

# Training Manual for Trainers

**Thank you** all so much for taking the time to be here/have me here today.

My **name** is \_\_\_\_\_, and I will be presenting the Project Heart Start Program composed of four lifesaving elements. This program is a project of the New Mexico Heart Institute Foundation. It was put together and is now **directed by Barry W. Ramo**, MD, Medical Director at New Heart Fitness and Health center in Albuquerque.

This is a **non-certification-based** training meant for any capable individual to participate in to learn how to help save the life of anyone ages 8+ experiencing Sudden Cardiac Arrest outside of the hospital before medical help arrives.

There is a common **misconception** that if someone goes into Sudden Cardiac Arrest, they are experiencing a “major heart attack.” More commonly, they are experiencing Sudden Cardiac Arrest and the heart is stuck in what is called a fibrillated rhythm. The heart is unable to do the job of circulating oxygen rich blood to the vital organs. When chest compression is initiated immediately to circulate oxygen rich blood to the vital organs and shock from an AED is delivered within the first few minutes the heart can be shocked back into a normal rhythm, and the patient’s chances of survival triple.

470,000 people experience Sudden Cardiac Arrest in the US every year. Over 350,000 of those people suffer from Sudden

Cardiac Arrest outside of the hospital. About 6,000 of these patients are under the age of 21. 80% of these medical emergencies happen at home. What do you think the overall survival rate is for these patients? Overall, only about 10% survive.

In Casinos, there is 24-hour security, all staff is trained in CPR/AED use, and an AED is only a few minutes away. What do you think the survival rate from Sudden Cardiac Arrest is for those who experience Sudden Cardiac Arrest while at a casino? Survival rates in casinos are 90%.

As you will see in the video, the survival rate for Sudden Cardiac Arrest patients is as high as 60% in places like Seattle where a high number of citizens are trained in CPR, and the abundance of AEDs.

In no other medical situation, other than in a situation where bleeding control is required, is the bystander the first responder.

This brings to light the importance of all capable citizens learning these lifesaving skills, and we aren't satisfied until we teach everyone in New Mexico!

Today, you will learn how to perform **high quality** Hands-Only CPR, how to use an AED, how to recognize the sign and symptoms of a heart attack and what to do, and finally how to perform the abdominal thrusts to help save the life of a choking victim.

This program **does not** teach learners to perform rescue breaths. Hands-Only CPR is continuous compression 2.5 inches deep, or 1/3 of the chest, to 120 beats per minute.

Anyone have a guess as to why we do not teach you to perform rescue breaths in our program?

- 1) Data shows that initiation of hands-only CPR in the case of Sudden Cardiac Arrest is more effective than traditional CPR for a number of reasons.
- 2) Bystanders are twice as likely to perform CPR if they are not required to give rescue breaths. Hands-Only CPR eliminates the “yuck” factor of putting your mouth on other person if no access to a barrier.
- 3) There is still about 10 minutes worth of oxygen left in their lungs after Sudden Cardiac Arrest occurs, therefore it is so important for you to act quickly.
- 4) Some air ventilation/air flow occurs when doing compressions, so the higher quality the compressions, the more air flow will occur.

I can not emphasize enough to not stop performing chest compression until medical help arrives.

If you are required to get certified or want to learn more about how to save a drowning victim or CPR/AED skills for small children under 8 years old and infants, I recommend you sign-up for a full 4-hour certification course.

**A common concern** when learning CPR is causing harm to the person or breaking ribs in the process. Project Heart Start initiated that AEDs be covered under the good Samaritan Law and the legislation was passed in 2016. If you are called to use the skills you learn today to help save a life, take action and do not stop until medical help arrives. You are legally protected under the New Mexico Good Samaritan Law.

One of the most common questions causing hesitation is, “Will I break a rib while performing compressions?” It is possible, yet highly unlikely to break ribs with the compression technique we will show you today.

**The reality is**, if you do nothing, the person has virtually no chance of surviving after about 10 minutes. Doing nothing is not an option. When you start the compression technique you learn today and deliver a shock within a few minutes, their chances of surviving can be as high as 90%.

This program was started 10 years ago with the introduction of a Training video produced by Dr. Barry Ramo and KOAT (ABC) and since then has been used to train over 140,000 people. Project Heart Start started with a community training event in 11 different cities. Since then, training programs have been established in public and private schools, businesses, and other organizations throughout New Mexico to be suitably taught year after year.

In 2016, Project Heart Start initiated legislation passed requiring all New Mexico Public School students be taught four

lifesaving skills before graduation. Project Heart Start provides a 2-hour Train-the-Trainer program to teach designated school nurses or health teachers how to present the program themselves to create a self-sustaining program within every school. In these sessions, they learn how to use the Project Heart Start training video and other resources to present the program in their health or P.E. class every year.

Project Heart Start will soon produce a new training video to distribute to every PTA, School District, and Superintendent in New Mexico geared towards educating high-school students in the Project Heart Start program. Success of this program depends upon establishing a self-sustaining program starting with Train-the-Trainer sessions where designated staff members learn how to present the program. These designated trainers then present at their school, business, or other organization year after year using equipment provided by the NM Heart Institute Foundation.

In the Training video I am about to show you, you will see a few inspiring examples of how getting these lifesaving skills into our community has **already helped save many lives**. It will also **give you all the knowledge you need to save a life** if needed. Then I will walk you through a few scenarios so you can **practice them yourself to feel prepared to take charge until help arrives**.

Do I have any questions so far?

**(Break for video)**

As you saw in the video, we are dedicated to making New Mexico as safe as Seattle when it comes to out-of-hospital sudden cardiac arrest. The main thing to remember is that **doing CPR works!** With every compression you are doing the job of their heart, pumping blood through their body, and sending oxygen to the major organs including the brain to keep them alive until their heart can be shocked back into a healthy rhythm with the AED (Automated External Defibrillator) or until medical help arrives.

It is not a natural act to touch a stranger, and even more so to walk up to someone laying on the ground or choking. It is crucial that we learn to move past this, because doing nothing is **not** an option.

## Misconceptions

- **Someone else can handle it...right?**

**Don't rely on someone else to take charge of the situation.**

Their chance of survival drops by **10%** for **every minute** that goes by **without** high quality compressions. Starting chest compression immediately after calling 911 greatly reduces their chance of brain and heart damage. **After you finish this training today, our hope is that you feel confident enough to help if you are ever called to do so.**

**Story:** I heard the story of a woman taking a dance class filled with over 20 other people when the friend that she had brought with her collapsed. She said she looked around to see

that no one was doing anything, no one knew what to do. It just so happened she had recently gotten trained in our program. She took charge and told someone to call 911, another to get the AED, and started those compressions and her friend was able to receive medical attention and survive.

- **What if they don't need CPR?**

Don't worry, if they don't need it, they will let you know right away! **SHAKE and SHOUT**. In the words of Dr. Ramo, "Shake the hell out of them!" -Dr. Ramo

If they don't show any signs of life or responsiveness after the **SHAKE and SHOUT**, alert 911, tell someone to get the AED, and start compressions immediately.

Story: I heard about a man who went down in the middle of a business meeting. One of the other guys in the meeting started chest compression, but he regained consciousness right away. That obviously showed he was not in cardiac arrest. **If he had been in cardiac arrest, he would be thanking the person who started chest compression.**

- **Am I going to break ribs or hurt them?**

How deep are you supposed to compress the chest? (2-2.5") or 1/3 of the chest. **Most people don't compress hard enough.** As you will see when practicing, it takes more pressure and effort than expected.

It is unlikely, yet it is possible to break a rib during compression, but they will be thankful if you save their life by taking that chance. Plus, remember you are covered under the NM Good Samaritan Law.

- **What if I do it wrong?**

**Any attempt** you can make to save their life is better than no attempt. Apply what you learn today to give the highest quality compression possible.

- **Do I need to remove clothing before starting chest compression?**

**Not** for compressions. **No need to waste time** removing clothes.

- **What about the breathing?**

Immediate initiation of hands-only CPR used on Sudden Cardiac Arrest patients has been shown to be just as effective, if not MORE effective than attempting to perform rescue breaths.

Every time you stop their blood pressure plummets. Take a new container of soap for instance. You must build up the pressure by giving it a good 4 or 5 pumps before any soap makes it out of the dispenser, right? Same process must happen as you are performing chest compression. The moment you stop, blood pressure drops and you are back at the beginning of the process of building up that pressure again.



Compression will circulate the 10-minute supply of oxygenated blood through the body. As I covered before the video, there is also still some air ventilation when performing compressions. In other words, **some oxygen is still taken into the lungs when doing compressions.**

- **Can they sue if I try to help?**

**If you are called to do so, take charge and use the skills you learned today until medical help arrives to help save a life.**

You are protected under the NM Good Samaritan Law to perform CPR and use and AED device.

- **When do I stop CPR?**

Once you have started compression, **DO NOT STOP. Stop only when the ambulance arrives and someone from the medical team takes over.**

If there are other people with you, talk them through how to deliver high quality compression if they are not trained and switch with them every 2 minutes or so, that way compression stays high quality.

**If you have an AED**, it will clearly tell you when it is analyzing for a heart rhythm and that you should not touch the patient. Resume CPR as soon as it tells you it is safe to touch the patient after the shock has been delivered.

- **What if I am driving when they become unresponsive?**

**If they become unresponsive while in the car**, pull over immediately and follow the same protocol learned today, making sure to get them on the ground (hard surface) before starting CPR.

- **What if I am physically unable to do CPR?**

**There is a job for everyone.** Pick up the phone to call 911, find an AED, or do anything else to help the person have the best chance of survival.

If you are worried about being able to sustain good compressions until the EMS (emergency medical services) arrive, **adrenaline** will help tremendously. If you are alone, continuing to do the best possible compressions will help more than no compressions at all, and don't forget to grab help if there are other people around.

**Are there any other questions?**

## **Application**

We are going to simulate that we are in the situation where we just saw someone collapse. **What should we always do first?**

- 1) **Assess for scene safety.**

If the area is unsafe, DO NOT put yourself in danger.

- 2) **Check for Signs of Life.**

Once you have established that the scene is safe to approach the person, approach them FROM THE SIDE.

Put your hands on their shoulders, SHAKE AND SHOUT “Hello! Are you okay? Can you hear me?”

Make sure you are loud and shake them urgently.

If you see no signs of life (no normal response), what do you do next?

### 3) Alert Medical Response System

**If you are alone**, call 911 and put it on speaker so you can quickly set it down next to you.

**If there are others around you**, look someone directly in the eye and tell them to call 911.

### 4) Automated External Defibrillator

Make **direct eye contact** with a **different person** and **tell them** to get the AED (Automated External Defibrillator)

### 5) Hands-Only CPR

**Make sure they are on a hard, flat surface.** If they are on a bed or in a chair, quickly move them to the floor.

Extend one arm out in front of you, then place the other hand on top and interlace your fingers.

Place the **heel** of your **hand** on the center of the patient’s chest in line with the armpits.

**Concentrate the pressure into the heel** of your hand in the center of their chest.

Just like they said in the video, completely **straighten your arms** and bring your **shoulders directly over your hands**.

**Using your body weight**, compress 2.5 inches deep or 1/3 of the chest to the beat of the Journey song “**Don’t Stop Believing**” (about 120 beats per minute)

Let the **chest recoil** (rise fully) after each compression to let the heart fill back up with blood.

### **Application of Hands Only CPR**

First person is going to do compressions for **1 minute**, then you will switch with your partner/someone else in your group. Don’t spend too much time switching! Remember, blood pressure will drop immediately when you stop compression. Every second counts.

(Have them each go for 1 minute at a time. If speakers are available play the song or use your phone so they have something to jam along to.)

Compression depth is **hard to measure because people don’t click like our manikins, and recession of quality after about 6-12 months is common!** Therefore, we provide this in person training and recommend that you freshen up on your skills every 6-12 months. With hands on practice, you gain the

cognitive skills to perform this high-quality chest compression if called to do so.

Once you make a commitment to start, **keep going** until they regain consciousness, or the medical team takes over. We encourage you **practice** gaining the **muscle memory** for high quality compressions.

**Next, the AED device** is what will be used to try to shock the heart stuck in a fibrillation rhythm back into a regular rhythm. AEDs can be found in schools, libraries, airports, and many other organizations are now buying them now that they are convenient and becoming more affordable.

### **AED – Automated External Defibrillator**

If an AED is acquired by another bystander before the medical team arrives:

We will be using an AED Trainer today to simulate the process of using an AED device. The trainer will not shock, just provide a visual and hands on simulation of using an AED if called to do so.

All AED devices, regardless of model, will have the same basic components:

- 1) Protective case
- 2) On button
- 3) Voice prompts
- 4) Pads

If an AED is acquired and arrives, the bystander performing chest compressions will continue as the bystander who acquired the AED begins the AED process.

First, open the case or press the ON button. Listen closely and follow the voice prompts. The AED will tell you exactly what to do.

All clothing must be removed from the patient's chest. Pad placement requires a **bare chest**. The AED will include scissors and a razor. **You will need to remove or cut away any clothing from the persons chest.** If the person has excessive chest hair that might prevent the pads from sticking, you will need to use the razor to **quickly** shave where you need to place the pads.

Place the pads exactly as shown on the pictures shown on the pads. **One pad** will indicate placement below the collar bone on the left side of their chest, and **the other pad** will indicate placement below their right nipple.

While putting on the pads, the designated bystanders performing chest compressions will continue until the AED prompts that **NO ONE SHOULD TOUCH THE PATIENT.**

When the AED tells you to stand clear of the patient to analyze, all Heart-Starters must be clear of the patient so it can analyze their heart rhythm. We want to make sure it picks up the patient's heart rhythm, not your healthy heart rhythm.

If a fibrillated heart rhythm is found by the AED, it will then prompt that it is charging. Once charged, the AED will prompt you to press the shock button.

**Be sure everyone is clear (not touching) of the patient,** before pressing the shock button to deliver the shock.

After analyzing, the AED may prompt that NO SHOCK IS ADVISED. It will then prompt that it is SAFE TO TOUCH THE PATIENT, so designated Heart-Starter should immediately resume chest compression if the patient remains unresponsive.

The AED will analyze for heartbeat every **2 minutes**, so make sure to **resume CPR** when it tells you it is SAFE TO TOUCH THE PATIENT after either delivering the shock or if NO SHOCK IS ADVISED and they are still unresponsive.

### **Will the AED cause harm?**

The AED is a sophisticated device designed to deliver a shock in the case of a fibrillated heart rhythm to attempt to defibrillate the irregular heart rhythm back to a healthy rhythm.

Like we stated before with the CPR, in this case it is better to **attempt** to help this person by placing the pads and allowing the AED to analyze if a shock is advisable or not.

If a shock is advised, make sure all bystanders are clear of the patient before pressing the shock button. Once everyone is clear, you are delivering a needed shock that will potentially shock the heart back into a healthy rhythm.

If no shock is advised, re-start chest compressions as soon as the AED voice prompt advises you to do so.

### **Why stop chest compression when analyzing?**

The AED will pick up a healthy heartbeat instead of the patient's fibrillated rhythm if anyone is touching the person when it tells you it's **analyzing** for their heart rhythm.

### **Why would no shock be advised when they are still unresponsive?**

The AED (automated external **defibrillator**) is designed to attempt to shock ventricular **fibrillation** back into a normal rhythm. There are other irregular heart rhythms that not treated with a shock from an AED. A "No Shock Advised" message **does not** mean that the patient's heart rhythm is back to normal, therefore chest compression is still necessary until medical help arrives.

## **Application of the AED**

You have just arrived with the AED device.

Make sure the patient is on a dry surface, and that there is no water on their chest.

Open the case, and if it does not turn on automatically, press the on button.

Follow the voice prompts. Pretend to remove all clothing from the chest and apply the pads.



Listen for when the AED is analyzing, and make sure all Heart-starters are clear during this process.

If shock is advised, make sure everyone is clear before pressing the button to deliver a shock.

If no shock is advised, listen for the AED to tell you it is SAFE TO TOUCH the patient so a designated heart-starter can re-start chest compression.

The AED will analyze for a heart rhythm every 2 minutes, so make sure you are delivering the best quality chest compressions possible.

## **Signs and Symptoms of a Heart Attack**

80% of those with Coronary Heart Disease experience Sudden Cardiac Arrest due to lack of blood flow to the heart muscle. As you saw in the video, this lack of blood flow is caused by plaque build-up within the arteries that can lead to a Heart Attack.

Not all patients who experience a Heart Attack experience these signs and symptoms; however, the most common signs and symptoms are:

- Chest discomfort that may spread to arms, neck, or jaw
- Aching, burning, squeezing, or tightness in the chest
- Sudden severe shortness of breath
- Sudden profuse sweating
- Indigestion or stomach discomfort

As you saw in the video, many of those experiencing the signs and symptoms of a Heart Attack **ignore** or **deny** they are having a heart attack. **If caught early** you can lower your chances of major damage to vital organs.

**Do not** drive yourself or someone else experiencing these symptoms to the hospital.

If you experience or notice someone around you experiencing the sudden onset of any of the following symptoms for more than 10-20 minutes, CALL 911 and take 2 aspirin if available.

Heart Attack symptoms can persist for **days, even weeks** causing major tissue damage.

### **Why should you take Aspirin?**

Like the video said, when plaque builds up inside the arteries that supply blood to the rest of your body and can burst causing a blood clot to completely block blood flow to the heart muscle. Aspirin thins the blood for more potential blood flow.

### **What if I am driving when I experience these symptoms?**

Pull over, call 911, and take 2 Aspirin.

Lay down in a clear line of sight from the road and wait for the ambulance to arrive.

## **Abdominal Thrusts**

60,000 people per year die from choking on food or a foreign body. I am now going to teach how to help save the life of someone whose airway becomes blocked by using abdominal thrusts.

The universal sign for choking is both hands wrapped around the throat. This person will begin choking and will not be able to cough or speak.



A common reaction to choking is embarrassment, so many of those who are choking will leave the room or go to the bathroom to try to expel the particulate from their airway.

If you are choking, use this universal sign to get help from those around you. You can perform abdominal thrusts on yourself using a chair or table as well.

If you are choking while alone, call 911 and attempt to do abdominal thrusts on yourself using a chair or table.

If someone around you begins to exhibit signs that they are choking, **ask them “Are you choking?”**

If they cannot breathe, they won't be able to speak so if they nod YES, ask **“Can I help you?”**

If they nod YES to your help, get behind them taking a wide foot stance just in case they become unresponsive and you need to lower them to the ground.

Wrap your arms around their upper waist and find their belly button, then place your fist with your palm facing down right above their belly button.

Place your other hand on top of your fist and quickly thrust upward and inward.

If you are **unable to clear** the airway, they will eventually **become unresponsive**.

If they become unresponsive, follow the **same** steps we went through at the beginning.

If a woman who is **pregnant** begins to choke, abdominal thrusts will harm the fetus. Instead, place fist at the center of the patient's breastbone and apply quick chest thrusts.

If the person **refuses your help**, call 911 and **be ready** to start compressions if they become unresponsive.

### **Application of Abdominal Thrust**

Try abdominal thrusts on yourself, then show the universal choking sign of grabbing the throat and bending over at the waist.

Someone else approach and ask "Are you choking?"

Person with the vest will nod YES

Then ask "Can I help you?"

Person with the vest will nod YES

Get behind them, wrap your arms around their upper waist, and find their belly button.

Place your fist palm down right above their belly button and thrust inward and upward until the particulate is expelled.

If they are pregnant, place your fist in the center of the chest and perform chest thrusts.

This program is meant to teach you how to **help save the life** of someone **age 8 or older** if called to do so by using all of the skills you learned today. Take charge! You now have the knowledge, practice, and ability to act. Don't let **fear** stand in the way of **saving** someone's life.

**Spread the word** and get more people you know trained! If you want to help protect your loved ones and yourself from the "No one knew what to do" situation, refer or **bring a friend** to get trained.

If you are interested in learning how to present I can sign you up for an upcoming Train-the-Trainer session so you can learn and present at no cost to you. **No experience required!**

**Watch out** for the **signs** of a heart attack, and don't live in **denial** or **ignore** the symptoms. The longer you **wait**, the more **damage** it can cause.

**We don't click like the manikins!** Make sure to **CALL 911** then press 2.5" deep to the beat of "Don't Stop Believing" in the center of the chest until medical help arrives.

Please fill out the brief completion survey to reinforce what you have learned today and turn it in to me to receive your Project Heart Start **completion card** and **certificate**.

**Congratulations!!** You are now all Heart-Starters! **Thank you** for participating in our program.

If you see someone suddenly become unresponsive, you are going to stand up and say "I know CPR!" So we are going to end by practicing.

I am going to say 1, 2, 3 and then we are all going to put our hands up and say "I know CPR!" Ready?

3, 2, 1 "I know CPR!" (everyone's hand should be in the air)

**You are welcome to ask me any final questions as I pack up, but otherwise that concludes your training!**