

# Public Health – Seattle and King County Emergency Medical Services Division

# CPR in the Schools

## Lesson # 1-The Chain of Survival

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# CPR & AED Training

- » Learn the “Plays” (Responses)
- » Practice the Skills
- » Save a Life!



The purpose of this unit is to increase your confidence and competence (*ability*) in responding to cardiac and choking emergencies.

That means that we want you to know **HOW** to respond, and **BELIEVE** that you can respond, so that you **WILL** respond.



# Scenario #1: Cardiac Emergency

You are staying late for a basketball practice at school and are one of the last ones to leave. You go into the locker room to get your stuff and see your coach lying on the ground next to his office. No one else is in the locker room.



1. At this moment, how confident are you that you would respond to this emergency appropriately?
2. Right now, visualize how you would respond to this emergency. Imagine what you would do if you were in this situation.

# Scenario #2: Calling 911

You and another teammate walk into the locker room and see your coach lying on the ground next to his office.

Your teammate tells you to call 911.



1. At this moment, how confident are you that you would be able to talk to the 911 operator?
2. Right now, visualize how you would respond to this emergency. Imagine what you would do if you were in this situation.

# Scenario #3: Using an AED

You go into the locker room to get your stuff and see your coach lying on the ground next to his office.

You call for help and a teammate brings the AED from the gym and gives it to you.



1. At this moment, how confident are you that you would be able to use the AED appropriately?
2. Right now, visualize how you would respond to this emergency. Imagine what you would do if you were in this situation.

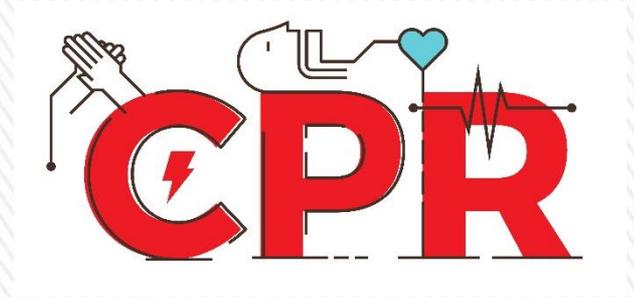
# Scenario #4: Infant Choking & CPR



You are babysitting for your 9-month old nephew. You are home alone. When he is crawling around on the floor, he finds a small toy and puts it in his mouth. He is sitting on the ground and he looks like he is having trouble breathing. He has swallowed the toy. You get closer and you notice that he is not breathing.

1. At this moment, how confident are you that you would respond to this emergency appropriately?
2. Right now, visualize how you would respond to this emergency. Imagine what you would do if you were in this situation.

# CPR & AED Training



## » Learn the Plays

> Know **HOW** to respond to emergencies appropriately

## » Practice the Skills

> Increase your confidence, **BELIEVE** that you are doing it correctly.

## » Save a Life!

> When you have to put your training to use, you **WILL**.

# Lesson #1: The Chain of Survival

## Lesson Objectives:

After this lesson you will be able to

- » explain how to respond to someone in cardiac arrest
- » describe the importance of CPR in a cardiac emergency
- » describe how bystanders can overcome barriers when responding to emergencies
- » Identify when it is appropriate to call 911



# Key Words



- » **Cardiac:** of or relating to the heart
- » **Bystander:** Someone who witnesses an act or event, a person present but not involved in the event
- » **Cardiopulmonary Resuscitation (CPR):** Lifesaving technique used when someone's breathing or heartbeat has stopped.
- » **Defibrillation:** a process in which an electronic device (AED or defibrillator) sends an electric shock to restore the normal heart rhythm.
- » **Life threatening:** capable of causing someone's death

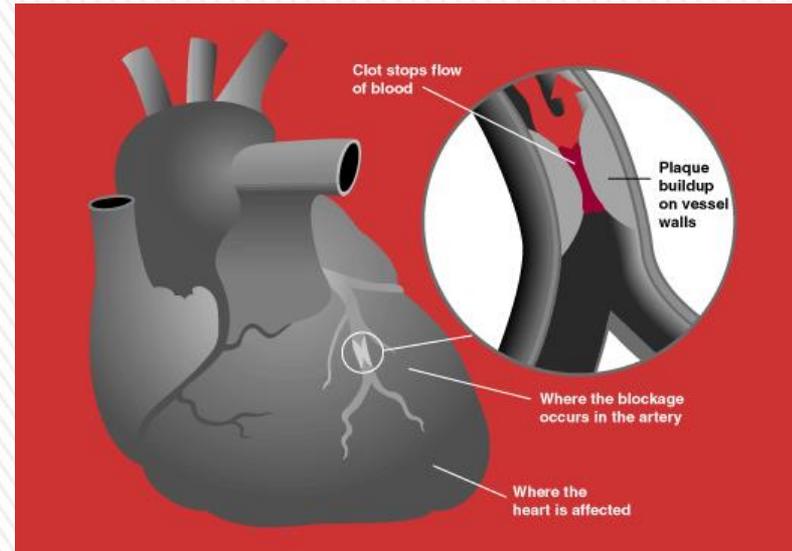
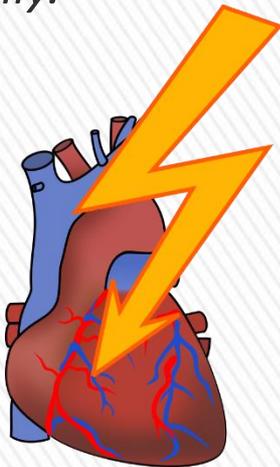
# Why Know CPR?



1. Heart disease and cardiac arrests are an increasing problem in our country. Heart disease is the **#1** killer of Americans. Every year in the US, about **350,000** cardiac arrests happen outside of the hospital .
2. **Four** out of **five** cardiac arrests happen at home. You are most likely to do CPR on someone at home.
3. You can save a life! Your response could mean that someone survives. If you perform CPR within the first few minutes of a cardiac arrest—you **double** or **triple** that person's chances of survival!

# Cardiac Arrest vs. Heart Attack

- » **Cardiac arrest** is when a person's heart suddenly and unexpectedly (*often without any prior symptoms*) stops beating.
- » A person in **cardiac arrest** is *unconscious* and *not breathing normally*.



- » A **heart attack** is a blockage of blood flow to a portion of the heart that may damage an area of the heart muscle.
- » A person having a **heart attack** is *conscious* and often *experiences certain symptoms*.
- » A **heart attack** may trigger cardiac arrest.

# Heart Attack Signs & Symptoms

- » Pressure or tightness in chest
- » Pain in the chest, back, jaw and other areas of the upper body that lasts more than a few minutes or that goes away and comes back
- » Shortness of breath, difficulty breathing
- » Sweating
- » Nausea, upset stomach



**If you see these symptoms,  
call 911 immediately**

# CPR and Defibrillation

- » Someone in cardiac arrest needs immediate CPR and an AED, if available
- » An AED helps ‘shock’ the heart into a normal beating rhythm
- » Even if you don’t have an AED, you still need to do CPR
- » CPR is preserving the brain and vital organs until EMS Providers arrive to do defibrillation



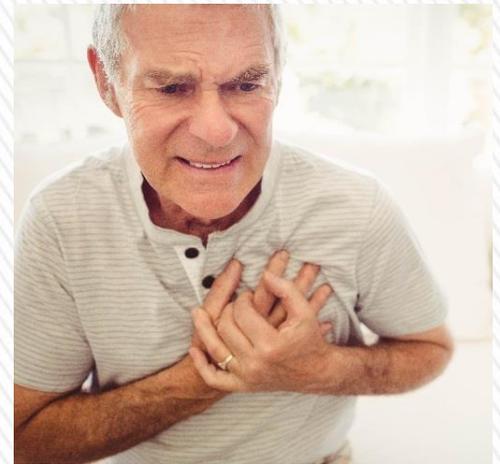
# Purpose of CPR

- » CPR alone is unlikely to restart the heart; but CPR will give a person a “Window of Opportunity” to be brought back to life without brain damage
- » The brain can go about 4 minutes without oxygen before permanent damage may occur
- » Average response time for EMTs in King County is **4.9 minutes**
- » Average response time for King County paramedics is **7.5 minutes**
- » Across the nation, the average response time for first responders once 911 is called, is **8-12 minutes**



# Bystander Response

1. Why is it necessary for a bystander to respond to someone who is in cardiac arrest?
2. How do you respond to someone who is having a heart attack?



# Bystander Response

1. They are not capable of calling for help themselves. Someone who is in cardiac arrest is unconscious and their heart is not beating, so they will die within minutes if they do not receive immediate attention.
2. Call 911 and stay with them, ask them if they have/want an aspirin if available, have them relax comfortably, and be ready to perform CPR if they go into cardiac arrest. Have an AED ready.

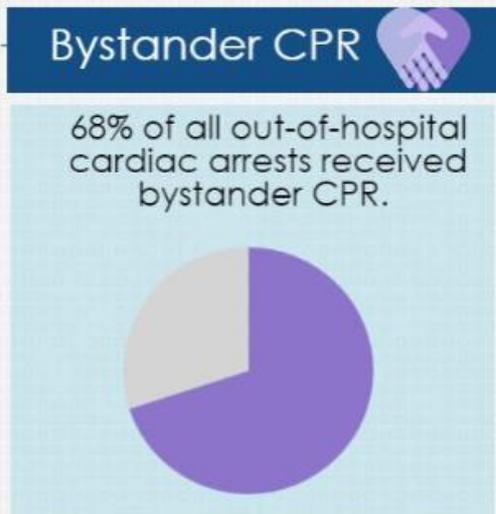


# Cardiac Arrest: The Chain of Survival

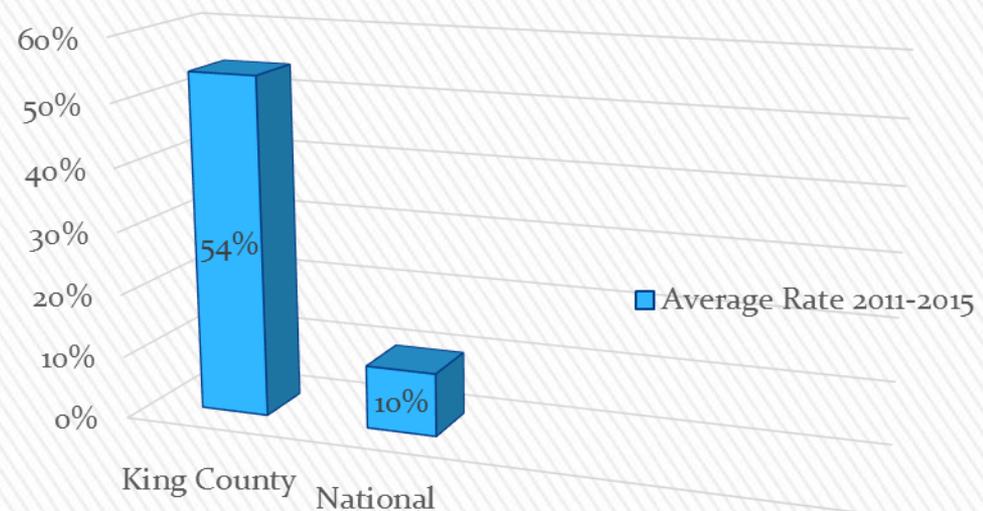


# Bystander Action = Survivors!

King County Bystander CPR Rates: 68%  
National Bystander CPR Rates: 46%



Average Survival Rate for Bystander Witnessed Cardiac Arrests



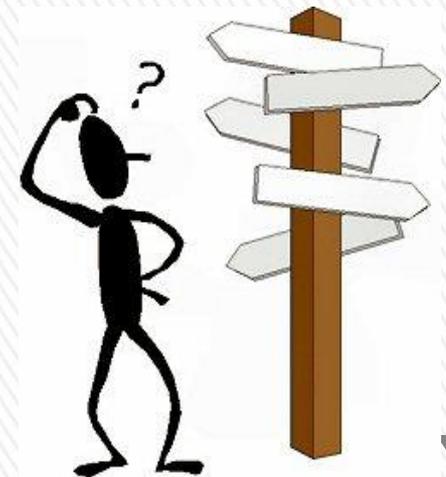
King County has one of the **highest survival rates for witnessed cardiac arrests** in the world!!!!

# Discussion Question

In an emergency situation, every second counts in saving a life. However, not everyone responds, as only 46%-68% of people in cardiac arrest get CPR from a bystander.

**Why do some people hesitate to respond in an emergency situation?**

How many reasons can you and your partner come up with for why some people may hesitate or fail to respond in an emergency?



# Scene Safety



- » Don't become a victim!
- » Make sure you are safe! Your life is the most important
- » If the scene is not safe, call 911 and wait for emergency services to arrive
- » Consider if you have the proper protection to assist (gloves, breathing barrier device)

# Good Samaritan Law

- » A “Good Samaritan” in legal terms refers to someone who renders aid in an emergency to an injured person on a voluntary basis. Usually, if a volunteer comes to the aid of an injured or ill person who is a stranger, the person giving the aid owes the stranger a duty of being reasonably careful.
- » Generally, where an unconscious victim cannot respond, a Good Samaritan can help them on the grounds of implied consent. However, if the victim is conscious and can respond, a person needs to ask their permission to help them first.

# Patient Consent

- » If the scene is safe, check the victims' responsiveness
  - > If the victim is conscious, you must ask if you can help them before touching them.
  - > If the victim refuses your help, call 911 and stay with the victim until trained help arrives. If the patient loses consciousness (becomes unresponsive) and is not breathing normally, consent for assistance is implied.
  
- » If the victim does not respond, you may help them

**Plan ahead>> Teens are encouraged to discuss with their caregiver how to respond if they witness a stranger go into cardiac arrest.**

# When to Call 911

Call 911 for any **life-threatening** emergency. Emergency situations where lives may be in danger: medical emergencies, car accidents, fires, anything with weapons involved.

Do **not** call 911 in for situations that are not life-threatening. For example: bleeding that isn't severe, a shoulder or ankle injury, needing directions or getting a medication refill.



# Life-Threatening Emergencies

**Cardiac arrest and heart attacks** are life-threatening medical emergencies.

You will need to respond if a person is:

- » Unresponsive, unconscious
- » Not breathing, or has difficulty breathing
- » Experiencing severe chest pains



# Typical 911 Operator Questions



- » What is the emergency?
- » What is the address of your emergency?
- » Is the victim conscious?
- » Is the victim breathing?
- » What is the phone number you're calling from?
- » What is happening now?

The 911 operator may give directions such as, "Stay on the line until I tell you to hang up. Rescuers are being sent to your location. Please meet them and direct them to the scene." Or they may direct you to begin doing CPR and will talk you through it.

# Tips When Calling 911

- » Don't hang up.
- » Answer questions in a calm manner
- » Know the address or landmarks of where you are located
- » Describe the situation with what is happening, not what you think is happening
- » Put phone on speaker so you can assist patient (if you are alone)
- » Direct someone to call 911 if you are assisting the patient



# Partner Lesson Reflection

**Partner A- Answer:** What are typical signs and symptoms of a heart attack?

**Partner B- Answer:** What are the differences in Responding to a heart attack and sudden cardiac arrest?



## *On Guided Notes:*

Fill in the blanks with the correct order for the links in the Chain of Survival

Defibrillation

Activate EMS (call 911)

Advanced care

Start CPR

Why does performing CPR increase a patient's survival rate?

# Credits

## **King County Emergency Medical Services**

- > *Anne Curtis, CPR/PAD Program Manager, KC EMS Division*
- > *Bosaiya, KC Emergency Medical Services, Videographer*

## **Gonzaga University**

- > *Nichole Calkins, Ed.D., Assistant Professor of Physical Education Pedagogy: designed/created curriculum components: lessons, PPTs, handouts*

## **Highline School District**

- > *Claudia House, Middle School Health teacher: reviewed lessons*

## **Shoreline Fire Department**

- > *Gabriel DeBay; Shoreline Fire Department; Firefighter Paramedic, MICP, BLS Instructor*

## **Eastside Fire & Rescue**

- > *Michele Overholt, Eastside Fire & Rescue, FF/EMT, BLS Instructor*

## **The Voice Guy**

- > *Jim Cissell, Video Voiceover*