CPR in Schools Training
Disclosure:

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Dan’s Story:

- Dan Christensen, a 50 year old Wisconsin man was riding his bike at the park like he’d done many times before.
- On this day, though, Dan suffered a massive heart attack and his heart stopped beating.
- Dan was lucky; there were three high school sophomores nearby who knew what to do.
- They quickly called 9-1-1 and began compressions.
- EMS arrived minutes later and thanks to the quick actions of these three “high school kids” Dan survived.
- This outcome is not typical, but our project aims to change that.
- Our program will train all youth to do what these boys did—SAVE A LIFE!

Dan is just one example of how cardiac arrest can happen to anyone at any time and anywhere.
“March 12 was one of the hardest days of my life, but it was also a miracle and a blessing. It’s the day three young teenagers saved my dad’s life.” —

Laurissa Christensen

The three young men on the left are the teens that saved Dan’s life. Dan is pictured on the right with his arm around his daughter.
The Problem:

- 6,000 out-of-hospital cardiac arrests each year in Wisconsin
- Every minute without CPR survival rates decrease 10%
- Bystander CPR rates ~19%
- Survival rate ~10%

As you can see by the numbers of cardiac arrest per year versus the number of bystanders willing to provide care, it’s very important to get more people trained to help so that if needed, they can lend a hand. That’s the only way to change these numbers.
People are afraid they’ll hurt someone. They don’t know how many breaths to give with how many compressions, how deep to push or where to place their hands. Many people hesitate to put their mouth on the mouth of someone they don’t know.
Giving the students time to practice and removing the breath component makes helping someone less scary. Once we take away the fear and replace it with confidence we will increase bystander willingness to help.
How Do We Gain Confidence?

- EDUCATION
- PRACTICE
- EXPERIENCE
- ENcouragement

Education – we teach the skills
Practice – we work on skills during the class and practice the skills along with the video
Experience – we will give students the experience of identifying a person experiencing cardiac arrest and performing compressions
Encouragement – as teachers, part of what you do every day is encourage your students to be brave, to step up to challenges and to be their best selves
CPR in Schools Learning Objectives

- Understand and define key concept used in CPR in Schools training
- Identify contents of kit and utilize materials to effectively train students
- Implement recommended classroom management techniques and kit maintenance
- Discuss challenges/obstacles to implementation of the program at school
- Explain ways the community will benefit from students receiving the training
- Develop/sustain relationships with community health partners
- Effectively utilize online student pre/post test link
- Explain the steps in Hands-Only CPR and the benefits of early CPR and defibrillation
- Practice Hands-Only CPR skills

These are the concepts we will cover during today’s training.
Early Access – victim recognition and calling EMS as soon as possible increase chances of survival
Early CPR – every minute CPR is delayed chances of survival decrease by 10%
Early Defibrillation – every minute defibrillation is delayed chances of survival decrease by 10%
Early Advanced Care – the sooner advanced care can be provided the better the likelihood of survival
Symptoms of Cardiac Arrest

- Sudden cardiac arrest symptoms are immediate and drastic and include:
  - Sudden collapse
  - No pulse
  - No breathing/gasping for breath
  - Loss of consciousness
  - Sometimes other signs and symptoms precede sudden cardiac arrest. These may include fatigue, fainting, blackouts, dizziness, chest pain, shortness of breath, weakness, palpitations or vomiting. But sudden cardiac arrest often occurs with no warning.

- Provided by the Mayo Clinic

IF SIGNS OF CARDIAC ARREST ARE PRESENT:

YELL FOR HELP
Tell someone to call 9-1-1 and get an AED (if one is available).
If you are alone with an adult who has these signs of cardiac arrest, call 9-1-1 and get an AED (if one is available).

CHECK FOR BREATHING
If the person isn’t breathing or is only gasping, give CPR

PUSH HARD AND PUSH FAST*
Use an AED as soon as it arrives by turning it on and following the prompt.
*Keep pushing until the person starts to breathe or move or someone with more advanced training takes over.

Gasping is an often overlooked symptom of cardiac arrest. This is a point worth stressing with your students. If a person is gasping but non-responsive, it’s very important to give them CPR.
What is Cardiac Arrest?

- Leading cause of death
- Disrupts blood flow to brain and vital organs
- V-fib, V-tach and asystole
- 350,000 out-of-hospital cardiac arrests occur every year in the US*
- 90% of these people die (315,000)*

*these statistics are only for witnessed cardiac arrests

V-fib: Ventricular fibrillation – the heart is miss-firing, there is no regular rhythm
V-tach: Ventricular tachycardia – the heart is racing
Asystole - there is no heart beat – flat line
Benefits of Early CPR:

- Aids in the circulation of oxygenated blood around the body to maintain the brain and vital organs until advanced medical help arrives
- If performed immediately, CPR can double or triple a victim's chances of survival
- Survival rates diminish 10% for every minute compressions are delayed

*Note: 80% of out-of-hospital cardiac arrests happen in homes and residential settings and only 46% of those people get the immediate help they need to sustain them until professional rescuers arrive. This means that for every 100 people who experience cardiac arrest, only 46 get the immediate help that's critical to their survival.*

**WE NEED TO DO BETTER!**
Role of AED’s in Early CPR:

- An AED (Automated External Defibrillator) is the only effective treatment for restoring a regular heart rhythm during sudden cardiac arrest.
- If necessary, it delivers an electrical shock, known as defibrillation, which helps the heart re-establish an effective rhythm.
- The average response time for first responders once 911 is called is 8-12 minutes.
- For each minute defibrillation is delayed, the chance of survival is reduced approximately 10%.


Hands-Only CPR:

- Hands-Only CPR has been shown to be as effective as standard CPR for teen and adult cardiac arrest victims.
- AHA studies show that people feel more confident performing Hands-Only CPR and are more likely to act if called upon.
Why do infants and children need full CPR?

- Cardiac arrest in children is usually due to a **blocked airway**
- The blockage eventually completely restricts oxygen flow to the brain and other vital organs
- Therefore, we have to provide the vital oxygen as well as circulate it for them
- Conversely, cardiac arrest in teens/adults is usually due to an **electrical failure** in the heart
- Right up until this point, most victims are breathing, which means there is oxygen stored in their blood at the time of the arrest
Frequently Asked Questions:

• Does CPR hurt?
• Will I break bones when doing CPR?
• Will I hurt someone using the AED on them?
• Why does the AED say “No Shock Advised” when the person is unconscious and I’m doing compressions? Doesn’t it always shock?
• What if I have to take off someone’s shirt to use the AED? What if it’s a girl? What about privacy?

Does CPR hurt? Since someone experiencing cardiac arrest is not conscious, they don’t feel pain. When they regain consciousness they’ll likely have a sore chest and possibly some fractured/broken bones and bruising.

Will I break bones? It’s likely bones will break. Hand placement is very important. When placed in the correct position (on the center of the chest along the breastbone) bone may crack and break. If hand position is off too far to one side of the chest it’s possible that ribs would break and puncture the lungs which would create more problems.

Will I hurt someone using the AED on them? An AED won’t shock on it’s own. If pads are applied to the proper area and used as directed it’s unlikely to hurt the victim. Be careful to avoid pacemakers or medication patches when placing pads.

Why does the AED say No Shock Advised...? The AED analyzes the victims heart rhythm after pads are applied to the persons chest. An AED will only shock if it can find a rhythm it can correct.

What if I have to take off someone’s shirt...? It’s not necessary to remove someone’s shirt to do compressions, however, if using an AED is necessary, the shirt must be removed. It’s important to discuss privacy, respect and professionalism with students. Discuss ways to shield the victim from prying eyes (hold up a blanket, clear the room, have students make a human wall facing away form the victim). Discuss the things students may see when they remove a shirt (scars, tattoos, piercings, pregnancy, bruises, etc.). It’s important that students understand that what they see is private. They’re not to brag or gossip about anything they see. Their job is to be respectful of the person as someone who needs their help and behave in an appropriate manner for a rescuer.
GOALS of CPR in Schools

- **Help** schools statewide implement robust CPR training programs for their students
- **Increase** out-of-hospital cardiac arrest survival rates
- **Encourage** students to be “Good Samaritan” responders
- **Empower** students to share their training with peers, family and members of their community
- **Develop** relationships between schools and community health partners
- **Any CPR is better than no CPR!**

The goal of this program is to help schools across Wisconsin implement a robust CPR training program for their students.

This will lead to an increase in out-of-hospital cardiac arrest survival rates because students will be encouraged to become responders. Students will also be empowered to share their training with family, friends, and members of their community.

Further, this program will help develop relationships between schools and community health partners.

We know that cardiac arrest victims have a better chance of survival when they receive CPR. Having more Wisconsin citizens trained in how to perform this lifesaving service will help lead to more survivors.
## What’s in the Kit?

- 1 wheeled classroom carry bag
- 10 Mini Anne Plus inflatable manikins (new neutral skin tone manikins)
- 10 kneel mats
- 10 individual carry bags
- 1 hand pump for manikin inflation
- 5 practice-while-watching training DVDs
- 1 Facilitator Guide (includes images and text)
- 1 Facilitator Binder that contains the Lesson Plan, and additional supplementary material
- 10 foam AED training simulators
- 2 mesh collection and storage bags
- 10 replacement airways
- 10 replacement face mask
- 50 manikin wipes

This list is a breakdown of all the items that come in the CPR in Schools kit. Each kit has 10 inflatable manikins that in individual bags. There is a hand pump that will inflate the manikins located in the kit. The kit also contains copies of the training DVD, a facilitator guide and binder that contains lessons plans and supplementary resources, foam AED simulators, replacement parts, and wipes for the manikins. As a side note, the manikins can be wiped down with any sort of antibacterial wipes, so you don’t have to order special ones when the kit runs out.
When it comes to holding CPR trainings for your students, there are several things to consider.

First, the available training space. It should be big enough for your students to get on the floor next to the manikins as well as allow for everyone to see the video being played and follow along.

It’s also helpful to inflate the manikins prior to training so you don’t spend time doing it in class. The materials you’ll need for the training are the kit (which includes the manikins and training DVD), a computer or DVD player to show the video to the class, and perhaps paper and pens/pencils for kids to take notes.

The ratio of students to manikins will vary from 1:1, 2:1 (which is the most common), or in pods. It’s recommended to have smaller ratios if possible.

It’s also helpful to consider if any of your students have had prior experience dealing with a loved one who has suffered a cardiac arrest. We developed a parent letter that can be sent home explaining their child will be going through a CPR unit and to let the teacher know if there are any concerns.
Finally, it’s important to remember to clean the manikins after a training session to ensure they are in good shape and ready for the next training session.
Challenges & Obstacles to Implementation

LACK OF CLASSROOM SPACE
- Use gyms, multi-purpose rooms, cafeterias, hallways

LARGE CLASS SIZE VS. AVAILABLE MANIKINS
- All CESAs have 10 kits available for check-out, partners, pods

STUDENTS/TEACHERS WITH INJURIES OR DISABILITIES
- Use tabletops instead of floor, verbal skills check/talk through steps

LANGUAGE BARRIERS/CULTURAL ISSUES
- Interpreter, discuss concerns

STUDENTS WHO HAVE PERSONAL EXPERIENCE WITH CARDIAC ARREST
- May observe training, discuss ahead of time with collection of parent letter

OTHERS?
Community Benefits

- **80% of cardiac arrests happen at home**
- Hands-Only CPR training creates a new generation of students who can help their families and communities
- Students become an integral part of the cardiac chain of survival
- Create relationships between schools and community health partners
Community Health Partnerships

**GOAL:**
- Link teachers to agencies which allows for continuation of relationships after grant period is over
- We will work to identify training partners in each area that would like to be involved with this program
- Are there already partners in your schools for other events?

**CONSIDERATIONS:**
- Give ample notice of training date
- Give partner a role – Lead? Helper?
- Attire – Uniform? Scrubs? Street clothes?
- Discuss how will large classes/multiple trainings be handled
- Background check – allow time to process if required at your school
Program Requirements

The purpose of the grant is to build an infrastructure based on community partnerships that will be sustained after the grant period is over. To meet this objective we ask you to:

• Train one full class of students annually
• Participate in evaluation process:
  1. Administer pre-test and post-test to students and share results
     - online format to allow for ease of use
     - teachers can print hard copies of test results for records if needed
  2. Participate in brief teacher interview after the first class is taught
     - email us at cprinwischools@gmail.com or call (414) 955-1117
# What We Need From You

**Prior to Teaching the Material**
- Connect with community health partner and discuss schedule and their role
- Send parent letter to make them aware training is coming and why it’s important
- Administer online pre-test
- Print pre-test results if needed

**After Teaching the Material**
- Administer online post-test
- Print post-test results if needed
- Contact CPR in Schools ([cprinwischools@gmail.com](mailto:cprinwischools@gmail.com)) after teaching first class of each year to provide feedback so that we may continue to build better trainings
CPR in Schools Training Resources

Online Pre-test: http://tinyurl.com/cprpretest
Online Post-test: http://tinyurl.com/cprposttest
Medical College of Wisconsin CPR in Schools Website: http://www.mcw.edu/cprinwischools
American Heart Association CPR in Schools webinar and toolkit: www.heart.org/cprinschoolstoolkit
American Heart Association CPR in Schools website: www.heart.cprinschools
American Heart Association Be the Beat® website: bethebeat.heart.org
Project ADAM: http://www.chw.org/childrens-and-the-community/resources-for-schools/cardiac-arrest-project-adam/
Wisconsin EMS website: https://www.dhs.wisconsin.gov
Wisconsin Fire Departments: http://www.firedpartment.net/directory/wisconsin
Wisconsin Police Departments/Sheriff's Offices: http://www.usacops.com/wi/
Wisconsin Hospital Association: http://www.wha.org/
CPR in Schools Coordinator: cprinwischools@gmail.com
Now we will move on to the hands-only CPR portion of this training.