

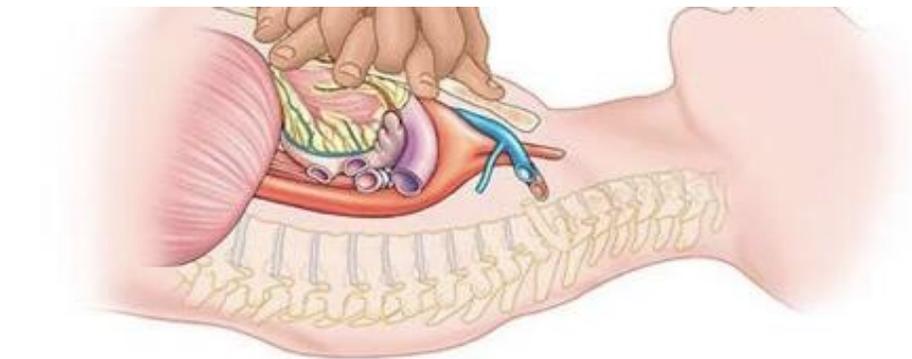


BRCC CPR/AED & FIRST AID TRAINING

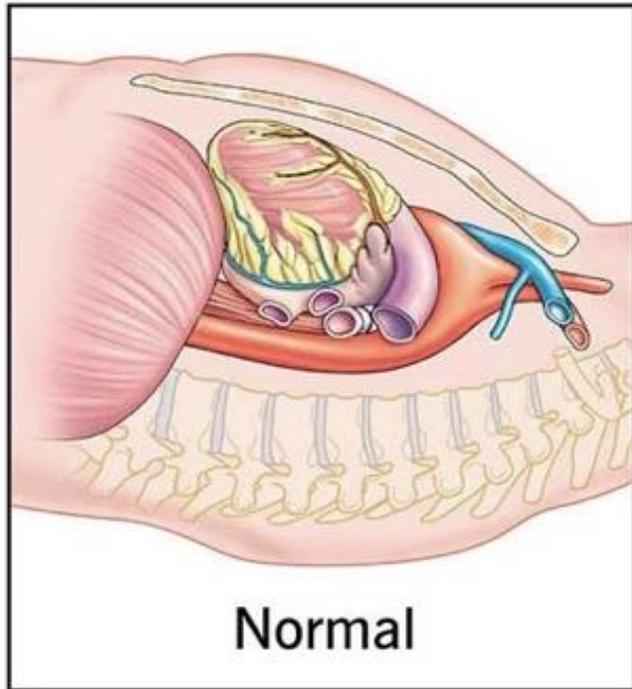
Safety/First Aid Kit Orientation & Medical Emergency Protocol
by Retired SFFD Firefighter/Paramedic Chief Melany Brandon

All Info in this Training is Based on Current American Heart Association CPR/AED/First Aid Standards as of January, 2026 Happy New Year!

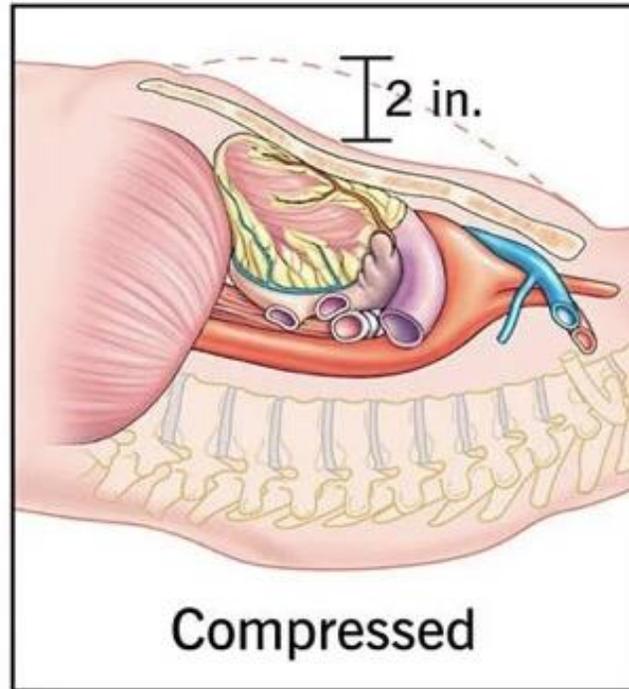
- No CPR/First Aid Certification Cards issued today but you can attain certification through Heart.org
- Take online or in person Heartsaver CPR/AED/First Aid course (\$23) with a Student Workbook (\$4.50)
- Then get signed off on CPR/AED/First Aid skills test at an American Heart Association Training Center-Safety Training Seminars has several locations in the Bay Area.



Cleveland
Clinic
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Normal



Compressed

Cardio Pulmonary Resuscitation (CPR)

Cardio-Heart stops beating usually from sudden electrical fibrillation called Sudden Cardiac Arrest (SCA).

Pulmonary-Lungs. Patient stops breathing due to lack of O₂ to brain/body from heart stopping.

Resuscitation-Reviving, bringing back to life from heart/respiratory cessation and often ECG abnormality.

CPR keeps blood moving after cardiac arrest.



Bystander CPR improves survival.

The location of Out of Hospital Cardiac Arrests (OHCA) most often occurs in homes/residences (73.4%), followed by public settings (16.3%), and nursing homes (10.3%).

The Importance of Bystander CPR/AED

If performed immediately, CPR and AED (defibrillator) use can double or triple the chance of survival from cardiopulmonary arrest. It's why there are Public Access AED's at gyms, all public facilities.

Cardiac Arrest victims who receive CPR/AED from bystanders are more likely to have a viable, shockable heart rhythm for First Responders to continue to treat enroute to the hospital emergency room.

During my 30 years on 911 Ambulance/Fire Engine in SF, no bystander CPR-usually poor outcome. If bystander CPR-we got excited cuz we knew there was a good chance for the patient.

Survey shows only 50% of Americans would perform lifesaving CPR cuz other half don't know how, fear of being sued or hurting victim or think someone else will do it.

In this section, you will learn when CPR is needed, how to give CPR to an adult, and how to use an AED.

Adult Chain of Survival

The AHA adult Chain of Survival (Figure 9) shows the most important actions needed to treat adults who have cardiac arrests outside of a hospital. During this course, you will learn about the first 3 links of the chain. The fourth and fifth links are advanced care provided by emergency responders and hospital providers who take over care, and the sixth link is recovery.

Remember that seconds count when someone has a cardiac arrest. Wherever you are, take action. The adult Chain of Survival starts with you!

- **First link:** Immediately recognize the emergency and phone 9-1-1.
- **Second link:** Perform early CPR with an emphasis on chest compressions.
- **Third link:** Use an AED immediately (as soon as it is available).
- **Fourth and fifth links:** Advanced care is provided.
- **Sixth link:** Additional treatment, observation, and rehabilitation may be needed to fully recover from a cardiac arrest.

Figure 9. The AHA adult Chain of Survival for cardiac arrests that occur outside of a hospital.



Bystanders can do first 3 links

Call 911, or if in Berkeley, call Berkeley Emergency Dispatch (510) 981-5911.

Perform Immediate CPR.

Use an automated external defibrillator (AED) as soon as available.

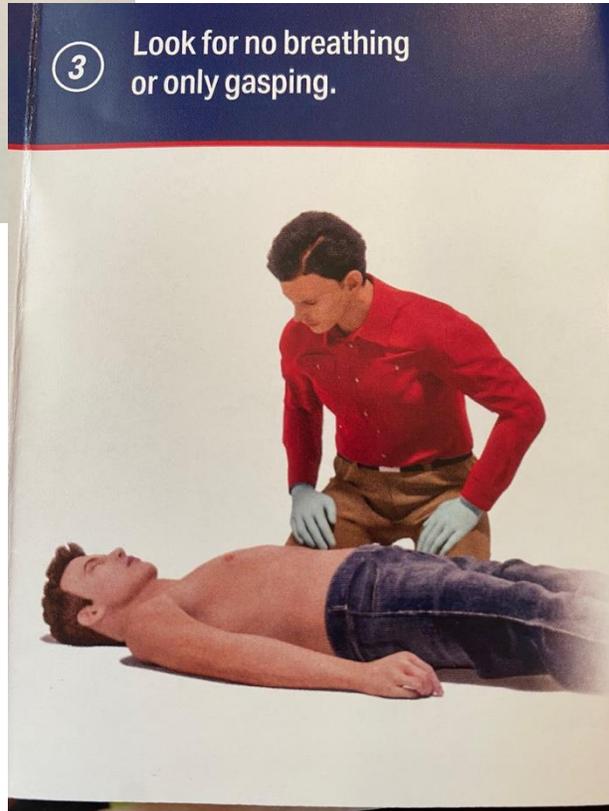
1 Tap and shout.



2 Shout for help. Phone or send someone to phone 9-1-1 and get an AED.



3 Look for no breathing or only gasing.



How to Assess for CPR/AED First Responder Need

Check for Responsiveness- Shake and Shout at Victim for response

Call 911 (Berkeley Emergency Dispatch (510) 981-5911) if Unresponsive & tell bystander to get AED

Check Victim for breathing while checking for carotid pulse if familiar (10 sec.)



Take Action! Start CPR/AED

*Push hard and fast on center of chest, 2 to 2.4 inches depth, for 30 compressions at rate of 100 -120 compressions/minute (Stayin' Alive by Bee Gees, Hips Don't Lie by Shakira).

*Hands-Only CPR for untrained bystanders.

*Full CPR for trained or willing/able bystanders.

*Allow for FULL CHEST RECOIL after each COMPRESSION

*Open Airway (Head Tilt/Chin Lift) and give 2 Breaths (1/second) while pinching nose for no air leak if trained. Pocket Mask works too

*Repeat 30 Chest Compressions and 2 Breaths (30:2) until AED Arrives or Fire/Ambulance



Give 2 Breaths Between Every 30 Chest Compressions

Open Airway (Head Tilt/Chin Lift) and give 2 Breaths while pinching nose for no air leak. Pocket Mask or Face Shield (napkin) alternatively.



Continue CPR
Until AED or
First
Responders
Arrive

Repeat 30 Chest
Compressions and 2
Breaths until AED Arrives or
Fire Engine/Ambulance

Automated External Defibrillator (AED)

The AED is used to shock a victim's heart out of the most common cause of Sudden Cardiac Arrest- Ventricular Fibrillation

The AED De-Fibrillates with electric shocks starting at 120 Joules

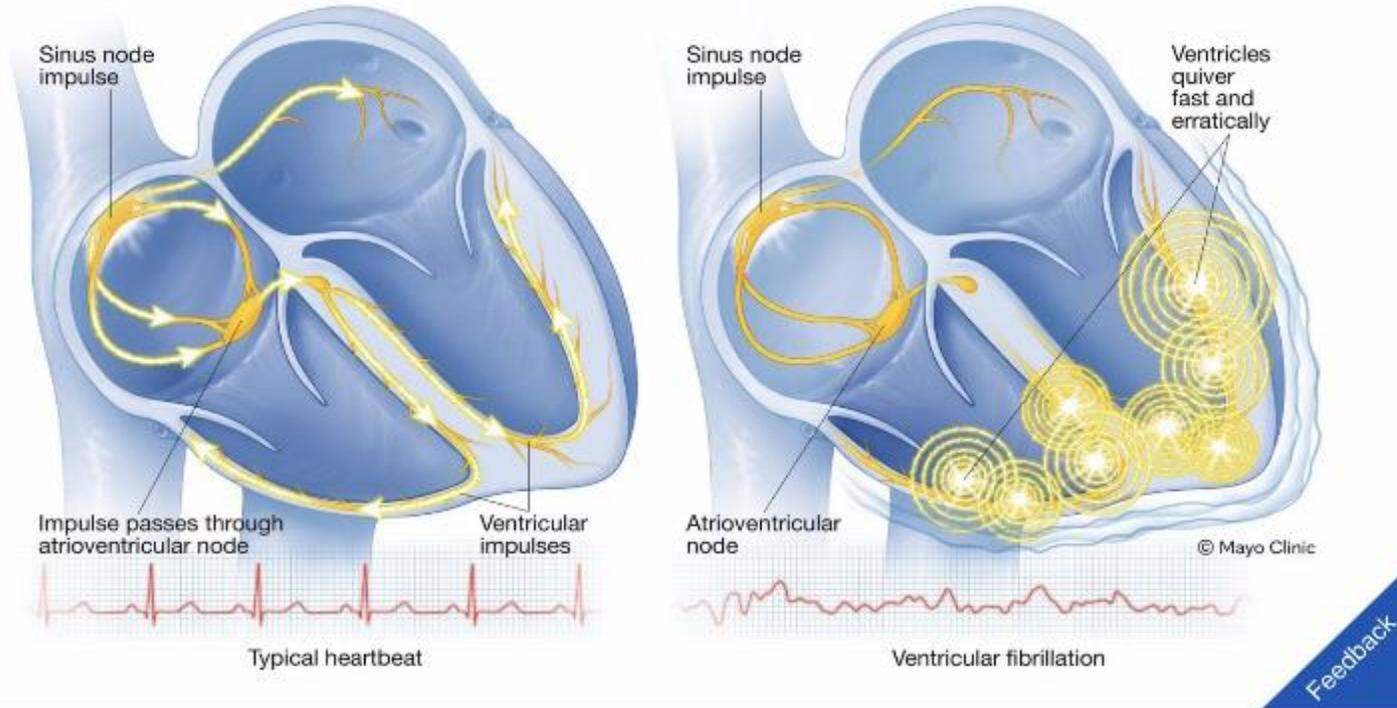




Figure 20. Place pads on an adult by following the pictures on the pads.

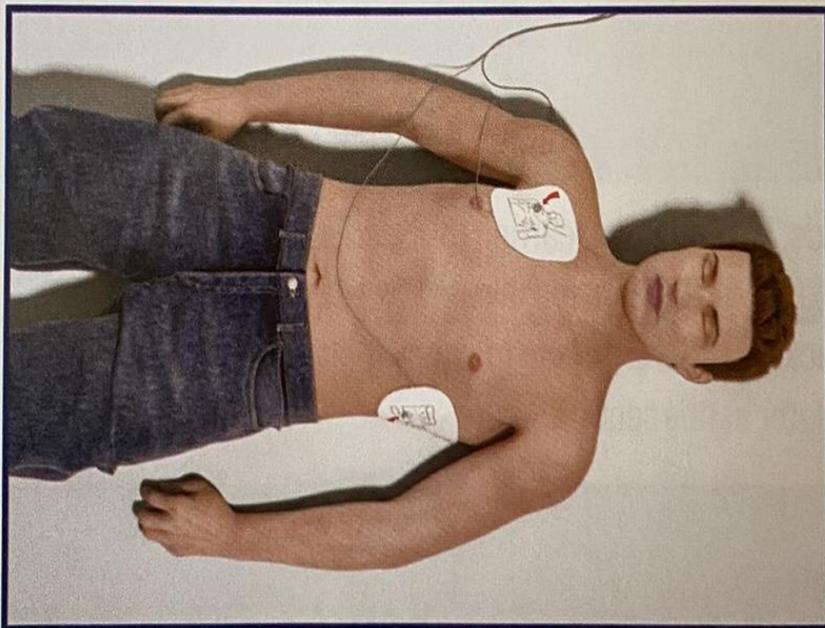


Figure 21. Make sure that no one is touching the person just before you push the Shock button.



Open AED,
Turn on and
follow
audio/visual
prompts

Once pads are placed, pause to
let AED analyze heart rhythm

If AED states to "Press the Shock
Button", tell everyone to stand
clear/hands off patient before
pressing the Shock button

Resume CPR starting w/chest
compressions after Shock
administered



Figure 23. If the AED contains 2 sets of pads, use 1 set to remove the hair on a hairy chest.



Figure 24. Wipe excess water off the chest.



Special Circumstances for AED



Figure 26. Don't apply AED pad over medicine patch.



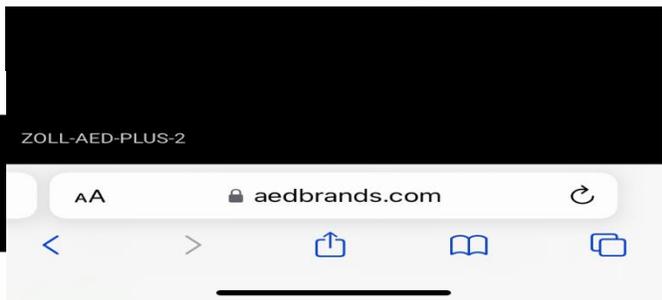
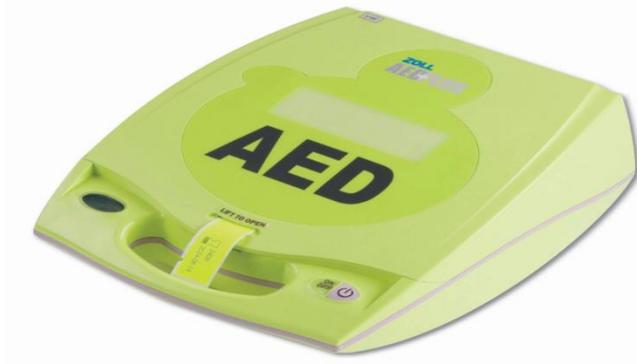
Continue Providing CPR and Using the AED

As soon as the AED gives the shock, immediately resume chest compressions. Continue to follow the AED prompts, which will guide you.

Provide CPR and use the AED until

- Someone else arrives who can take turns providing CPR with you
 - If someone else arrives, you can take turns giving compressions. Switch rescuers about every 2 minutes, which is about 5 cycles of compressions or breaths, or sooner if you get tired.
- The person begins to move, speak, blink, or otherwise react
- Someone with more advanced training arrives

Don't apply
AED over
implanted
defibrillator/
pacemaker or
medicine patch



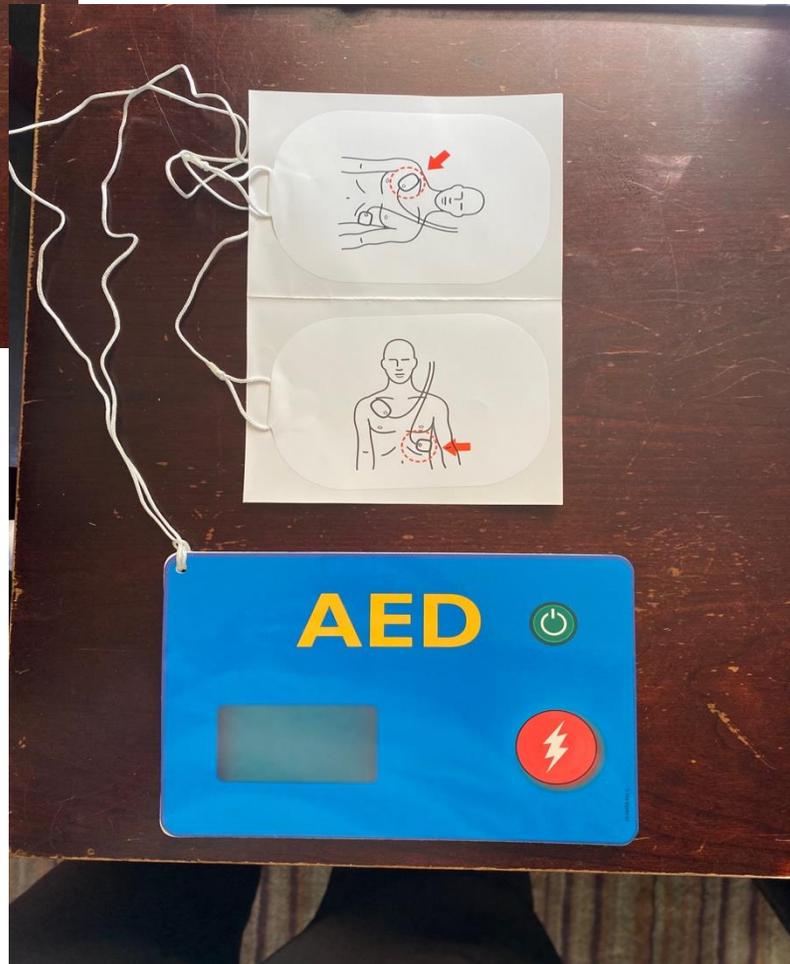
Many Different
AED's but All
Operate the
Same

Open AED, Turn on and
follow audio/visual prompts



AED Just inside to the right of Berkeley Yacht Club Front Door

Alarm will sound when door
is opened, then stop after
AED is removed for use and
door is closed



AED Trainer

Open, Turn on, Follow Voice and Visual Prompts, Apply Chest Pads as in diagram



LET'S ALL PRACTICE
CPR/AED AT SKILL
STATIONS



BRCC FIRST AID KIT AND DRAGON BOAT SAFETY BOXES



Dock M Shed



BRCC First Aid Kit in Dock M Shed

Contents:

Aspirin for Chest Pain

Glucose Gel for Diabetics

Benadryl for Allergic Rxn

Motrin/Ice Pack for muscle pain

Bandages, Band-aids for bleeding, cuts, blanket

Breathing barrier for CPR

Skin cleanser, tape, scissors, gloves



BRCC First Aid Kit

Other Side of Benadryl packet has Aspirin 325mg for Chest Pain

Emergency dispatchers will direct callers to give ASA to victims of chest pain before First Responder arrival



6 Safety Boxes
for Dragon
Boats in Dock
M Shed



Safety Box Contents on Dragon Boats

Emergency Radio

Backup Batteries for Radio

Smaller First Aid Kit w/BRCC

Medical Emergency

Protocol Instructions

Floating Orange Smoke
Signal



Emergency Radios in Safety Boxes on Boats for Steer person

Turn on and preset Channel 16 Appears

Required device for sea-born vessels

Press Push to Talk button on left to communicate with other sea-born vessels and Coast Guard re assistance and water safety info

Safety box First Aid Inventory:

- **Band-aids**
- **Gauze pads**
- **Gauze wrap**
- **Alcohol wipes**
- **Wet ones**
- **Aspirin (non-coated)**
- **Glucose gel**

**If you use an item from this kit, contact
Brandon at (415) 990-0447 for restock.**

Contents of Safety Box First Aid Kit

And how to restock

Also contains BRCC Medical
Emergency Protocol

- If MEDICAL EMERGENCY occurs on the boat:**
- 1) CALL (510) 981-5911, THE DIRECT LINE TO BERKELEY'S EMERGENCY DISPATCH. (A 911 call will be delayed through CHP then redirected to Berkeley Emergency Dispatch anyway).**
 - 2) BERKELEY EMERGENCY DISPATCH will direct you to do one of the following ('a' will be the most likely direction):**
 - a) PADDLE patient QUICKLY to the RAMP next to the Boatyard between Docks A and B for the AMBULANCE or to Dock M if closer, OR**
 - b) MEET UP with the BERKELEY FIRE BOAT on the water for them to take the patient to the AMBULANCE (Berkeley Fire Boat is at Dock B and not always manned. Crew from Fire Station 6 on Cedar drives to Fireboat), OR**
 - c) BERKELEY EMERGENCY DISPATCH may have the COAST GUARD at (415) 399-7300 respond if out in bay but response can be up to 30minutes.**
 - 3) BERKELEY EMERGENCY DISPATCH will direct caller how to help the patient until First Responders arrive.**
 - 4) If CPR is needed on the boat or dock, ask if anyone knows CPR and tell them to perform it on the patient with the chest on a boat seat or on the dock. If near the guest dock, have another person get the public AED/Defibrillator from the Berkeley Yacht Club and have them use it on the patient (if there is no pulse). Tell dispatch to direct the ambulance to the Yacht Club.**

(Over for This Kit's Inventory and what to do if item used)

BRCC Medical Emergency Protocol

For Medical Emergency on the Dragon Boat in or outside the marina

1. Call Berkeley Emergency Dispatch (510) 981-5911
2. Paddle unconscious paddler to guest Dock for CPR/AED need from Berkeley Yacht Club.
3. Other AED locations in marina- Doubletree Hotel Lobby 24/7, Harbour Master's Office M-Sat 8-4.
4. Paddle conscious paddler to Dock M or B Dock ramp if closer
5. Once at Dock, paddlers runs out to flag First Responders

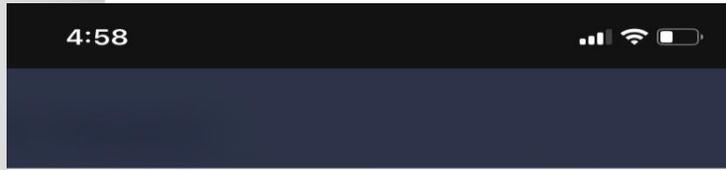


Location of Ramp for First Responder Hand Over

Inside Dock B where
Berkeley Fire Boat is
moored



FIRST AID TOPICS PERTAINING TO DRAGON BOAT

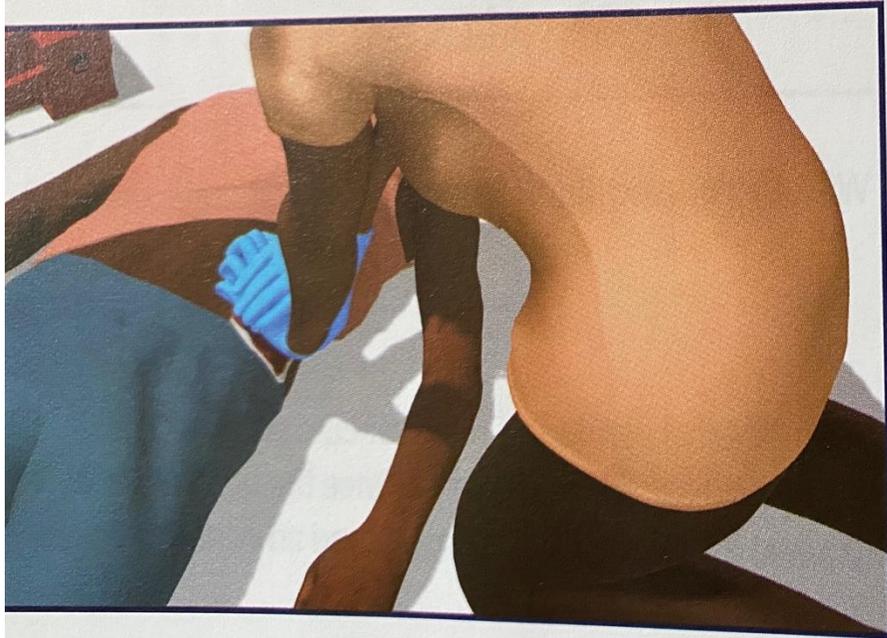


Musculoskeletal Injuries

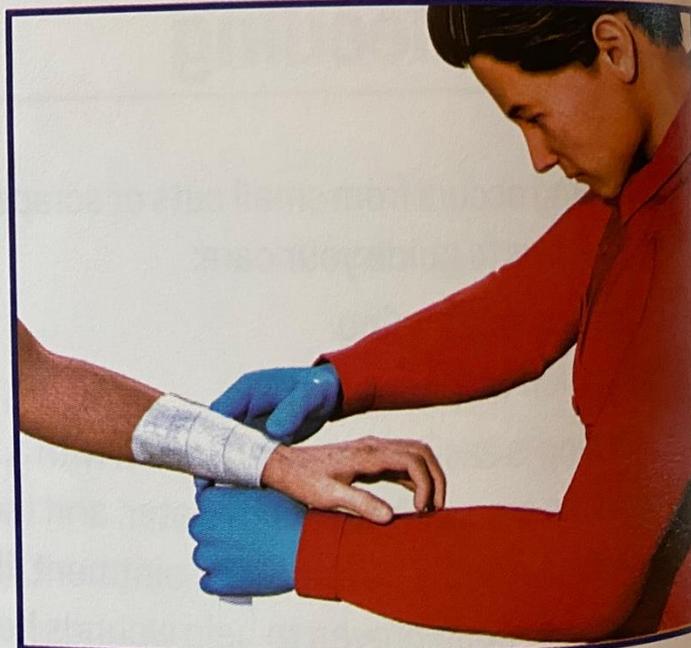
Ice Pack, Motrin, in first aid kit and safety box

Splinting might be necessary

Figure 58. Using dressings and a bandage on a wound. **A,** Apply dressings over the bleeding area, and put direct pressure on the dressings. Use the heel of your hand to apply pressure directly to the wound. **B,** Place a bandage over the dressings.



B



Actions to Take: Control Non-Life-Threatening Bleeding With Direct Pressure and Bandaging

Bleeding Control

Direct pressure with sterile gauze and elevation

If not controlled, then use tourniquet

Bandages, Band-aids,
Emergency Blanket in BRCC
First Aid Kit

Heart Attack

Heart disease is one of the leading causes of death in the world.

If someone has signs of a possible heart attack, you must act and phone 9-1-1 right away—even if the person doesn't want you to. The first minutes of a heart attack are the most important. That's when a person is likely to get worse or even die. Also, many treatments for heart attack are most successful if you give them quickly.

If a person says they have chest pain, make sure they stay calm and rest. It's best if the person doesn't drive themselves to the hospital. Stay with them until someone with more advanced training arrives and takes over.

Difference Between Heart Attack and Cardiac Arrest

People often use the terms *cardiac arrest* and *heart attack* to mean the same thing—but they are not the same. *Cardiac arrest* is a "rhythm" problem. It occurs when the heart malfunctions and stops beating unexpectedly. A *heart attack* is a "clot" problem. It occurs when a clot blocks blood flow.

Cardiac Arrest

Cardiac arrest results from an abnormal heart rhythm. This abnormal rhythm causes the heart to quiver so that it can no longer pump blood to the brain, lungs, and other organs. Within seconds, the person becomes unresponsive and is not breathing or is only gasping. Death occurs within minutes if the victim does not receive immediate lifesaving treatment.

Chest Pain

Call Berkeley Emergency
Dispatch number (510) 981-
5911

Give 325 mg Aspirin from
First Aid Kit or Safety Box

First Responders will give
Nitroglycerin for persistent
chest pain

Men

Nausea or vomiting



Jaw, neck, or back pain



Squeezing chest pressure or pain



Shortness of breath



Women



Nausea or vomiting



Jaw, neck, or **upper** back pain



Chest pain, **but not always**



Pain or pressure in the **lower chest** or **upper abdomen**



Shortness of breath



Fainting



Symptoms can vary based on victim's sex

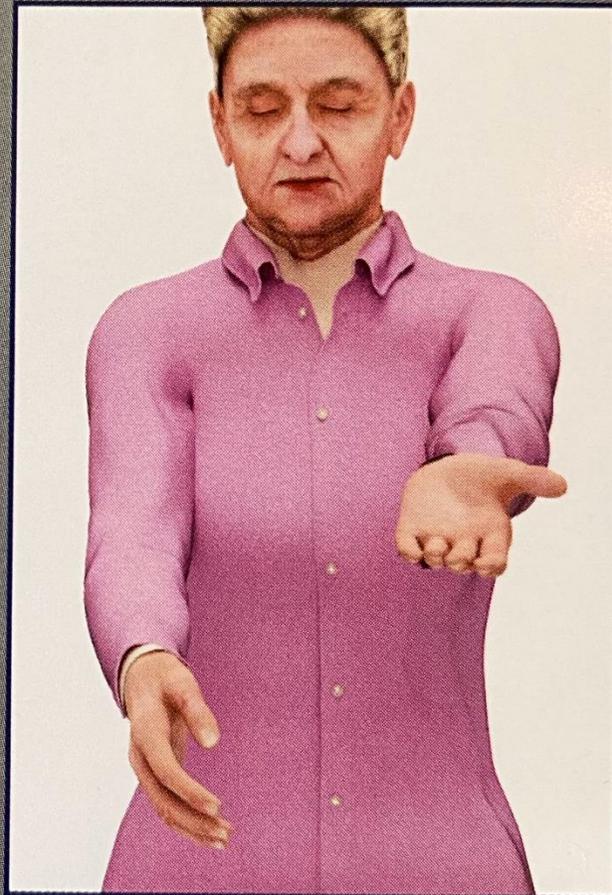
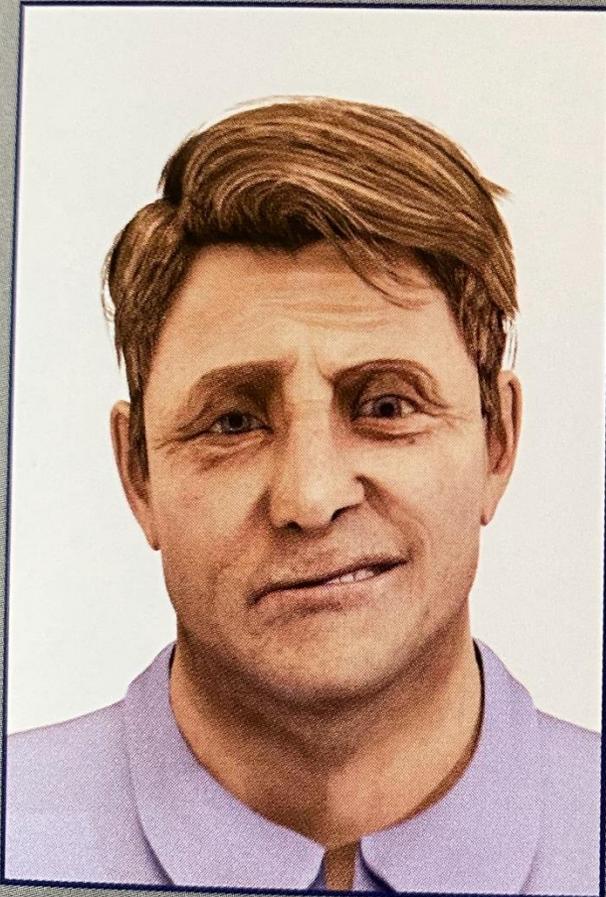
*Female heart attack symptoms can be vague/atypical from males.

*Diabetics can have atypical symptoms too.

A Arm weakness: Is one arm weak or numb?

S Speech difficulty: Is speech slurred?

T Time to phone 9-1-1: If someone shows any of these symptoms, phone 9-1-1 immediately.



Stroke Symptoms & What to do

F.A.S.T.

F-Facial droop

A-Arm weakness (1 sided)

S-Slurred Speech

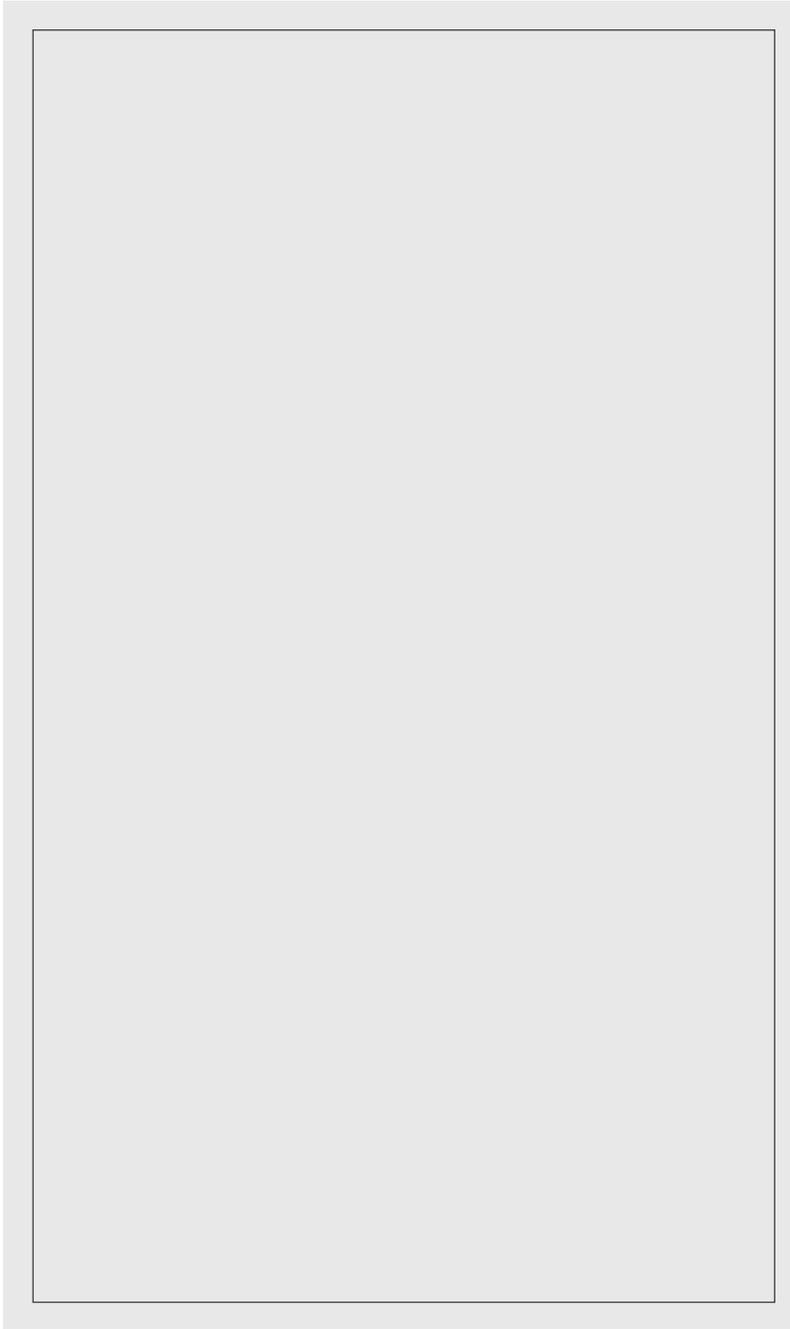
T-Time of onset/Time to call
911

Figure 1. The warning signs of stroke.

F. FACE DROOPING	A. ARM WEAKNESS	S. SPEECH DIFFICULTY	T. TIME TO CALL 9-1-1
			

Actions to Take: Stroke

- Phone or have someone else phone 9-1-1 and get the first aid kit and AED.
- Note the time when the stroke signs first appeared.
- Remain with the person until someone with more advanced training arrives and takes over.
- If the person becomes unresponsive and is not breathing normally or is only gasping, give CPR.



Environmental Injuries

- Three stages of heat emergencies:
- 1. Heat Cramps-from dehydration, exertion in heat
- 2. Heat Exhaustion-dizzy, confused, headache, pale & sweaty, fainting
- 3. Heat Stroke-confused, body temp over 104°, hot and DRY skin, irrational behavior, vomiting, rapid breathing, pass out
- Prevent, recognize symptoms, know how to treat and when to call for help-hydration, rapid cooling-cool wet towels entire body, ice to underarms/groin, fan skin

- Cold Water Immersion-Marina 55° Winter/60° Summer

normally strong swimmers can lose the strength to pull themselves out of the water or keep their head above water. This can lead to drowning.

IF THE WATER TEMPERATURE (F) IS:	EXHAUSTION OR UNCONSCIOUSNESS	EXPECTED TIME OF SURVIVAL IS:
32.5	Under 15 Minutes	Under 15 - 45 Minutes
32.5 - 40.0	15 - 30 Minutes	30 - 90 Minutes
40.0 - 50.0	30 - 60 Minutes	1 - 3 Hours
50.0 - 60.0	1 - 2 Hours	1 - 6 Hours
60.0 - 70.0	2 - 7 Hours	2 - 40 Hours
70.0 - 80.0	3 - 12 Hours	3 Hours - Indefinitely
OVER 80.0	Indefinitely	Indefinitely

Hypothermia Chart

The use of an Immersion Suit or other buoyant thermal protective device will greatly enhance survival time.

Unit 5 of 5 Topic 3 of 5 Page 2 of 6

Five and five

Give five back blows

Give five abdominal thrusts



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First aid for a choking person



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How to perform abdominal thrusts,
also called the Heimlich maneuver,
on yourself

Choking

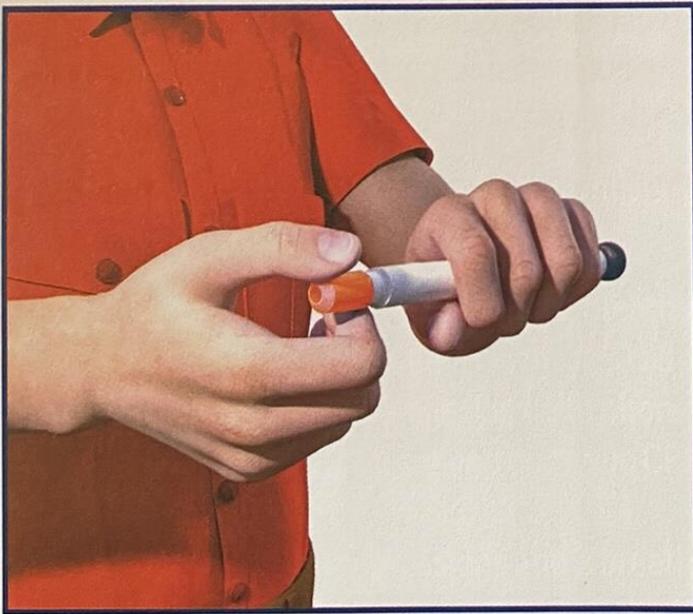
If the person can still talk,
stand by and let person
cough

If person can't breathe or
speak and has universal
choking sign:

- 5 back blows between
shoulder blades and
- 5 abdominal thrusts until
first responders arrive.

Figure 55. Using an epinephrine pen. **A,** Take off the safety cap. **B,** Press the tip of the injector hard against the side of the person's thigh, about halfway between the hip and the knee.

A



B



Dispose of the Epinephrine Pen Correctly

Allergic Reactions: First Defense- Benadryl Second Defense- Epi Pen

Benadryl 50mg in First Aid Kit

Some teammates have own Epi Pen for anaphylactic reactions to yellow jacket stings, other allergens.

Medical Emergency Drill #2

Paddler is conscious & develops chest pain

- Paddler near victim tells steers person, "We have a medical emergency!"
- Steers person tells paddler in front of boat to hand Safety Box back to victim and directs paddler with Berkeley Emergency dispatch number to call for First Responder help.
- Steers person navigates boat back to M dock and once docked, paddler runs to Harbor Master's Office (8-4pm except Sunday) for AED if victim's condition worsens. Or steers person navigates boat to guest dock for AED access from Yacht Club.
- Paddler next to victim asks if victim is allergic to aspirin and if not, gives victim one 325mg aspirin to chew for chest pain to start the anti-clotting process for possible heart attack
- Upon dock arrival, boat waits for First Responders to decide how to extricate victim from boat