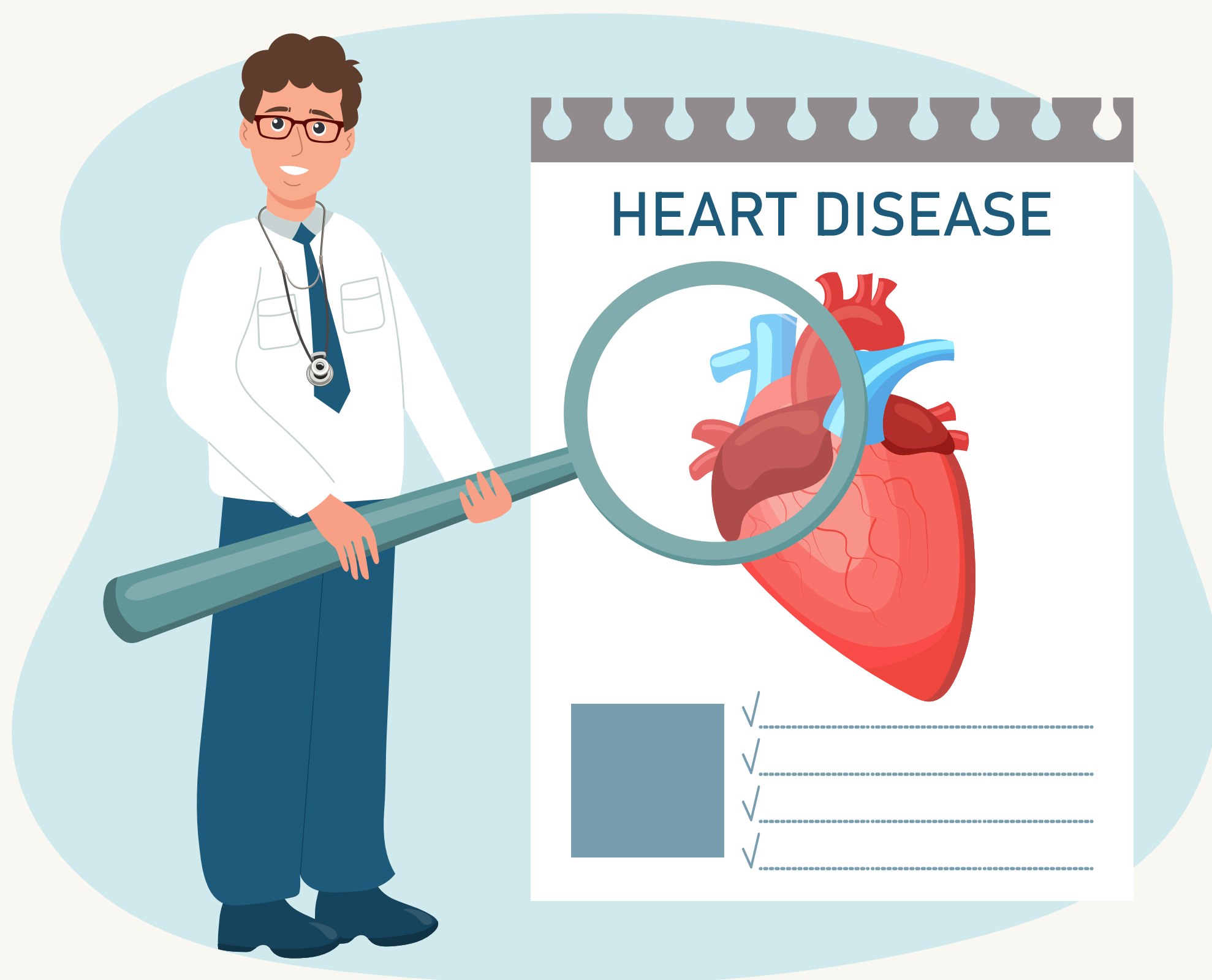


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CHAPTER 3:

Cardiovascular Disease Statistics



CVD By The Numbers

Age Dependent

After age 55, increased risk of CV deaths with earlier onset in men but higher lifetime risk in women post-menopause.³

55

65

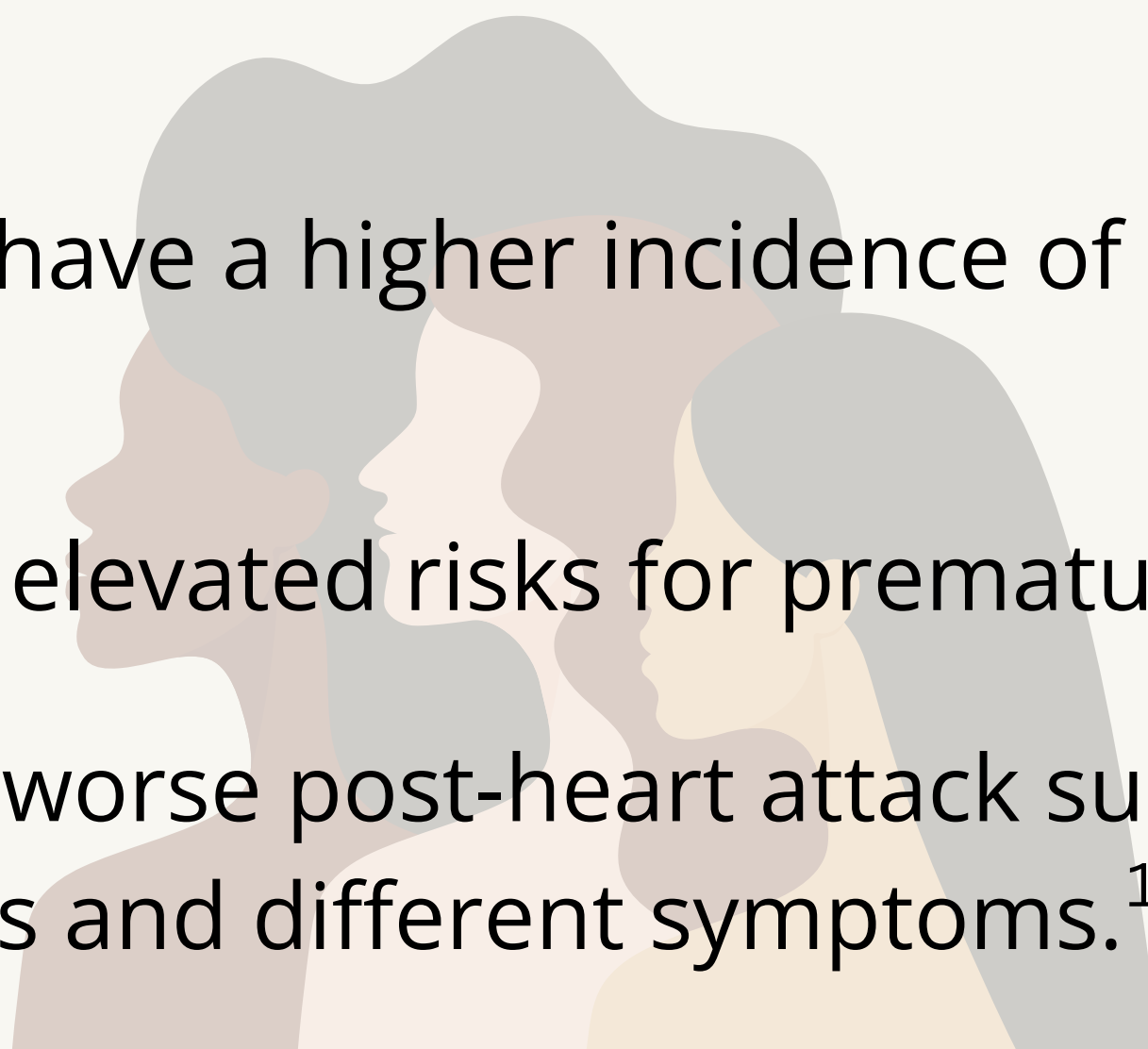
80% of all CV deaths in the US occur in adults 65 and older.³

Race and Gender

African Americans have a higher incidence of hypertension and heart failure.¹

South Asians show elevated risks for premature CAD

Women often have worse post-heart attack survival, possibly due to delayed diagnosis and different symptoms.¹



CVD By The Numbers

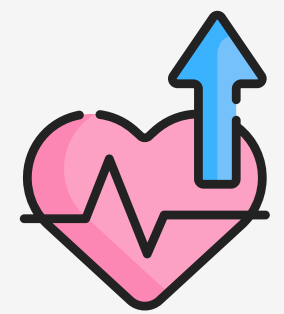
Mortality Rates

- Nearly 1 out of 5 deaths are caused by CVD
- In 2021, over 695,000 Americans died from heart disease²
- Stroke is the fifth leading cause of death²
- Mortality rates are higher in rural areas due to limited access to preventive care and emergency response.²



Survival Rate

- Advances in technology and early intervention attribute to improved survival rates.
- Post-heart attack, the 5-year survival rate is 75%, decreasing with conditions like diabetes or chronic kidney disease.⁵
- Heart failure survival is improving, with about 80% surviving a year, but only around 50% surviving 5 years.⁴



Overall Incidence Rate

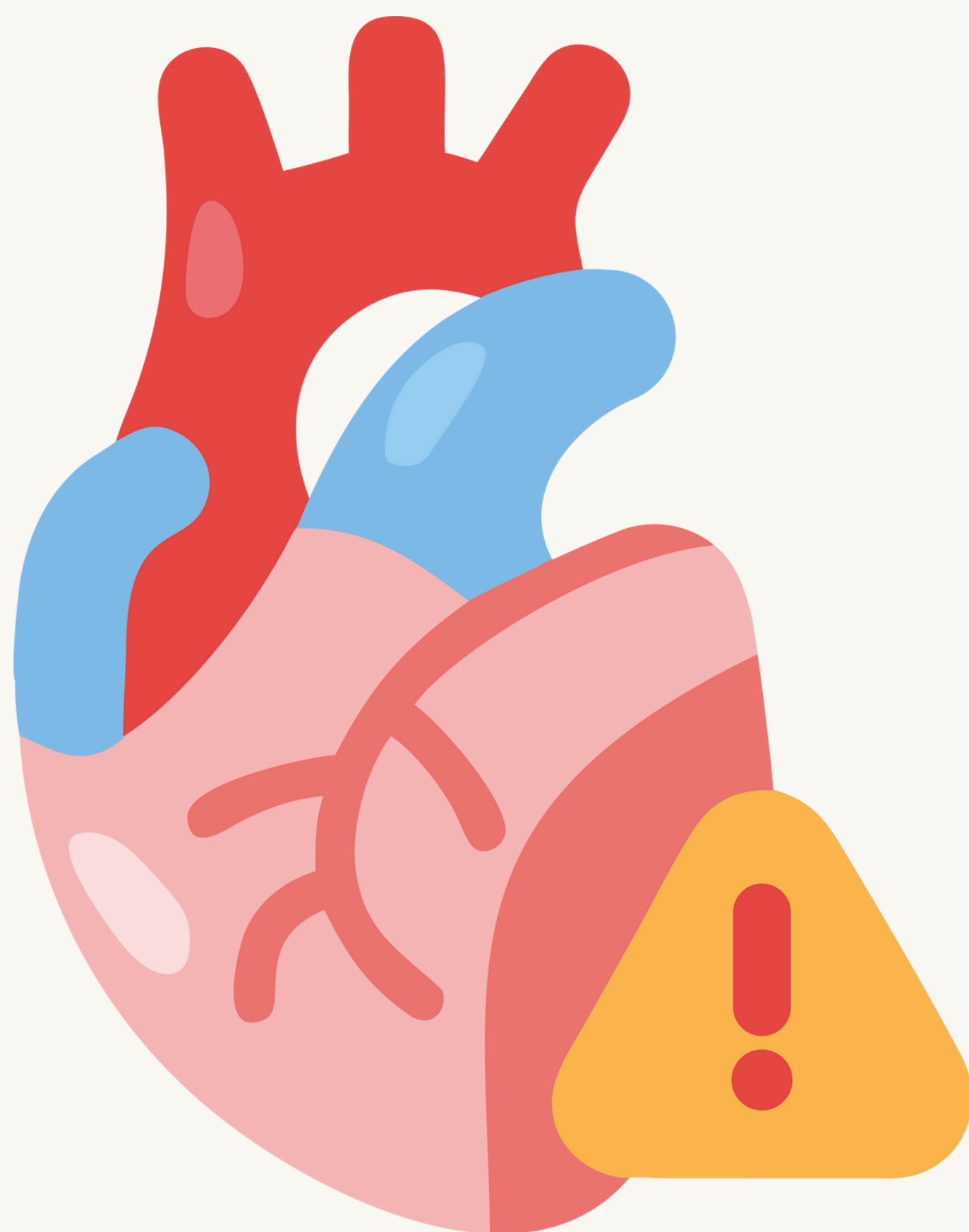
- CVD affects about 1 in 3 US adults and causes over 850,000 hospitalizations yearly.
- The global incidence of CVD is especially pronounced in lower-income countries due to lifestyle shifts and increased urbanization.
- CAD is the most common CVD, followed by stroke and heart failure.¹

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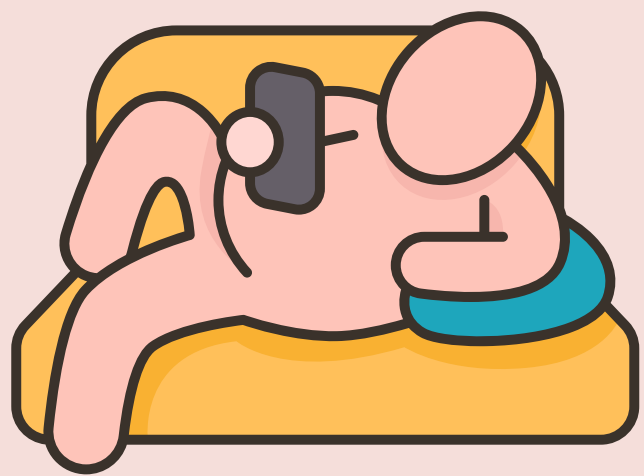
Risk Factors of Cardiovascular Disease



CVD Risk Factors: What's in Your Control?

Unhealthy Diet

High-sodium, high-trans-fat, and high-added-sugar diets contribute to hypertension, obesity, and atherosclerosis.⁴

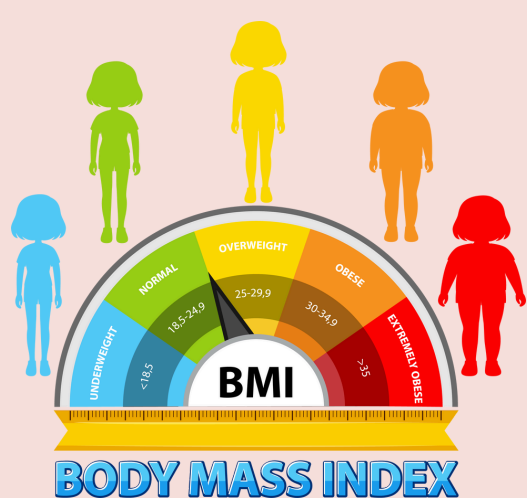
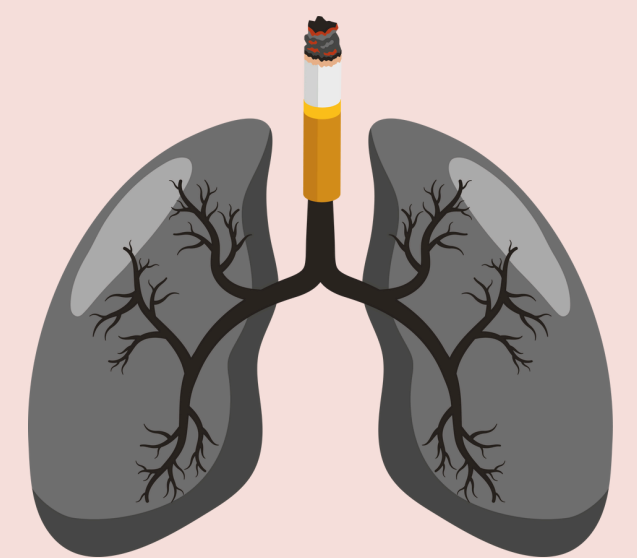


Physical Inactivity

Lack of exercise is linked to elevated blood pressure and LDL cholesterol; adults should aim for 150 minutes of moderate aerobic activity weekly.¹

Smoking & Secondhand Smoke

Smoking damages blood vessels and lowers oxygen levels, sharply increasing cardiovascular risk.¹



Obesity & Metabolic Syndrome

Smoking damages blood vessels and lowers oxygen levels, sharply increasing cardiovascular risk.⁵

Chronic Stress

Long-term stress and poor mental health increases cortisol, promoting arterial inflammation and plaque buildup, thus contributing to CVD.⁴

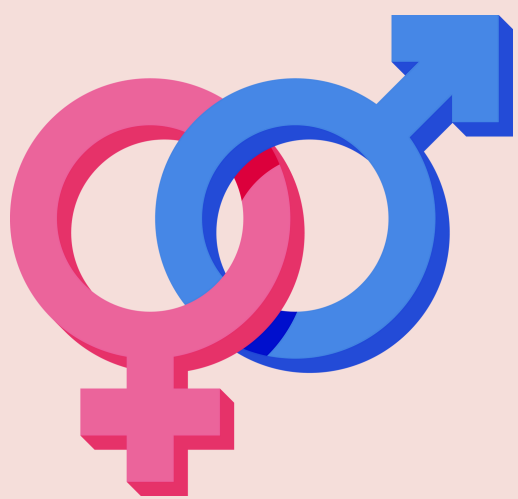


CVD Risk Factors:

What's Out of Your Control?

Age

Nearly 80% of CVD-related deaths occur in individuals aged 65 and older.¹



Gender

While men tend to experience heart attacks earlier, women often face worse outcomes afterward.³

Genetics

A first-degree relative with early-onset CVD significantly elevates your risk.⁵

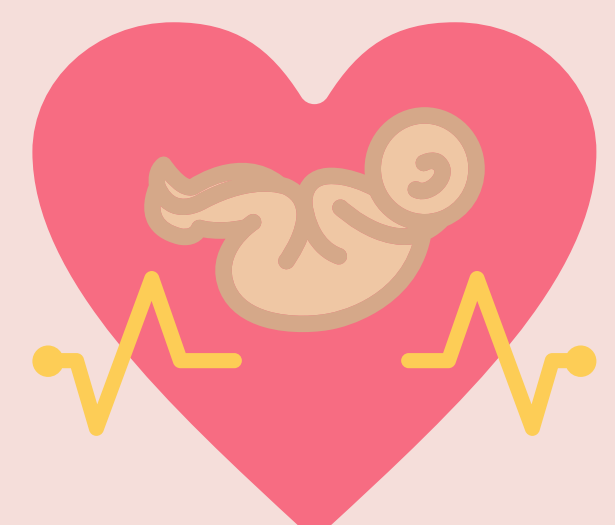


Race/Ethnicity

African Americans have higher rates of hypertension and stroke; South Asians have elevated risks of metabolic syndrome and coronary artery disease.⁵

Congenital Heart Conditions

Some people are born with structural heart issues that increase lifetime risk, regardless of lifestyle.⁴

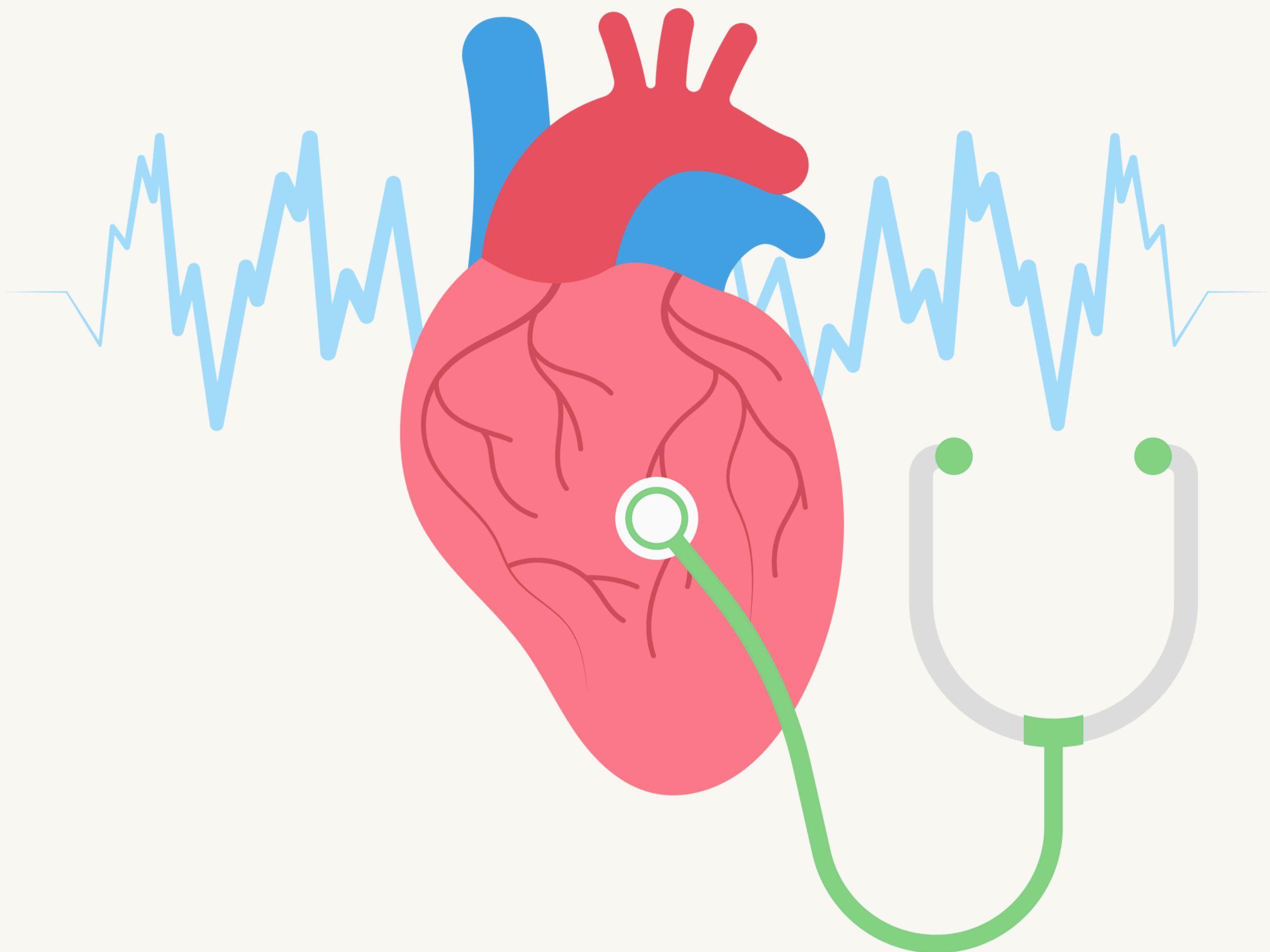


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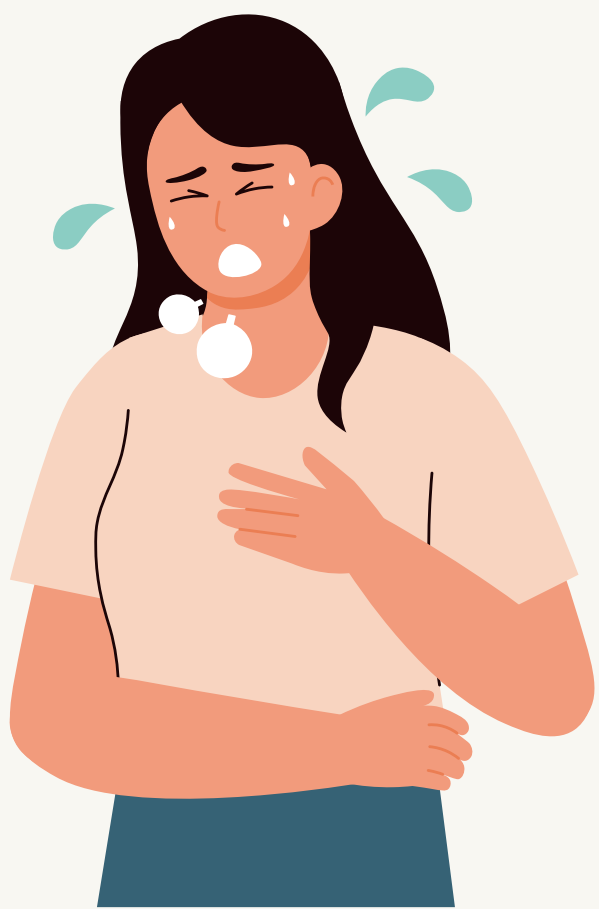
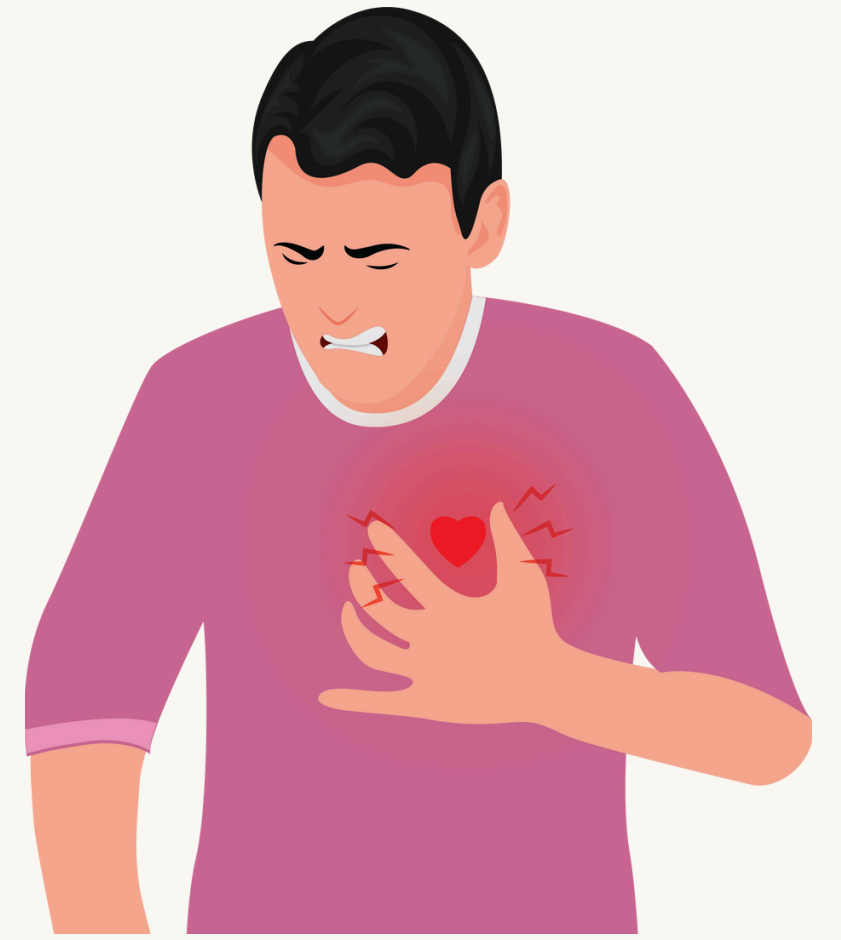
Heart Failure Signs and Symptoms



Recognizing Heart Attack Signs

Chest Pain

Occurs in the center of the chest, lasts more than a few minutes, or goes away then returns. Feels like uncomfortable pressure, squeezing, or fullness³



Shortness of breath

Can happen with or without chest pain³

Women Signs

Women tend to describe chest pain in different ways⁴

- Pain in the shoulder, back or arm
- Upset stomach
- Nausea or vomiting
- Unusual tiredness and weakness

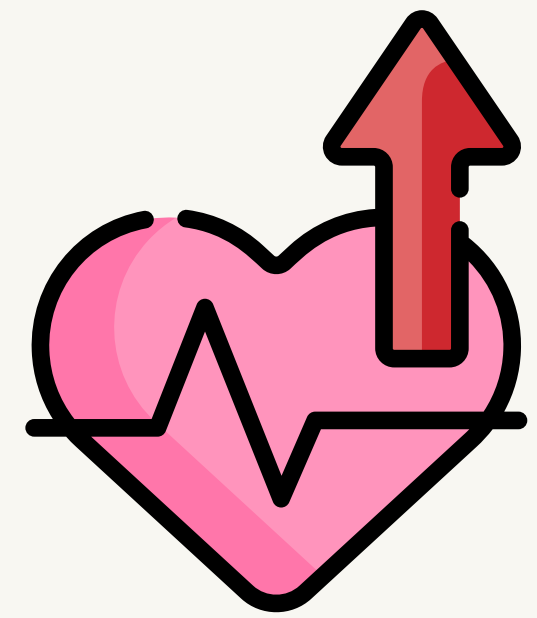


Recognizing Heart Failure Signs

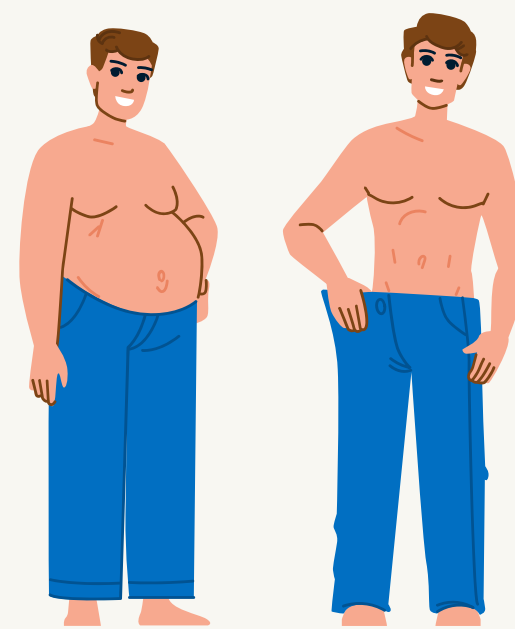
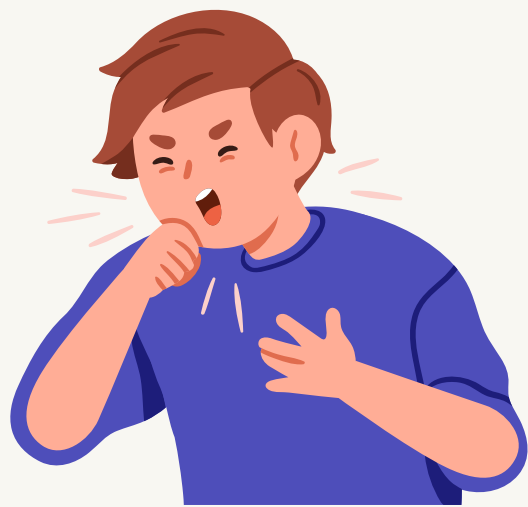


Shortness of breath²

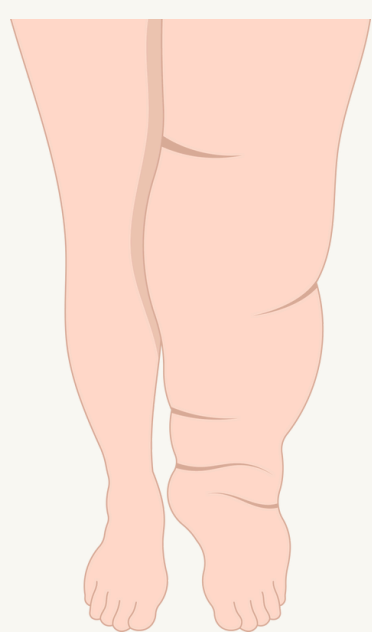
Increased heart rate - feel like heart is racing or throbbing¹



Persistent coughing or wheezing - white or pink blood-tinged mucus¹



Weight changes - sudden weight gain or weight loss¹



Buildup of excess fluid in body tissues - swelling in the feet, ankles, legs, abdomen²

Lack of appetite, nausea¹



Fatigue/tiredness when doing everyday activities¹



Full bloated or hard stomach²

Stroke

Things To Look Out For

F.A.S.T

- **F** = Face Drooping (one side of face droops or numb)
- **A** = Arm Weakness (one arm weak or numb)
- **S** = Speech Difficulty (slurred speech)
- **T** = Time to Call 911 (note the time when symptoms first appear)⁵

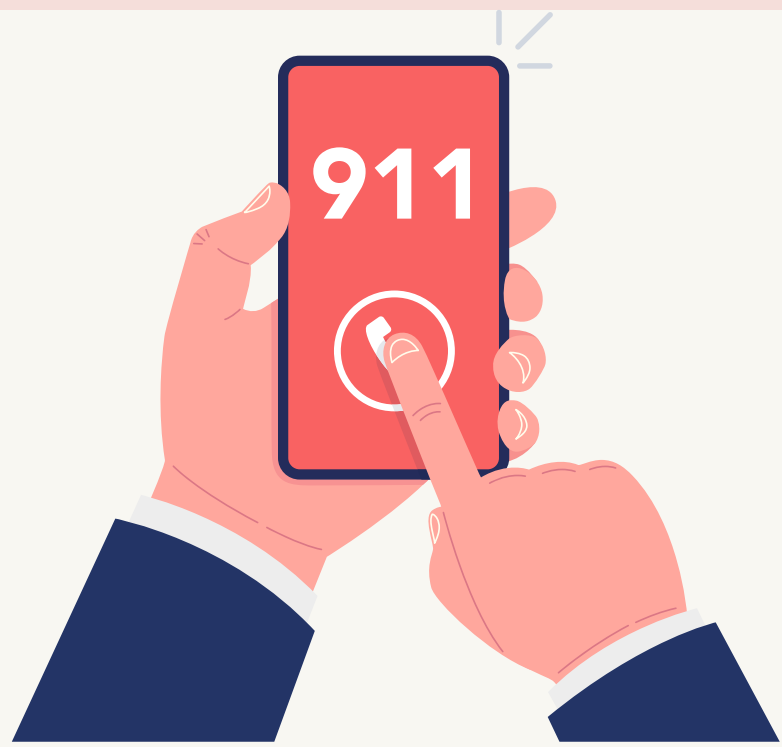


Other Signs

- Numbness or weakness of one side of the body
- Confusion - trouble speaking or understanding speech
- Trouble seeing in one or both eyes ⁵

What To Do

During a heart attack, failure & stroke



Call 911

Call the universal emergency number⁶



Stay in place

Don't drive yourself to the hospital⁶



Stay on call

Don't hang up the phone⁶



Give

Tell them your address & symptoms⁶

Stay in sight

Unlock the door & lay where they can easily find you⁶

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CHAPTER 6:

Preventative Measures



Heart-Healthy Lifestyle and Diet

Simple steps to support your heart every day



Eat Smart

Choose high fiber, low fat meals ¹



Quit Smoking

Quitting reduces heart disease risk ¹



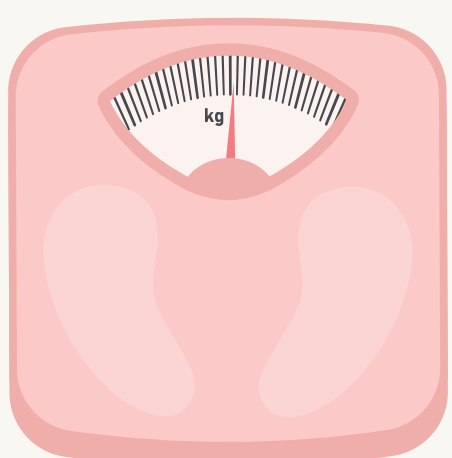
Limit Alcohol

Avoid raising blood pressure ¹



Stay Active

Get at least 150 mins/week moderate ¹



Maintain Healthy Weight

Reduces stress on the heart ¹

Screening and Regular Checkups

Stay on top of key measures to prevent heart problems



Monitor Cholesterol

Check levels every 4-6
years, or at risk ¹



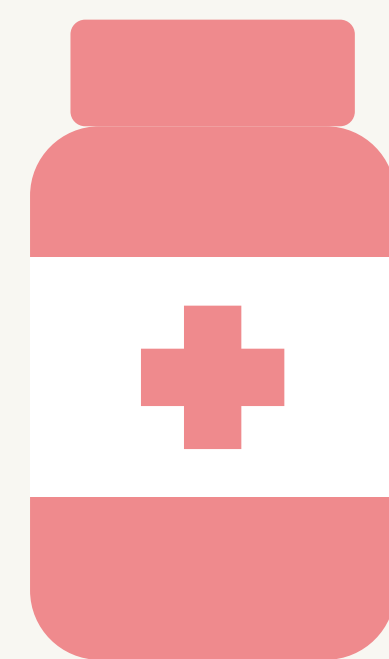
Check Blood Pressure

Every 2 years, or more
frequently if high ¹



Monitor Blood Sugar

If diabetic, follow
treatment ¹



Manage Medications

Take as prescribed,
consult provider ¹

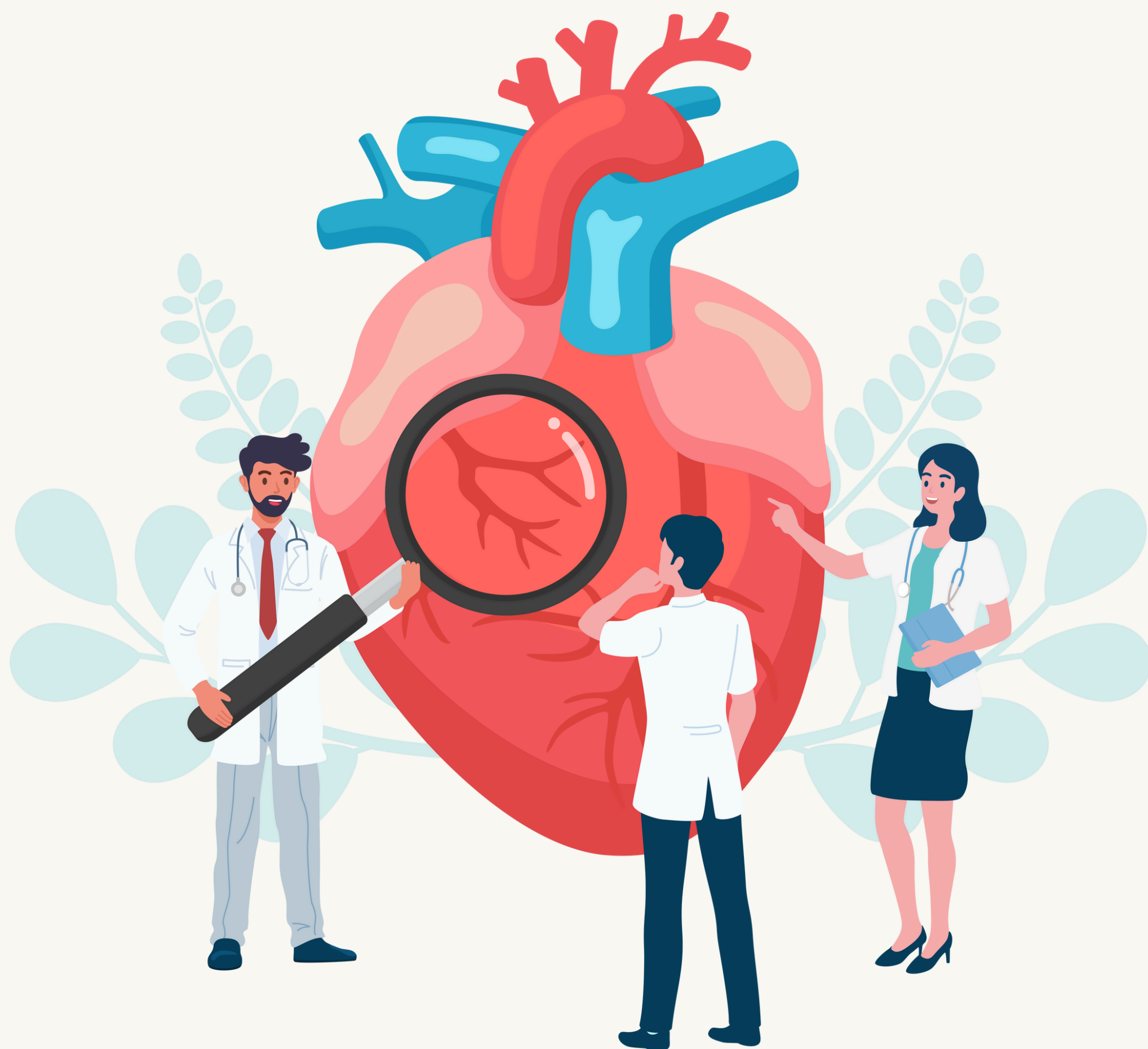
Partner with your health care team

References

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CHAPTER 7:

Doctor to See and When to Visit



What Doctors to See

Cardiologist

A heart specialist who diagnoses and treats cardiovascular conditions like high blood pressure, heart attacks, and arrhythmias¹



Extensive Medical Training

4 + years of medical school + 3 years on internal medicine + 3+ years of cardiology fellowship¹



Practice Settings¹

- Hospitals
- Private practices
- Specialty clinics
- Academic medical centers

What They Do¹

- Conduct heart-related tests (EKGs, MRIs, echocardiograms)
- Create treatment plans using medication, surgery referrals, and lifestyle changes
- Help manage ongoing heart conditions

Treat heart attacks and cardiac arrest¹



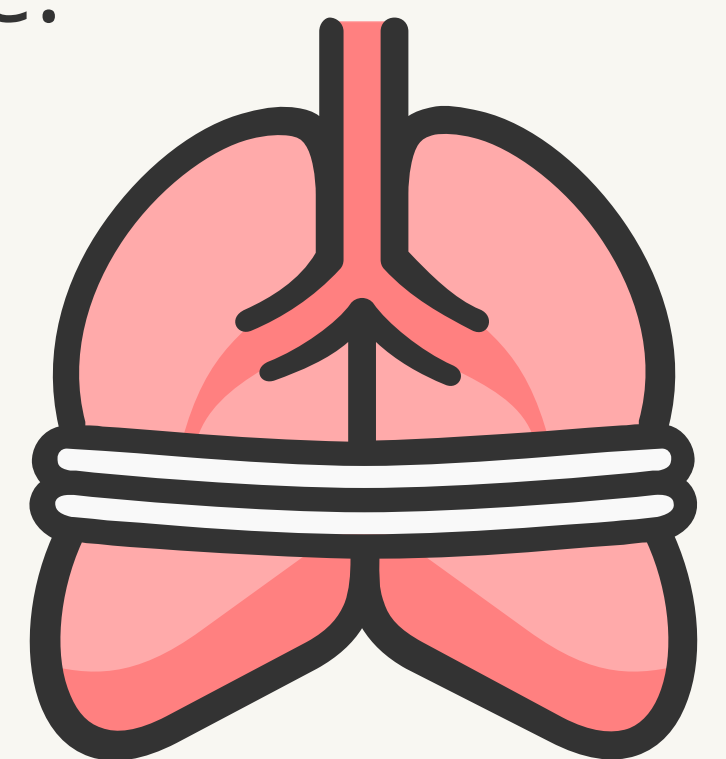
When to See a Doctor



Cardiologists help prevent and treat heart conditions, especially if you have a family history of heart disease or risk factors like high blood pressure or cholesterol²

Consider seeing a cardiologist if you experience:²

- chest pain or pressure
- shortness of breath
- heart palpitations
- swelling in your legs
- sudden weight gain



- Chest discomfort, even if it feels like indigestion, could signal a heart emergency—seek immediate care.
- Referrals typically come from a primary care provider, but you may also see a cardiologist after hospitalization for a heart event.²

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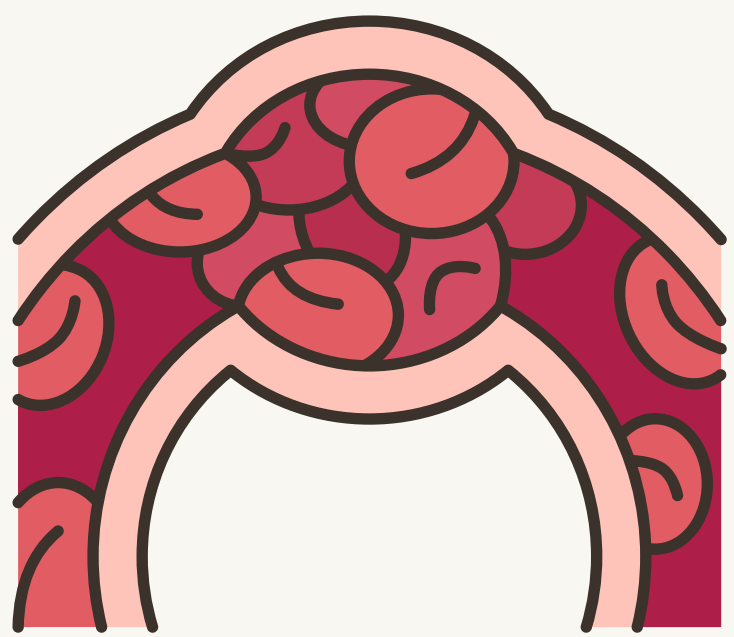
CHAPTER 8:

Treatment



Medication for Heart Attack

Type of heart attack you have affects your treatment



Clot Busters

Help break up blood clots that block blood flow¹



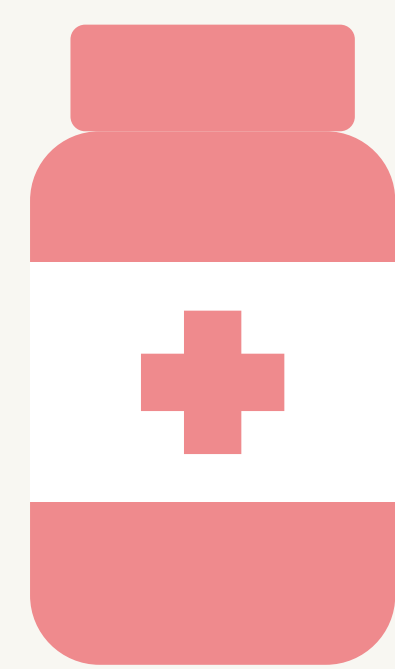
Beta Blocker

Makes the heart beat slower which lowers blood pressure¹



Blood Thinners

Like Aspirin are used to prevent more blood clots from forming²

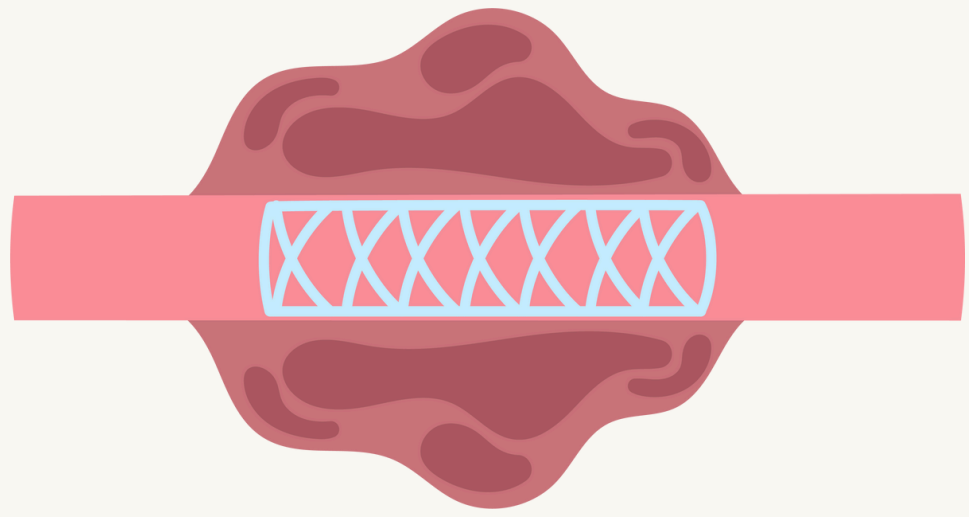


Nitrates

Relieves chest pain & makes it easy for the heart to pump blood²

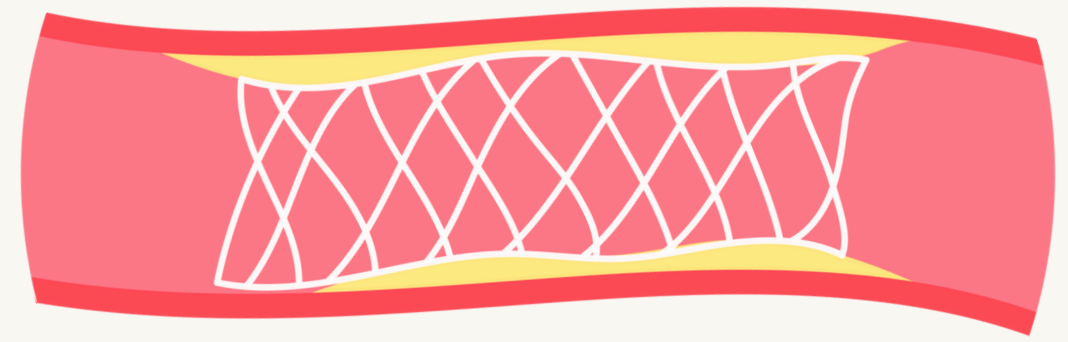
Partner with your health care team

Surgery for Heart Attack



Stent Placement

A small tube is inserted into a block artery to keep it open³

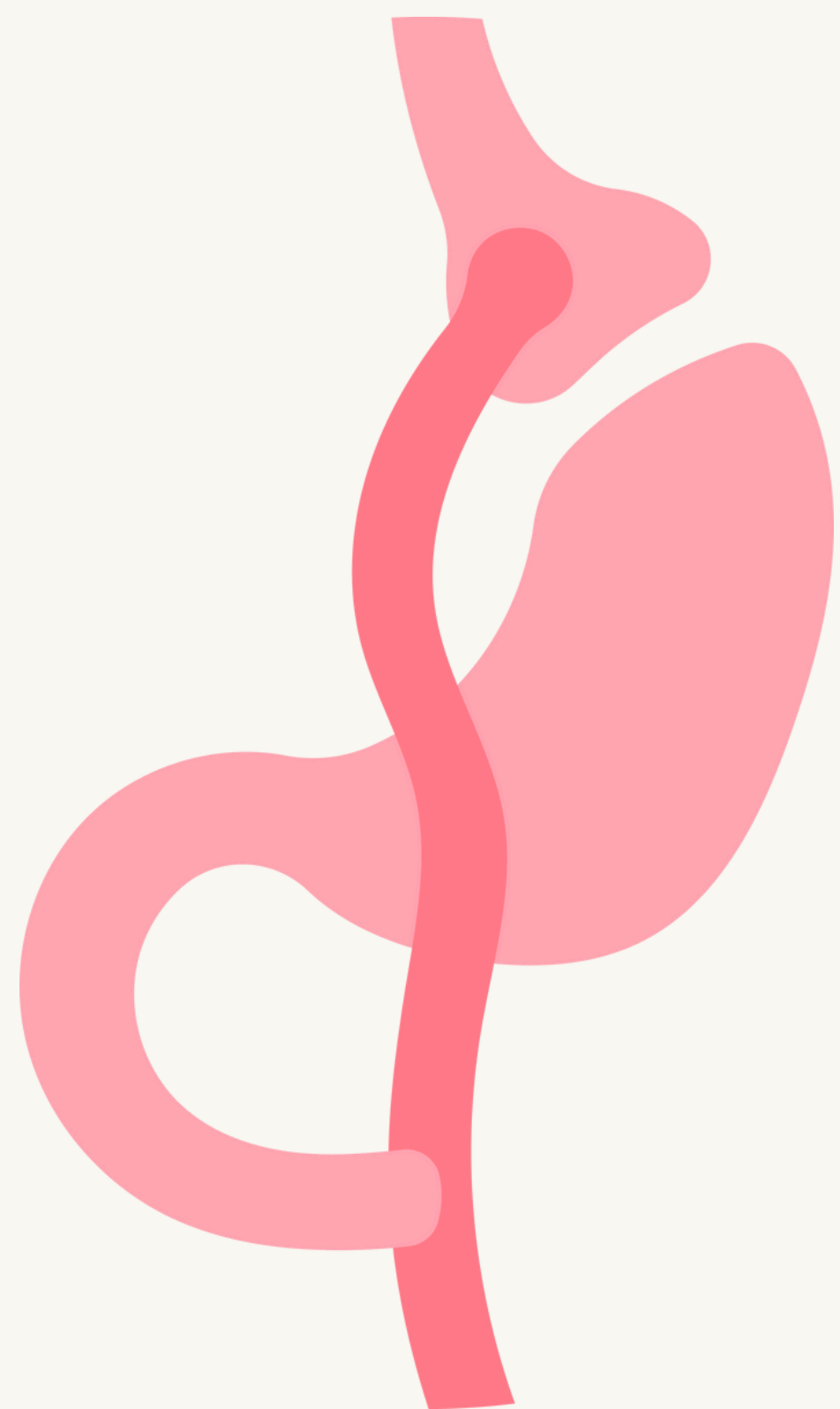


Ballon Angioplasty

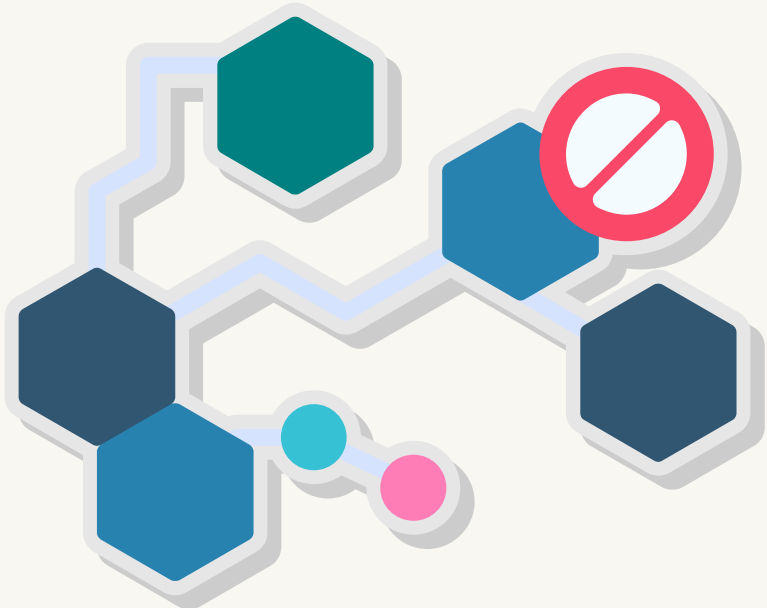
A tiny ballon is used to open the block artery³

Bypass Surgery

Rerouting blood flow around your blocked artery using a blood vessel from your leg or chest³

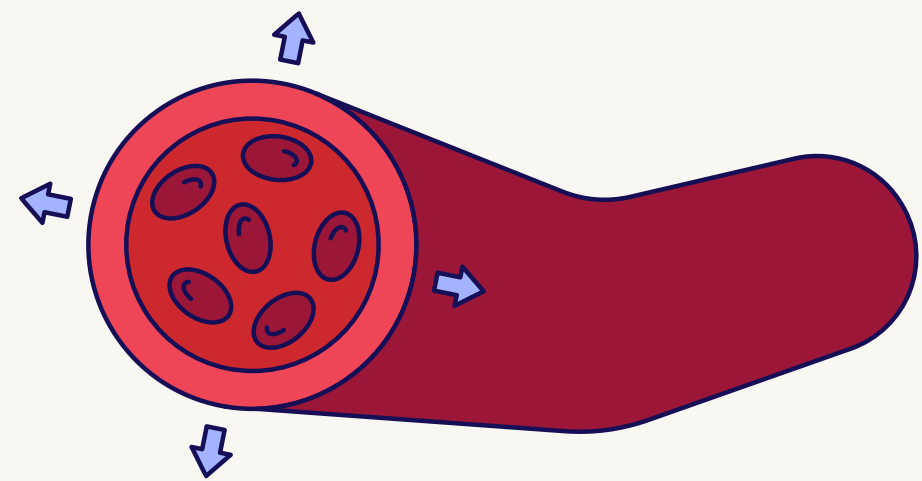


Heart Failure Medication



ACE Inhibitors

Help blood vessels relax making it easier for the heart to pump⁴

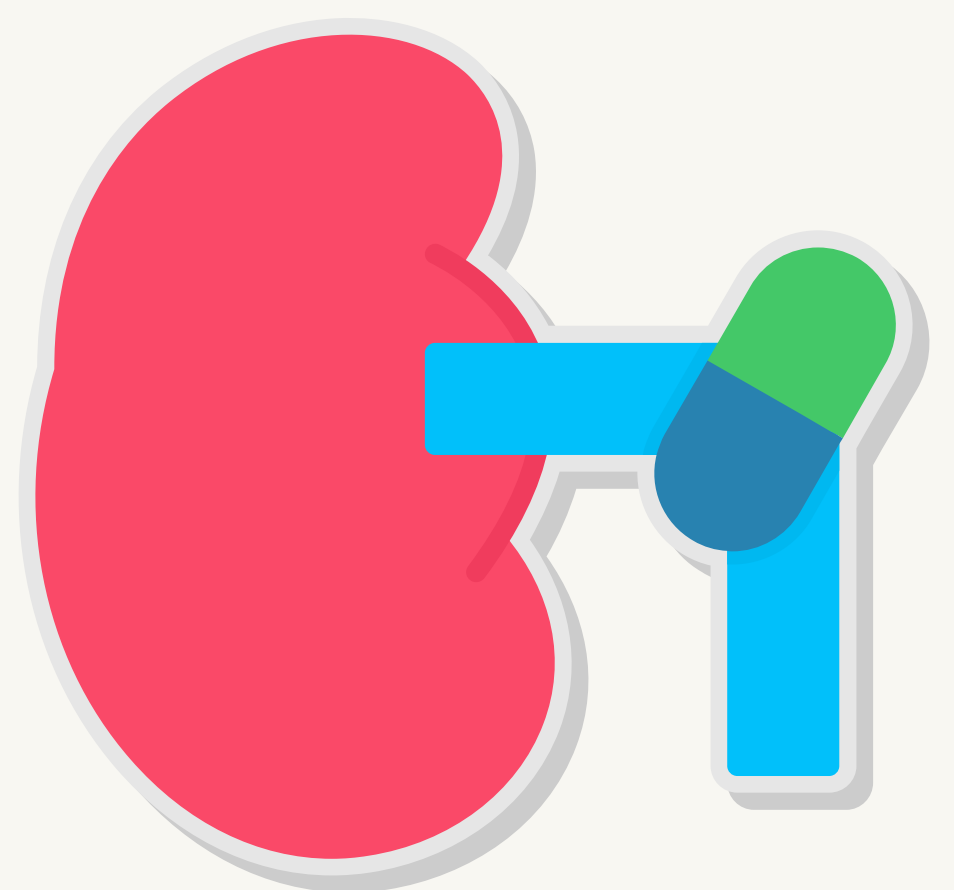


Vasodilators

Expand blood vessels, ease blood flow and reduce blood pressure⁴

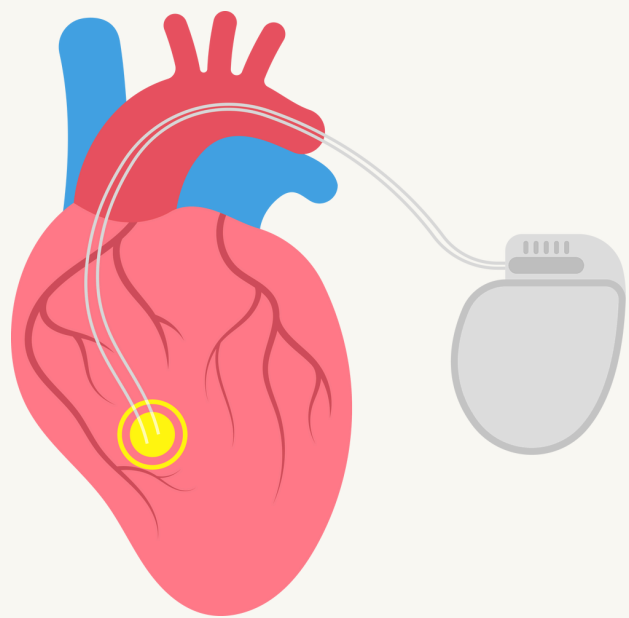
Diuretics & Aldosterone Inhibitors

Help with fluid retention and removing extra sodium. This lowers the amount of blood that the heart must pump⁴



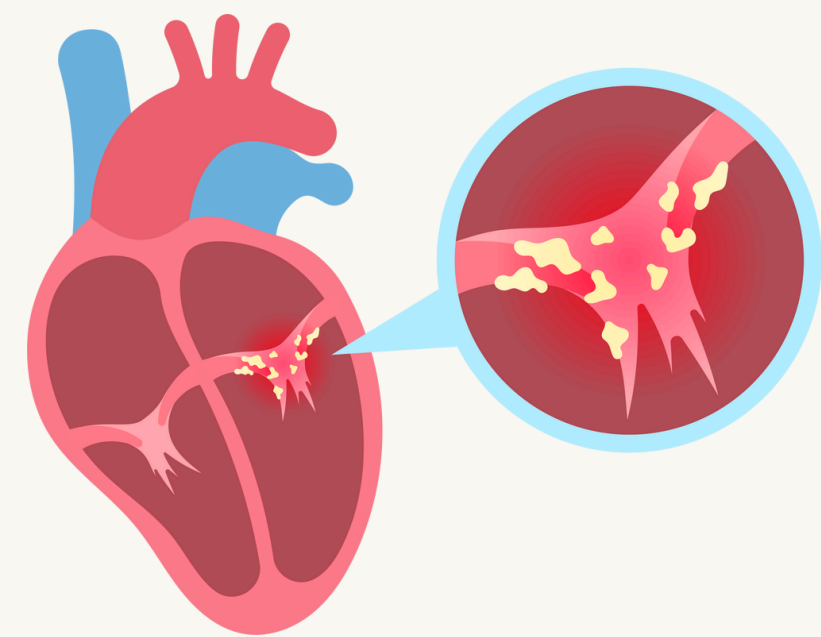
Heart Failure

Surgery & Devices



Biventricular Pacemaker

Helps both sides of your heart contract at the same time⁵

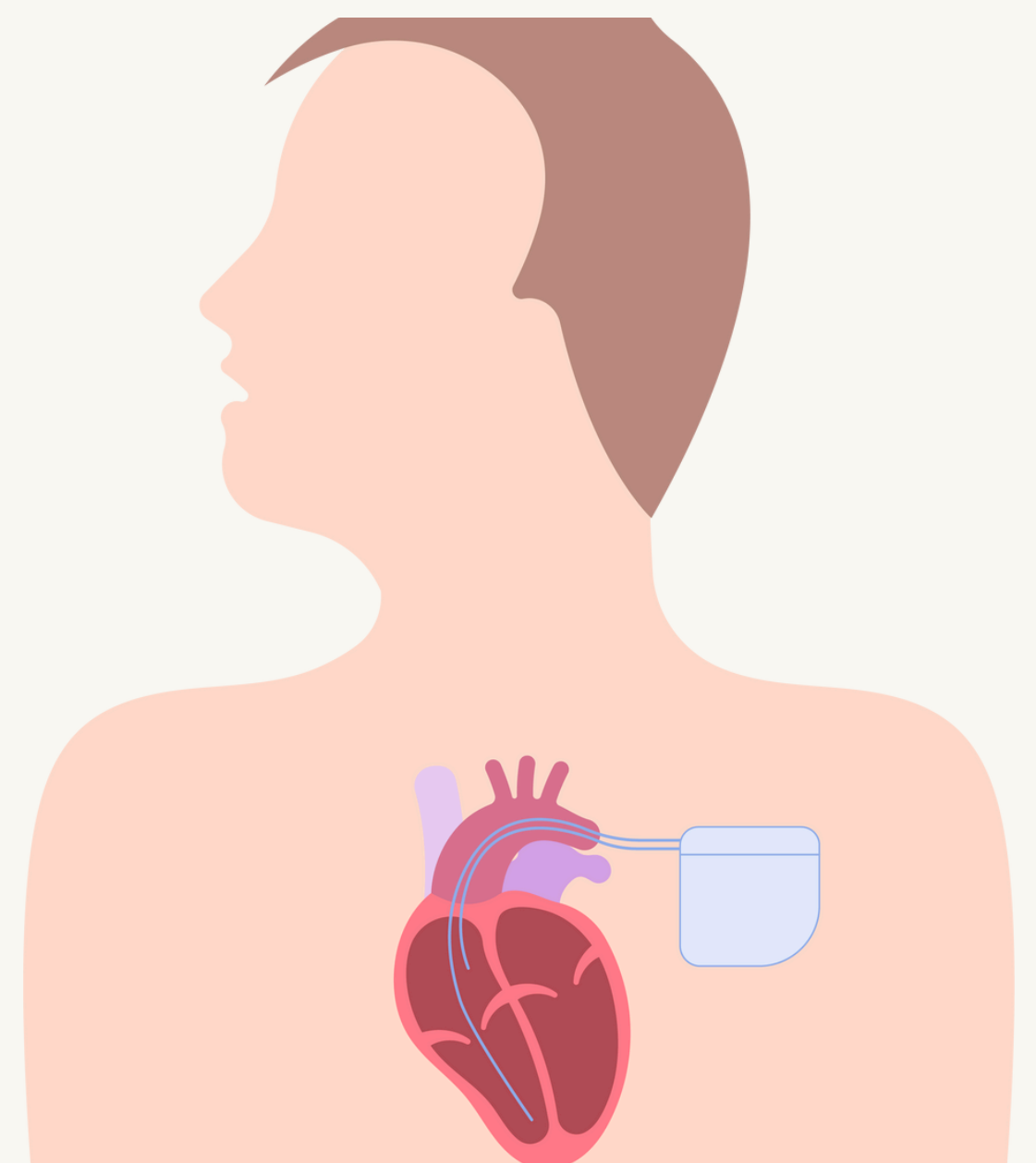


Valve Treatment

Failing heart valve is removed and a new valve is used in its place⁵

Implantable Cardioverter Defibrillator (ICD)

Checks your heart rate and delivers a shock to the heart to correct irregular rhythms⁵

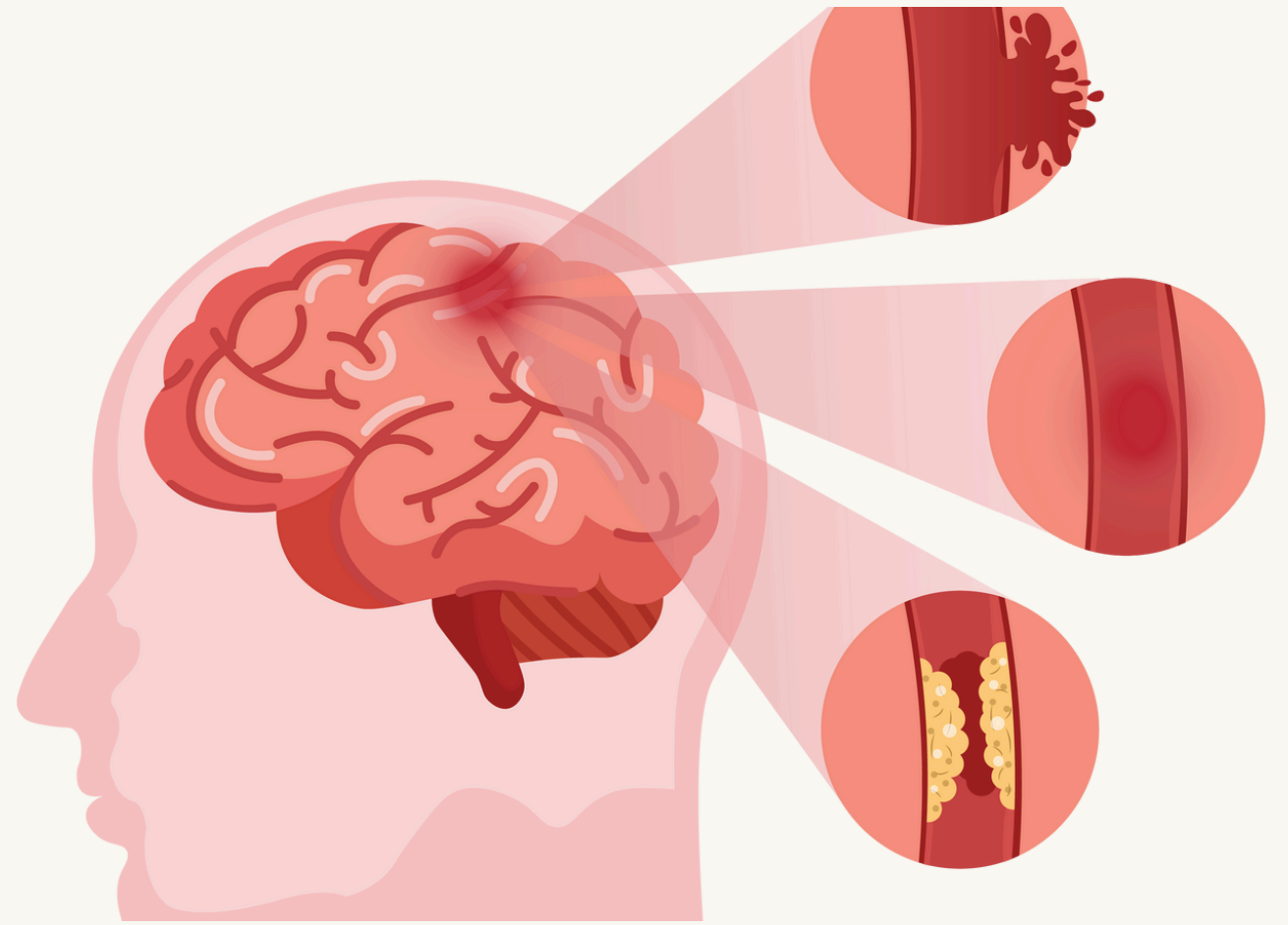


Heart transplant are used for severe cases

Ischemic Stroke

Definition

When blood clots or other particles block the blood vessels to the brain⁶



Medications

Thrombolytic - clot-busting drug that breaks up blood clots that are blocking blood flow to the brain⁶

Antithrombotic - prevents the formation of new blood clots that can become stuck in an artery or the brain⁶

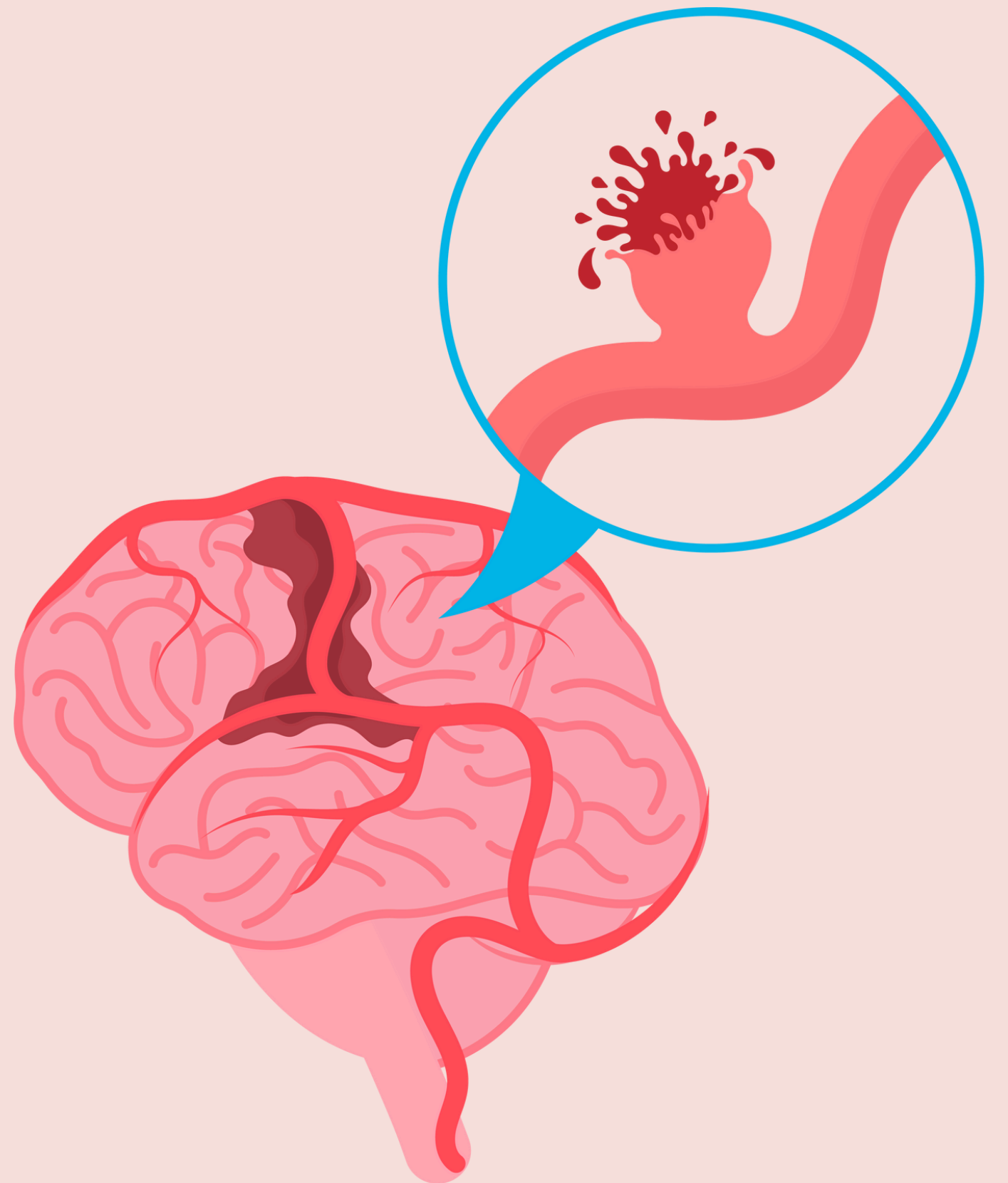


Hemorrhagic Stroke

May be given medication by healthcare provider

Definition

When an artery in the brain leaks blood or ruptures (breaks open)⁶



Aneurysm Clipping

Metal clip placed at the base of aneurysm to stop bleeding⁶

Endovascular Thrombectomy

Removal of large clot using a device that can pull it out⁶

Carotid

Endarterectomy

Surgeon removes fatty deposits blocking one of the two carotid arteries — the main suppliers of blood for the brain⁶

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Chapter Summaries

Introduction

This chapter defines cardiovascular disease and outlines common types like heart attacks, strokes, heart failure, and arrhythmias. It explains how artery buildup can restrict blood flow, leading to serious heart-related condition

About the Cardiovascular System

This chapter gives an overview of the cardiovascular system, explaining the roles of the heart, blood vessels, and circulatory system in moving blood throughout the body.

Cardiovascular Disease Statistics

Cardiovascular disease affects one in three U.S. adults, with rising global rates and disparities by age, gender, and location. Despite improved survival, it remains a leading cause of death, highlighting the need for prevention and equity.

Risk Factors

This chapter shows how heart disease risk comes from both controllable habits and uncontrollable factors like age and genetics, highlighting the role of lifestyle and health inequality.

Symptoms

This chapter goes over the warning signs of a heart failure, heart attack, and a stroke. Also, what to do when you notice these signs.

Preventative Measures

This chapter highlights how healthy habits and regular checkups help prevent heart disease through diet, exercise, avoiding tobacco and alcohol, and monitoring key health indicators.

Doctors to See

This chapter covers when and why to see a cardiologist. It explains what cardiologists do, the training they complete, where they work, and the symptoms or risk

Treatment

This chapter goes over the common medications and surgical procedures such as stenting and blood thinners that your healthcare provider might prescribe.

End of Manual

