

Chest Pain, Heart Attack, Sudden Cardiac Arrest, and Chain of Survival

First Aid/CPR/AED Refresher Module 3

DETENTION
TRAINING UNIT





LEADING CAUSES OF DEATH AMONG SAN DIEGO COUNTY RESIDENTS

San Diego County Total

2022 Leading Causes of Death among San Diego County Residents

Year

2022

If graph does not populate,
data are not available for the
selected filter.

2022 Total Death
Count among San
Diego County
Residents: San Diego
County Total

24,930

Sex

Age

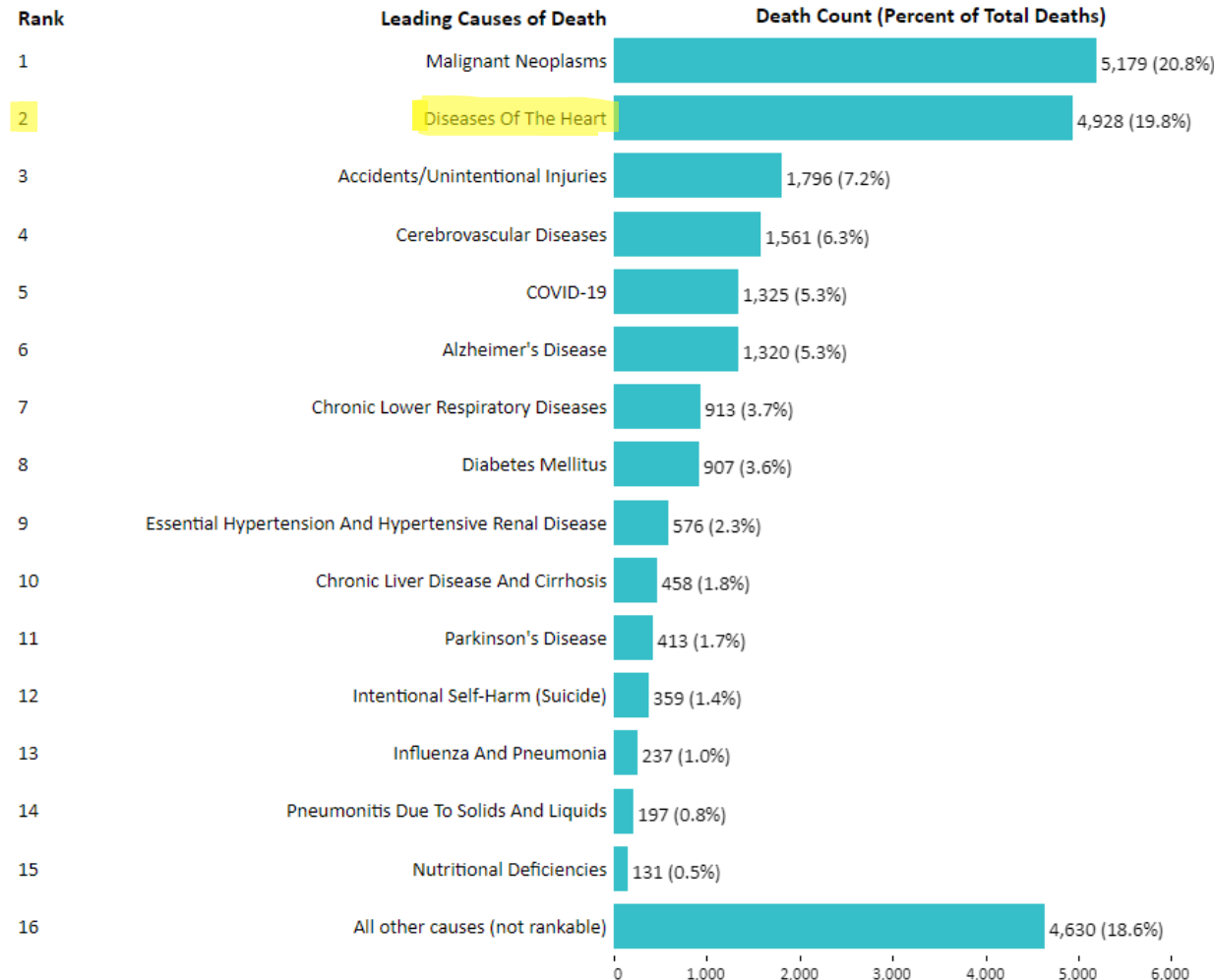
Race/Ethnicity

Asian/Pacific Islander Subgroup

HHSA Region

Supervisory District

City



Rank is based on total number of deaths in each of the National Center for Health Statistics (NCHS) "rankable" categories. The top 15 leading causes of death presented here are based on the San Diego County residents for their respective years.

Cause of death is based on the underlying cause of death reported on death certificates as classified by ICD-10 codes.

Deaths for specific demographics or geographic area may not equal the total deaths for San Diego County due to missing data.

The COVID-19 pandemic was associated with increases in all-cause mortality. COVID-19 deaths have affected the patterns of mortality including Leading Causes of Death.

Source: California Department of Public Health, Center for Health Statistics, Office of Health Information and Research, Vital Records Business Intelligence System.

Prepared by: County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit, January 2024.



Top 5 Leading Causes of Death, 2022

United States¹

1. Diseases of the Heart
2. Cancer
3. Accidents
4. COVID-19
5. Stroke

California¹

1. Diseases of the Heart
2. Cancer
3. Accidents
4. Stroke
5. COVID-19

San Diego County⁴

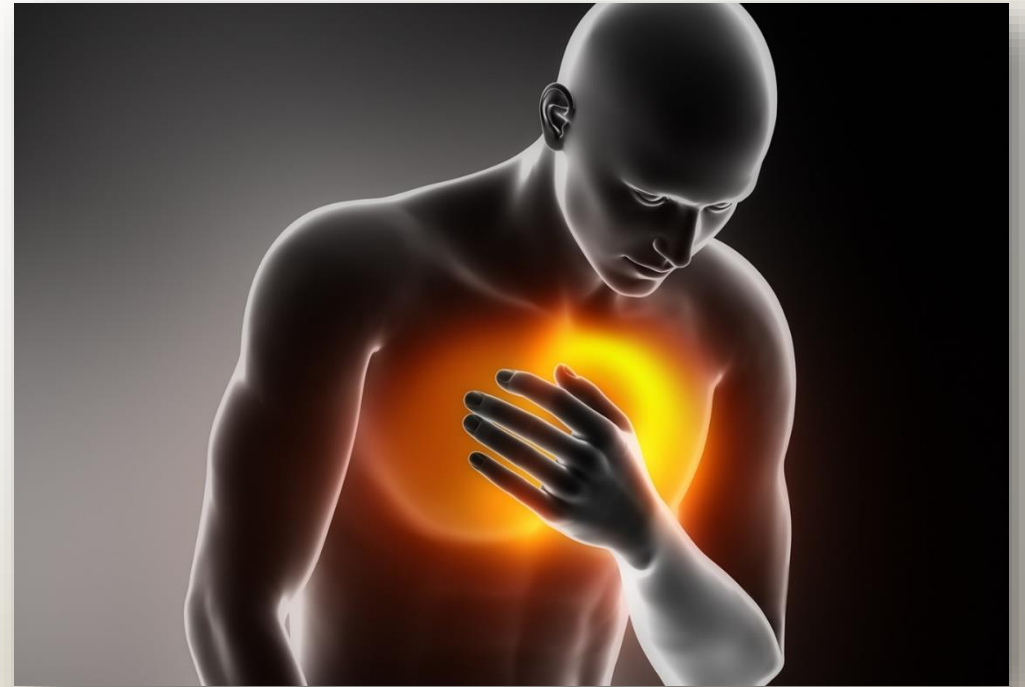
1. Cancer
2. Diseases of the Heart
3. Accidents
4. Stroke
5. COVID-19



Chest Pain

- Perform an initial assessment
- Assist patient into a comfortable seated position
- Obtain patient history: SAMPLE
- Activate EMS if necessary

Chest pain could be a pre-cursor for a stroke or heart attack

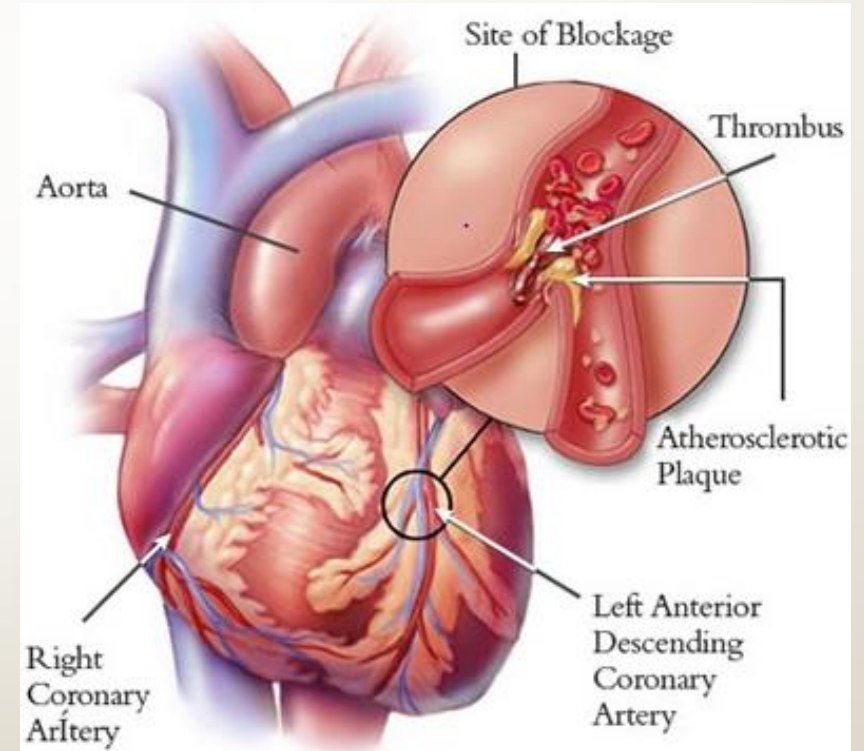


Chest Pain

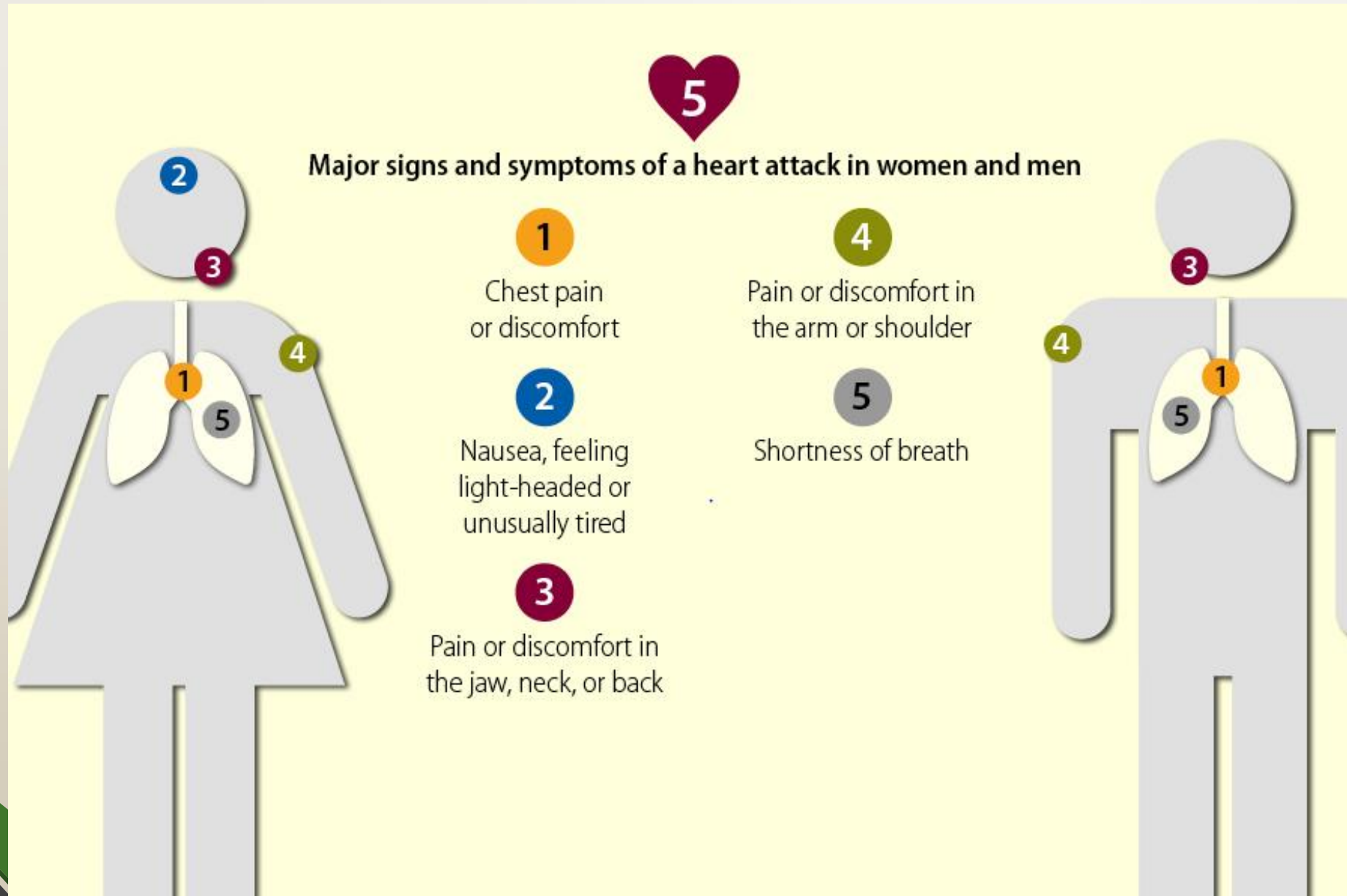


Heart Attack

- Caused by **blood flow** problems to the heart
- It is often caused by a **blockage** in a coronary artery
- Heart attacks result in death of heart muscle, and its severity is determined by the location and extent of the blockage

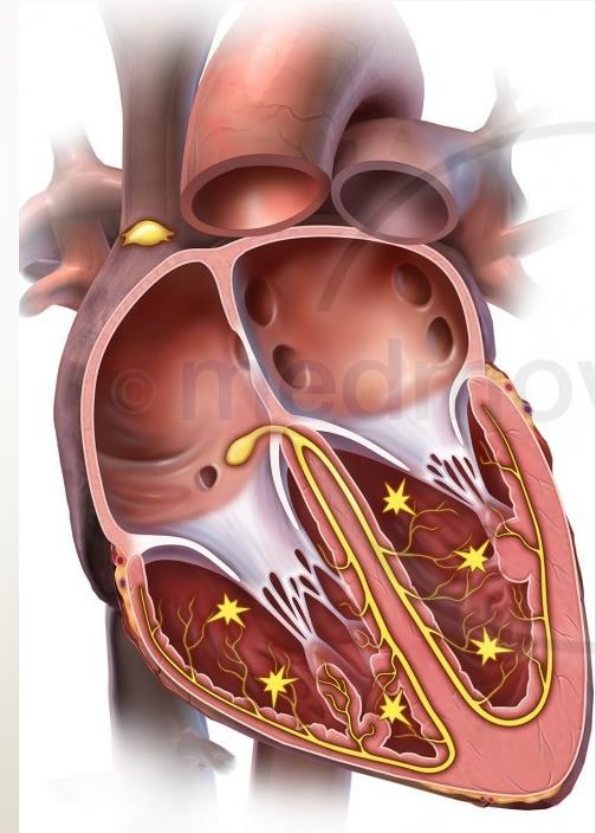


Heart Attack Signs & Symptoms



Sudden Cardiac Arrest (SCA)

- Caused by **electrical** malfunction to the heart
- Caused by disorganized electrical pulses in the lower chambers (ventricles) making the heart quiver instead of pump/beat.
- SCA's occurs suddenly with little or no warning and it requires a shock from a defibrillator to survive.



Arrhythmia Origin = ★



Cardiac Arrest Symptoms

Signs & Symptoms of Cardiac Arrest



Shortness of breath



Chest pain



Heart Palpitations



Extreme Dizziness



Lose Consciousness

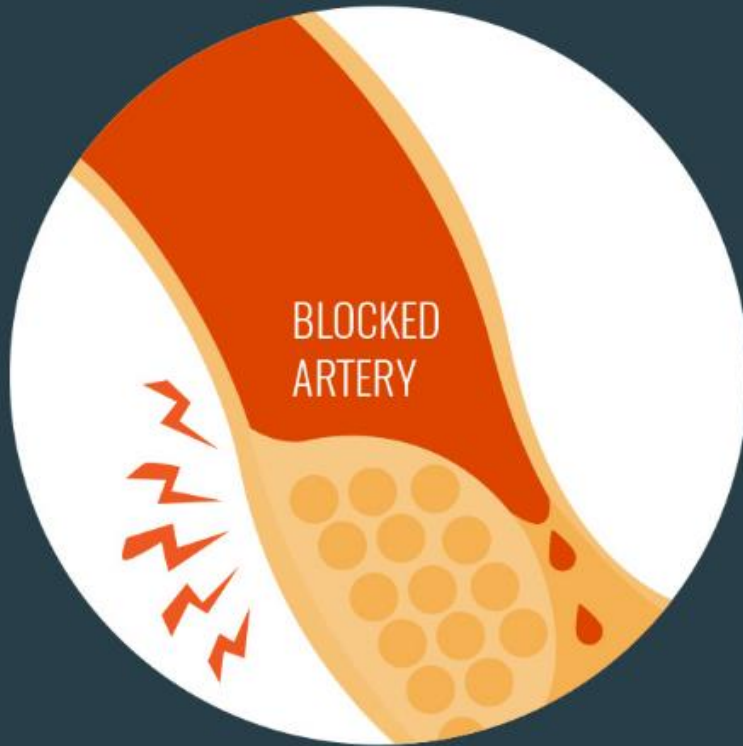


Scroll to know more



Heart Attack vs. Cardiac Arrest

HEART ATTACK



**A HEART ATTACK IS A
CIRCULATION PROBLEM**

CARDIAC ARREST



**CARDIAC ARREST IS AN ELECTRICAL
SHORT CIRCUIT PROBLEM**



THE CHAIN OF SURVIVAL



CALL FOR
HELP

EARLY CPR

EARLY AED

EARLY
RESPONSE
EMS

QUALITY
ADVANCED
CARE



Stroke/Seizure, Diabetic Emergencies

DETENTION
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Stroke

A Cerebrovascular Accident (CVA/Stroke) occurs when **blood flow to the brain is interrupted**, or a blood vessel in the brain ruptures and creates pressure on the brain tissue.

Indicators:

- *F.A.S.T.*
- Unequal pupil size, confusion, unconsciousness, severe headache with unknown cause, shortness of breath, nausea/lightheadedness

Stroke Victim Assessment:

- *Activate EMS; Conduct Focused Survey; Look for medical alert ID; Monitor CAB's; Do not give victim anything by mouth*



American Stroke Association
A division of the American Heart Association
Together to End Stroke®

SPOT A STROKE™

F.A.S.T.



FACE Drooping



ARM Weakness



SPEECH Difficulty



TIME to Call 911



Seizures



A seizure is the result of a **surge of energy through the brain**. When the energy is disrupted, the brain cells continue to fire electrical energy causing the victim to convulse involuntarily.

Indicators:

- *Lethargy; Slurred speech, Impaired gait; Uncontrollable jerking; Eyes rolling*

Seizure Victim Assessment:

- *Do not restrain them. Move objects out of the way. Cushion the victim's head*



Diabetic Emergencies

Diabetes is a non-contagious metabolism disorder. It is caused by an imbalance of insulin in the body and glucose in the bloodstream.

Diabetic emergency qualifies as a medical emergency

Types of Diabetes:

- **Type 1:** *People with this type produce no insulin and they must use insulin injections to control their blood glucose.*
- **Type 2:** *People with this type produce insulin. However, the insulin secreted by their pancreas is either insufficient or the body is unable to recognize the insulin.*



Diabetic Emergencies



Diabetic Coma/Insulin Shock

Diabetic Coma: *Hyperglycemia* (+)

- Occurs when the body has **too much sugar and not enough insulin**
- Skin is red, warm, and dry. Breathing is labored and fruity
- Slow onset, restless and confusion
- May appear intoxicated, with a weak rapid pulse

Insulin Shock: *Hypoglycemia* (-)

- Occurs when the body has **too much insulin and not enough sugar**
- Skin is pale, cold, moist, and clammy
- Can come on suddenly, aggressive behavior, fainting, and seizure
- May appear intoxicated, with rapid pulse



Diabetic Emergencies

