

Brain & Heart Health 101



OVERVIEW

Review of the anatomy of the brain and heart as it relates to blood flow.

Cardiac arrest (electrical) vs **heart attack** (circulatory).

What is a **stroke** (brain attack – circulatory).

What are the signs of cardiac arrest, heart attack, and stroke.

This module is about what can happen when you don't take care of yourself.

KEY LEARNING OBJECTIVES

Explain how the brain and heart are connected via the cardiovascular system.

Describe the difference between cardiac arrest, heart attack and stroke and what each are.

Describe the warning signs of a stroke, heart attack, and cardiac arrest.

Know if a kid/teen my age can suffer a cardiac arrest, heart attack and/or stroke.

FACTS

Each year, approximately **7,037** children younger than 18 years of age experience out of hospital cardiac arrest. ⁽¹⁾

11% of children and adolescents aged 8 to 17 years had either high blood pressure or borderline high blood pressure. ⁽¹⁾

Sudden cardiac arrest is a leading cause of death – over **320,000** out-of-hospital cardiac arrests occur annually in the United States. By performing Hands-Only CPR you can double or even triple a victim's chance of survival. ^(2, 3)

A heart attack happens when blood flow is blocked to the heart while cardiac arrest is when the heart malfunctions. ^(1, 2)

Strokes don't just happen to "old people." There are about **5,100** cases of pediatric stroke annually. A stroke can happen to anyone, anywhere, at any time, even before birth. ⁽⁴⁾

Heart disease is the number 1 killer of women. ⁽⁵⁾

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OPENING QUESTIONS TO ASK YOUR CLASS

Do you know anyone who has had a heart attack, cardiac arrest, or stroke?

- Can you explain what happened, either what you could see or what happened inside their body?
- What was that experience like for you, your family, or friend?
- Do you think any of these events could happen to you?

TEACHING LESSON

What is a heart attack and cardiac arrest?

A **heart attack** is when blood flow to the heart is blocked (a circulatory or “plumbing” issue). During this an individual usually stays conscious.

A **cardiac arrest** is when the heart malfunctions and suddenly stops beating unexpectedly (an electrical issue). The individual will most likely be unconscious.

What is the link?

Most heart attacks do not lead to cardiac arrest. But when cardiac arrest occurs, heart attack is a common cause. Other conditions may also disrupt the heart’s rhythm and lead to cardiac arrest.

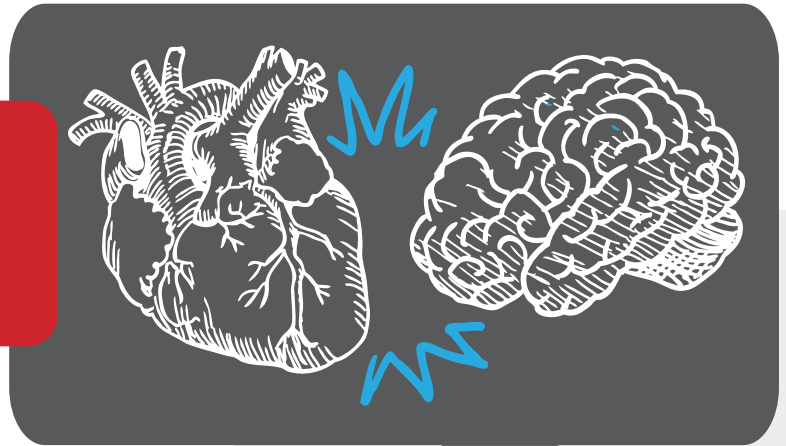
SYMPTOMS OF A HEART ATTACK

Symptoms of a heart attack may be immediate and intense. More often, though, symptoms start slowly and persist for hours, days or weeks before a heart attack. Unlike with sudden cardiac arrest, the heart usually does not stop beating during a heart attack. Symptoms include chest discomfort, shortness of breath, cold sweats, and jaw pain.

SYMPTOMS OF CARDIAC ARREST

Sudden cardiac arrest occurs suddenly and often without warning. It is triggered by an electrical malfunction in the heart that causes an irregular heartbeat (arrhythmia). With its pumping action disrupted, the heart cannot pump blood to the brain, lungs and other organs. Seconds later, a person becomes unresponsive, is not breathing or is only gasping. Without immediate treatment death can occur within minutes. Call 911 and start CPR immediately. Use an automated external defibrillator (AED) as soon as possible.

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WHAT IS A STROKE?

A stroke is a circulatory issue, like a heart attack, and happens when blood flow to part of the brain stops because a blood clot blocks the flow of blood or a blood vessel bursts.

Symptoms of a stroke

An easy way to remember stroke signs and what to do if you see them is **F.A.S.T.**:

F – Face Drooping

Does one side of the face droop or is it numb?

A – Arm Weakness

Is one arm weak or numb?

S – Speech

Is speech slurred? Is the person unable to speak or hard to understand?

T – Time to Call 911

If the person shows any of these symptoms, even if the symptoms go away, call 911 and get them to the hospital immediately.

What to do if you think someone is having a stroke, heart attack or experiencing heart failure:

If you see any symptoms of stroke, heart attack or heart failure in someone, be sure to call 911 immediately. Every minute counts.

Cardiac arrest is reversible in most victims if it's treated within a few minutes. First, call 911 for emergency medical services. Then get an AED if one is available and use it as soon as it arrives. Begin CPR immediately and continue until professional emergency medical services arrive.

STUDENT ACTIVITY OPTIONS

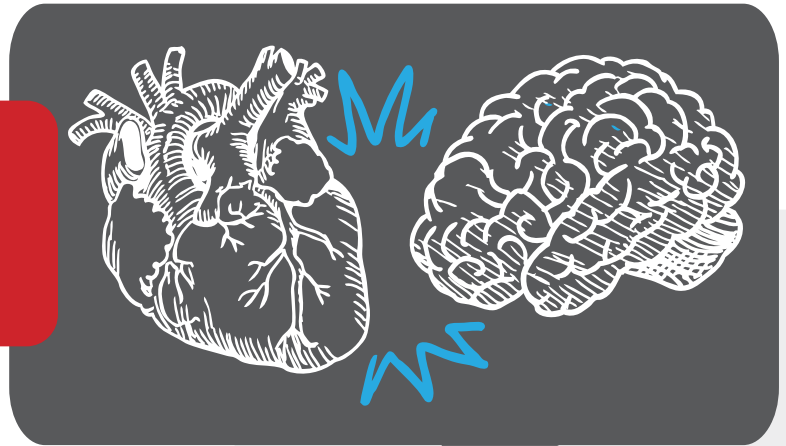
Promote a stroke awareness campaign promoting F.A.S.T. messaging during stroke awareness month (May). Use an artistic lens to create posters/flyers, as well as posts to social media.

Create a poster campaign around CPR and advocating for your school/district to require CPR to be taught.

Connect the dots using the modules in this guide. How does what we eat (rainbow), what we drink (hydration), adequate sleep, and living a tobacco/nicotine free lifestyle help with our brain and heart health (essay, video blog, podcast, poster, etc).

Create a campaign in your school to promote National Wear Red Day® in February advocating for awareness of women's heart health. Use an artistic lens to create posters/flyers, as well as posts to social media.

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APPENDIX

PRINT AND DIGITAL

- 1 – 2019 Heart Disease and Stroke Statistical Update ([link](#))
 - 2 – The Difference Between Cardiac Arrest and a Heart Attack ([link](#)) (accompanies 3)
 - 3 – Heart Attack or Sudden Cardiac Arrest: How are they different? ([link](#)) (accompanies 2)
 - 4 - Pediatric Stroke – Moving the Field Forward ([link](#))
- Heart Attack Resources**
- Common Heart Attack Warning Signs Infographic ([link](#))
 - Control Stroke Risk Factors for Brain Health Infographic ([link](#))
- Stroke Resources**
- Facts: Stroke in Infants, Children, and Youth ([link](#))
 - F.A.S.T. Coloring Sheet ([link](#))
 - Let's talk about Children and Stroke ([link](#))
 - Strokes and Brain Health Infographic ([link](#))
- CPR Resources**
- Hands-Only CPR Fact Sheet ([link](#))
 - CPR Guide ([link](#))

DIGITAL ONLY

- 5 - Go Red for Women website ([link](#))
- Animation of Heart Attack ([link](#)) (digital only)
- Brain Health Quiz ([link](#)) (digital only)
- F.A.S.T. Song Video ([link](#)) (digital only)
- Video of 4 teen stroke survivors ([link](#)) (digital only)
- Video of teen cardiac arrest ([link](#)) (digital only)
- Hands-Only CPR instructional video ([link](#)) (digital only)