

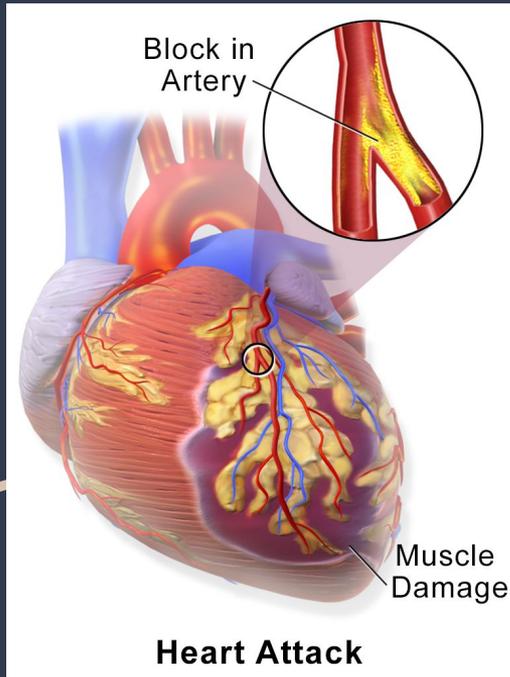
# The Heart and Heart Diseases

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# What is the Heart/How it Works?

- The heart is a hollow, but strong muscular organ that pumps blood throughout the circulatory system by method of contraction and dilation. The heart also has four chambers in it.
- For the heart to work, the atria and ventricles have to work together to alternately contracting and relaxing itself to pump the blood.
- There is a electrical system in your heart to power this rhythmic beating.
- Your heartbeat is started by the electrical impulses that travel through a special pathway in your heart.

# What is Heart Disease?



- Refers to conditions that involve narrow or blocked blood vessels but is much more because it is a range of conditions that can affect the heart.
- Conditions that affect the hearts' muscles, valves, or rhythm.
- Can lead to heart attacks, chest pain, or even strokes.

# What Happens When Someone Has Heart Disease?

- When someone has heart disease, it is simply described as a disorder of your blood vessels in the heart that can lead to such things like Heart attacks, chest pains, and strokes.
- A heart attack occurs when the heart's arteries become blocked so blood can not flow which prevents oxygen and needed nutrients to get to the heart.
- Scientists used to actually believe that the blockage of arteries in your heart was a lot like rust buildup in a pipe and can be treated the same way with a weekly dose of meds and would be the equivalent of drain cleaner.

# The Science Behind Heart Diseases



- Heart disease can be in your genetics and be inherited causing heart attacks and coronary artery blockage.
- Having a high cholesterol can also have a big affect on your chances of getting heart disease and your diet has an affect.
- These cholesterols will travel through your bloodstream and every now and then get stuck on your artery walls and this builds up until blood can not pass anymore causing a blockage.
- One of the culprits of this blockage would be the LDL cholesterol that has been oxidized and comes in contact with irritated smooth cells that are lining the artery walls.

# Diagnosis of Heart Diseases

Various tests are used to detect heart diseases.

- Past medical and family history
- Past and current symptoms
- Laboratory tests
- Blood tests
- Non-invasive tests
- Invasive tests

# Diagnosis of Heart Diseases (cont...)

## **Non-invasive tests:**

- Electrocardiogram (EKG)
- Stress EKG
- Echocardiogram
- Holter monitor
- Carotid/Abdominal Ultrasound

## **Invasive tests:**

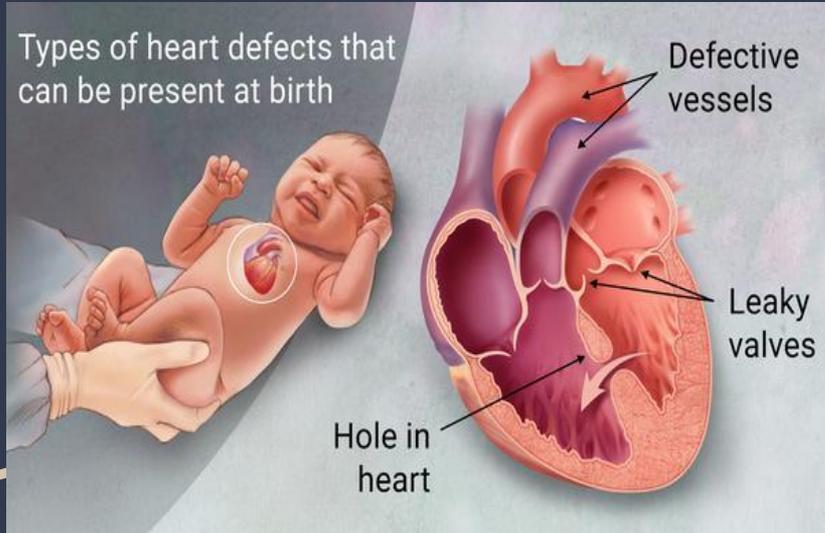
- Cardiac catheterization
- Coronary angiography
- Electrophysiology Study

# Different Types of Heart Diseases

There are many different types of heart diseases that affect the heart differently.

- Myocardial infarction
- Hypertrophic cardiomyopathy
- Mitral valve prolapse
- Mitral regurgitation
- Congenital heart disease
- Arrhythmia
- Coronary artery disease
- Cardiomyopathy

# Congenital Heart Disease

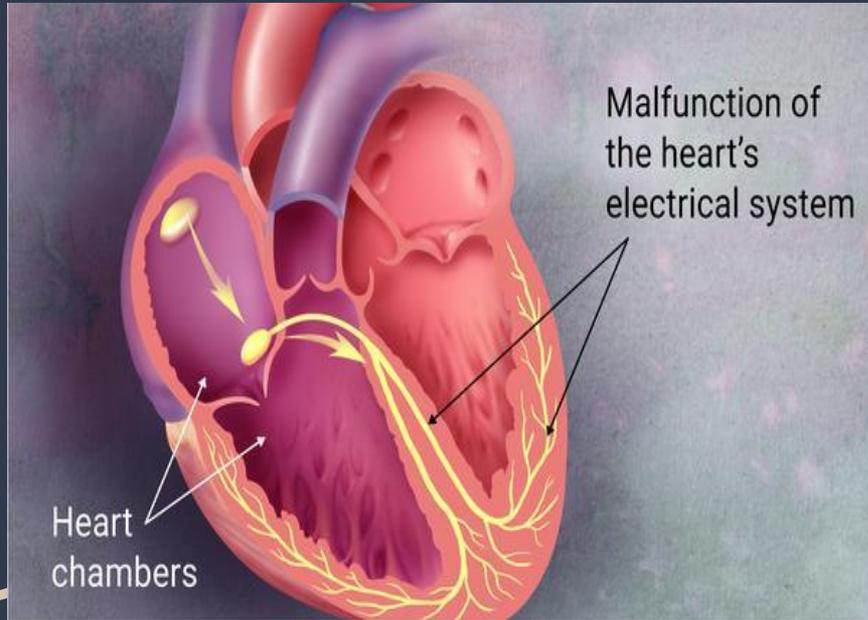


- Abnormalities that forms in the heart before birth

**Symptoms:** abnormal heart rhythms, blue-tinted skin, shortness of breath, failure to feed or develop normally, and swollen body tissues and organs

**Treatment:** medications to lower blood pressure and heart rates, heart devices, catheter procedures, and surgery

# Arrhythmia

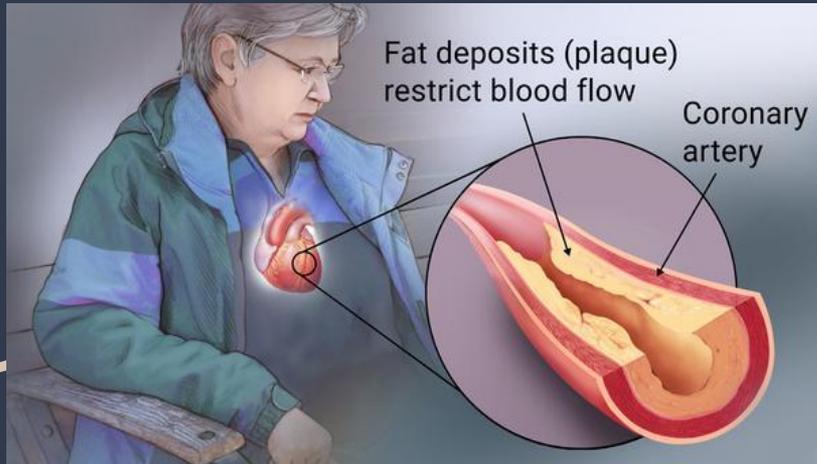


- Occurs when electrical impulses of the heart work improperly (heart beats too fast/slow)

**Symptoms:** “fluttering” feeling in chest, chest pain, fainting, or dizziness

**Treatment:** antiarrhythmic medication, implantable devices, and surgery

# Coronary Artery Disease

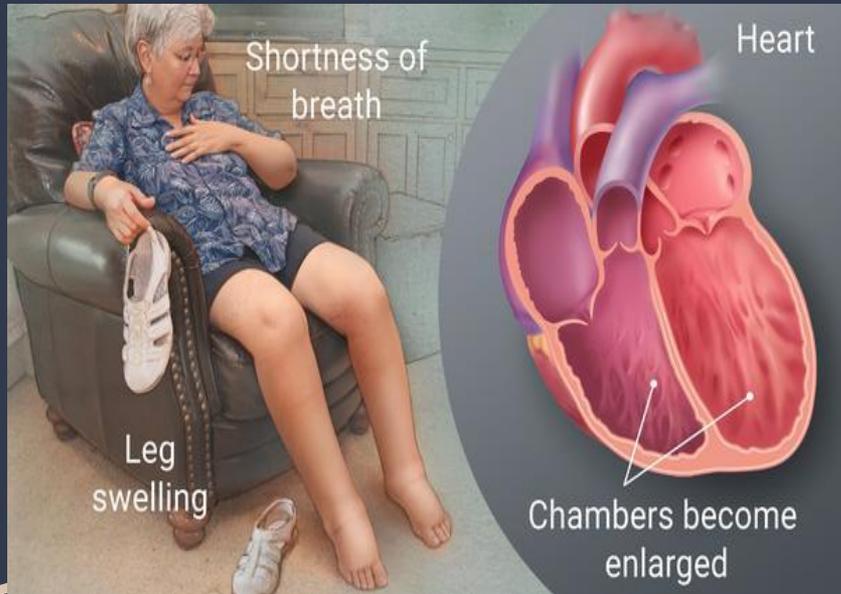


- Damage or disease in the heart's major blood vessels

**Symptoms:** Chest pain, heart attacks

**Treatments:** Change in lifestyle, medication, angioplasty, and surgery

# Cardiomyopathy



- Acquired disease of heart muscle; makes it hard for the heart to pump blood to the body

**Symptoms:** Breathlessness, swollen legs/feet, and bloated stomach

**Treatment:** Medication, implanted devices, surgery, and (in severe cases) heart transplants

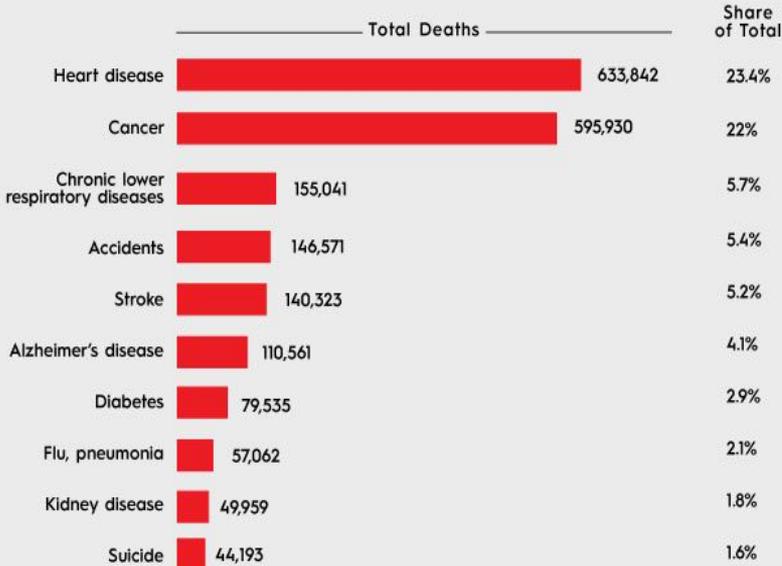
# Statistics



## Leading Causes of Death

By AMERICAN HEART ASSOCIATION NEWS

Heart disease continues to kill more Americans than any other cause, followed by stroke at No. 5, according to 2015 federal data.



Source: Centers for Disease Control and Prevention

Published Dec. 8, 2016

- About 610,000 people die from heart disease in the U.S. every year. That's almost 1 in every 4 deaths!
- Heart disease is the leading cause of death for both men and women.
- Coronary Heart Disease is the most common type of heart disease, killing 370,000 people annually.
- Every year about 735,000 Americans have a heart attack. Of these, 525,000 will have their first heart attack, while the remaining 210,000 have already had a heart attack before and will have another one.

# Treatment



## 3 Types of Treatment:

- Treatment for heart disease varies by condition. If you have a heart infection, you'll likely be given antibiotics.
- In general, treatment for heart disease includes:
- **Lifestyle Changes:** Eating healthy, getting enough exercise, no smoking, and limiting alcohol intake.
- **Medications:** If lifestyle changes aren't enough, your doctor may prescribe medications to control your heart disease. The medication type will depend on the type of your heart disease.
- **Medical Procedures or Surgery:** If medications aren't enough, it's possible that your doctor will recommend specific procedures, or even surgery. The type of surgery will depend on your heart condition as well as the amount of damage that has been done to your heart.

# Lifestyle Changes & Home Remedies

- **Stop Smoking:** Huge factor in heart disease. Quitting would be very beneficial.
- **Move:** Exercise helps you maintain a healthy weight as well as help control diabetes, elevated cholesterol, and high blood pressure. With your doctor's OK, aim for 30 to 60 minutes of physical activity most days of the week.
- **Eat Healthy Foods:** A heart-healthy diet based on fruits, vegetables, and whole grains. Foods that are low in saturated fats, sodium, and sugar that fit these guidelines can help you control your weight, blood sugar, and cholesterol.
- **Manage Stress:** Reduce stress as much as possible. Practice methods such as deep breathing and muscle relaxation to help manage your stress.
- **Deal With Depression:** Being depressed can significantly increase your risk of heart disease.
- **Practice Good Hygiene:** Try to stay away from people with illnesses or bacterial diseases. Wash your hands regularly, brush your teeth, floss, etc.

# Medications

- **ACE Inhibitors:** Widen arteries to lower your blood pressure and make it easier for your heart to pump blood. Also block certain things that can lead to heart failure.
- **Aldosterone Inhibitors:** Can ease swelling and water buildup that heart disease can cause. They help the kidneys send unneeded water and salt from your tissues and blood to your urine to be released.
- **Angiotensin II Receptor Blockers (ARBs):** They are used to lower blood pressure for people with heart failure. They keep your blood vessels as wide as possible to make the flow of blood through them as easy as possible. Also lessen salt and fluid buildup in your body.
- **Beta Blockers:** This helps your heart work better. These meds also drop production of harmful substances your body makes in response to heart failure. And they cause your heart to beat slower and with less force. Those both lower your blood pressure.

# Regular Medical Tests



- **Control your blood pressure:** Ask your doctor for blood pressure measurement at least every two years. If your family has been known for heart disease or if your blood pressure is too high, your doctor may recommend more frequent visits.
- **Check your Cholesterol:** Ask your doctor for a test once you enter your 20's at least every five years.
- **Keep Diabetes under control:** If you have Diabetes, maintaining a tight blood sugar control can help reduce the chance of heart disease.

# Coping & Support



- **Cardiac Rehabilitation:** Improves treatment and speeds up recovery. Involves levels of monitored exercise, nutritional counseling, emotional support, and support and education about lifestyle changes to reduce your risk of heart problems.
- **Support Groups:** Turning to friends and family for support is essential, but if you need more help, talk to your doctor about joining a support group. You may find that talking with other people with similar cases may be helpful.
- **Continued Medical Checkups:** If you have a recurring heart condition, check in with your doctor to make sure you're properly managing your condition.

# Conclusion

There are many different forms of heart diseases and many different ways it presents itself. Heart disease is a very broad research topic and doctors and cardiologists are still using many different techniques to learn more about it. Heart Disease is very dangerous and although there is no cure for it, staying healthy and staying on top of your condition can really go a long way with getting better.

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