U.S. Coast Guard MEDEVAC

Considerations, Communication, and Preparation

AST2 Joseph Glaser-Reich
joseph.e.glaser-reich@uscg.mil

MEDEVAC Decision: Is this happening?

- MEDEVAC can be extremely hazardous to both patient and crew
- SAR Mission Coordinator will seek medical advice when deciding whether to initiate a MEDEVAC (*you are probably not going to be talking to a Doctor initially*)
- Risks of the mission will be weighed against the risks to the patient and the responding resource.
- Factors include:
    - The patient's clinical status.
    - The patient's probable clinical course if MEDEVAC is delayed or not performed.
    - Medical capabilities of responding Coast Guard personnel and equipment.
    - Prevailing weather, sea, and other environmental conditions.
    - Contractual arrangements between vessels and hospitals or commercial medical advisory services.

The final decision to conduct a MEDEVAC rests with the aircraft commander, cutter commanding officer, or coxswain ***on scene***.

COMDTINST 16130.2G

Recommended MEDEVAC Checklist:
(The CG's version of a SOAP Note)

- Patient's name, age, gender and nationality
- Patient's respiration, pulse rate, temperature, and blood pressure
- Location of pain
- Nature of illness or injury, including apparent cause and related history
- Symptoms
- Type, time, and amounts of medications given
- Time of last food consumption
- Ability of patient to eat, drink, walk, or be moved
- Whether the vessel has a medical chest, and whether a physician or other medically trained person is aboard
- Whether a suitable clear area is available for helicopter hoist operations or landing
- Name, address, and phone number of vessel's agent
- Last port of call, next port of call, and ETA of next port of call
- Additional pertinent remarks.

MEDICO / MEDEVAC CHECKSHEET

PATIENT INFORMATION

Name: Age: Sex: M F Nationality:

Type of injury (symptoms and location):

When/how injury occurred:

Medications administered (type and amount):

Previous medical history (including medications):

PATIENT VITAL SIGNS

Temp:
B/P
(Wrist/Neck):

Airway: OBSTRUCTED GURGLING OPEN
Resp: SHALLOW NORMAL DEEP NONE*
Pulse: NORMAL WEAK POUNDING NONE*

* IF NO PULSE/RESP, IS CPR BEING CONDUCTED? Y N How long?

Conscious:	Y N	Ambulatory:	Y N	Eyes: DILATED	Y N
Convulsions:	Y N	Signs of Shock	Y N	REACTIVE	Y N
Vomiting:	Y N	Bleeding:	Y N	EQUAL	Y N
Tingling limbs:	Y N	Paralysis:	Y N		

Skin cond: DRY NML CLAMMY Skin color: BLANCHED YLW NML BLUE RED

First aid kit: Y N Treatment given:

Medical personnel: DR RN EMT OTHER

The form on the other end of the radio

DIVING ACCIDENTS

2

Time of accident: _____

Total dives today: _____ Interval between dives: _____

Dive depth: _____FT/M Dive duration: _____ Decompression: _____

Dives in last 24 HRS: Y N IF YES, when? _____

Dive depth: _____FT/M Dive duration: _____ Decompression: _____

MISC INFORMATION

Vsl LPOC/Date: Vsl NPOC/ETA:

Communications: VHF-FM MF/HF CELLULAR FREQ/Number:

O/S Weather: Wind: _____ / _____ Seas: _____ / _____ VIS: _____ Sea temp: ____ F/C

FLT Surgeon BRFD: [ ] YES [ ] NO MEDEVAC: [ ] BOAT [ ] HELO

Warranted Risk: Risk vs. Gain (an aviation perspective)

- **Saving Human Life**. If a mission is likely to save human life, it warrants a maximum effort. When no suitable alternatives exist and the mission has a reasonable chance of success, the risk of ***damage to or abuse of the aircraft is acceptable, even though such damage or abuse may render the aircraft unrecoverable. Probable loss of the aircrew is not an acceptable risk.***

- **Preventing or Relieving Pain or Suffering**. If a mission is likely to prevent or relieve intense pain or suffering, or if it may result in the possibility of saving human life, it warrants the risk of ***damage to or abuse of the aircraft if recovering the aircraft can be reasonably expected.***

- **Saving Property**. If a mission is likely to save property of the United States or its citizens, it warrants the risk of ***damage to the aircraft if the value of the property to be saved is unquestionably greater than the cost of aircraft damage and the aircraft is fully expected to be recoverable.***

This is happening…Helicopter Evacuation Safety, Vessel Key Points:

- Lower or stow all masts and booms
- Clear area for hoisting
  - Ideally port side of the stern
- PFDs for all deck personnel
- Gale force winds generated by helicopter
  - Stow or secure all loose gear
- Radar on standby
- Do ***not*** attach the hoist hook or the cable to any part of your vessel

Helicopter Evacuation Safety, Patient Key Points:

- PFD (unless condition absolutely prevents it)
- Personal identification
  - Driver’s license, social security card, passport, immunization record, record of medication(s) administered
- Small soft bag:
  - modest supply of personal items, include any prescribed medications taking regularly


-0:42

Hoisting Devices

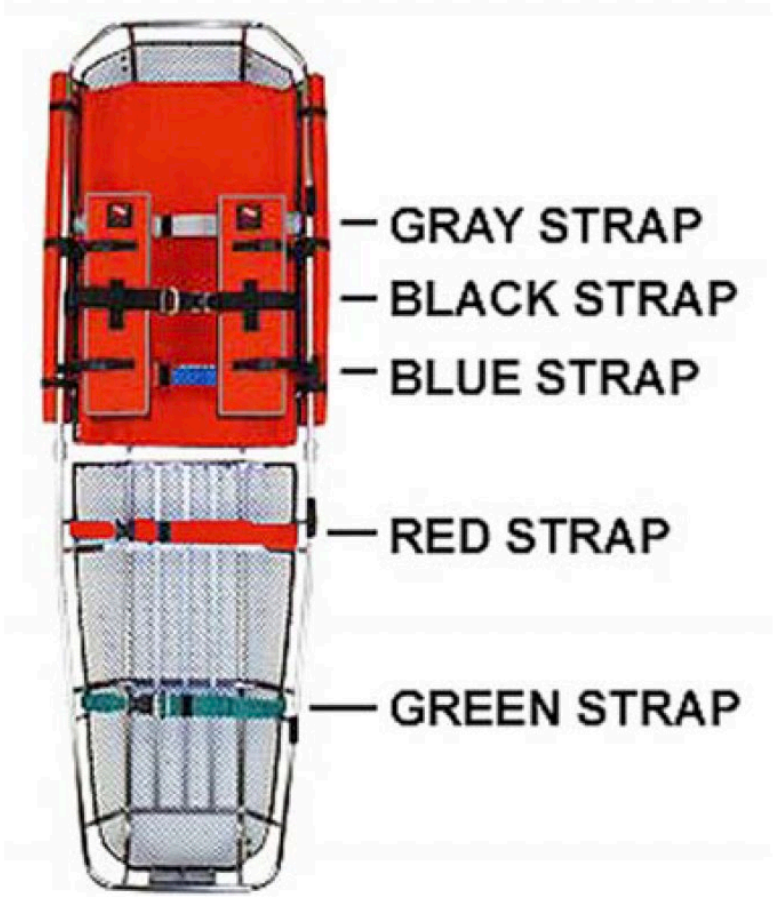


Figure 6-1. Folding Rescue Litter

Figure 6-2. Rescue Basket

Figure 6-4. Quick Strop

Figure 6-3. Survivor Strop

COMDTINST M3710.4D;
COMDTINST M13520.1C

Medical Care in CG Rotary Wing Environment

- BLS capabilities
- Some Air Stations may have ALS capabilities, confirm
- Cramped, dark, loud
  - Auscultation of any type not practical
- Think flying pick up truck with an EMT (and maybe an HS or Paramedic) instead of air ambulance


-0:00

Medical Care in CG Rotary Wing Environment

- BLS capabilities
- Some Air Stations may have ALS capabilities, confirm
- Cramped, dark, loud
  - Auscultation of any type not practical
- Think flying pick up truck with an EMT (and maybe an HS or Paramedic) instead of air ambulance

What are your questions?

AST2 Joseph Glaser-Reich

joseph.e.glaser-reich@uscg.mil

References

- Air Operations Manual. COMDTINST M3710.1I. March 2021.
- Aviation Life Support Equipment (ALSE) Manual. COMDTINST M13520.1C. May 2011.
- Aviation Life Support Equipment (ALSE) Process Guide. CGTO PG-85-00-310-A. November 2021.
- Coast Guard Helicopter Rescue Swimmer Manual. COMDTINST M3710.4D. November 2018.
- U. S. COAST GUARD ADDENDUM TO THE UNITED STATES NATIONAL SEARCH AND RESCUE SUPPLEMENT (NSS) To The International Aeronautical and Maritime Search and Rescue Manual (IAMSAR). COMDTINST 16130.2G. October 2022.

Helicopter Evacuation Safety Briefing for Vessels (1/3)

I have a detailed briefing on the helicopter evacuation. Please let me know when you have everyone who will be involved in the operation assembled around the radio. If some members of the crew cannot be spared due to duties, do the best you can to assemble the remainder. Let me know when you are ready.

[Pause until advised the crew is assembled]

I will begin this detailed briefing, but I will pause periodically to answer your questions. If you have none after checking that everyone understands, simply say, “go ahead”.

A Coast Guard helicopter is en route to your location. You need to make some simple preparations to maximize the safety of the hoisting operation for the patient, your vessel, and the helicopter. **Lower or stow all masts and booms** that can be lowered. Provide a **clear area for hoisting**, preferably on the **port side of the stern**. Think about the clearance of rigging lines and antennas, as well as the chosen deck area. The helicopter pilot will make the final determination as to the location of the hoisting area upon arrival. Plan to keep all unnecessary personnel out of the way. All personnel on deck must wear **PFD**s. Do not take any flash photographs because they distract the helicopter crew during this demanding operation. During the entire hoist operation, **gale force winds** are generated by the rotor system of the helicopter and are strongest directly beneath it. Ensure that **all loose gear is stowed or secured** so as not to pose a personnel injury hazard due to being blown around on deck, or a hazard to the helicopter’s rotor system or engines.

[Pause]

Helicopter Evacuation Safety Briefing for Vessels (2/3)

Ensure that the patient is wearing a **PFD**, unless their condition absolutely prevents it. The patient should be informed of any instructions of the rescue device. If a litter is used, the uppermost strap (chest strap) must be placed under the patient's arms and over the patient's chest. All other straps are to be placed over the patient's body. If a basket is used, the patient should sit in the bottom of the basket, with their back to one end and must keep their arms and legs inside the basket until the basket is brought inside the helicopter. The patient should have appropriate **personal identification** such as a driver's license, social security card, or passport and immunization record, a record of any medication(s) administered, and a modest supply of personal items, including any prescribed medications they may be taking regularly. Use of a small soft-type bag is recommended for packing these items. It should be tied to the litter between the patient's legs, or placed in the basket with the patient. Do not tie it to the hoist cable, hook, or steadying line. A person being hoisted should be free of any items of entanglement such as purses or luggage.

[Pause]

When the helicopter arrives in your area, change course to place the wind 30 degrees off your port bow and continue at standard speed. Once steadying up on the new heading, and after you are satisfied that you have no hazards on your **radar, turn it to standby** so that it does not radiate. You may turn it on again as soon as the helicopter departs the area with the patient. This new heading may be modified again at the request of the helicopter pilot upon arrival. Ensure that any heading the pilot asks for will not endanger your vessel. For smaller vessels, the rotor wash may make it difficult to steer the vessel. Advise the pilot immediately if any sea conditions or hazards exist which will limit your navigational capabilities.

[Pause]

Helicopter Evacuation Safety Briefing for Vessels (3/3)

The helicopter will provide all of the **required equipment** for the hoist operation and will brief you prior to commencing the hoist operation. The helicopter may first deliver an orange steadying line with weighted bags at the end. Until the hoist operation is completed, one of your crewmembers must tend this line at all times, keeping the line free from fouling. The rescue device should be guided to the selected location on deck by the vessel's crew using the steadying line. On each approach, allow the rescue device to touch your vessel, to discharge static electricity. If the rescue device has to be moved to the person being evacuated, unhook it from the hoist cable. Do not move the rescue device from the hoisting area with the hoist cable still attached. If the cable is unhooked, do not, I repeat, ***do not attach the hook or the cable to any part of your vessel***. For everyone's safety, the helicopter may move off to the side while the patient is prepared for the hoist.

[Pause]

Upon signal from your vessel, the helicopter will move back over the vessel and lower the hook. Allow the hook to touch your vessel to discharge static electricity, and then fasten the hook to the rescue device using the large part of the hook. When everyone is ready for the hoist, have the deck crew give a thumb up signal to the helicopter. Ensure that the steadying line is tended to prevent the rescue device from swinging excessively, this is the primary reason it is being used. Once the rescue device is inside the helicopter, the helicopter crew will probably discard the steadying line. You may recover it or toss it overboard, but ensure you do not foul your screw either way.

[Pause]

When the helicopter, call sign "Coast Guard rescue _____", arrives, it will contact you on _____. The helicopter will look over your vessel, give final instructions, and begin the hoist. Do you have any questions?

Ocean Rescue

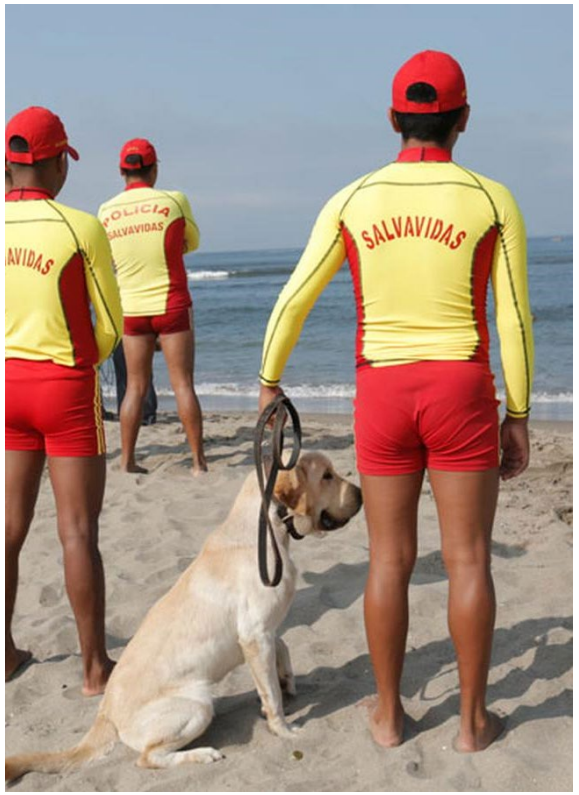
Sierra Casper

B.S. Human Biology UCSD (2019)

Ocean Lifeguard, EMT, WEMT, AWLS, DiDMM & FAWM Candidate

No Financial Disclosures or Conflicts of Interest


RESCUE BUOY
CALL
086 990 5958
DO NOT GO INTO THE WATER
THROW THE BUOY TO THE PERSON
SEA RESCUE SOUTH AFRICA
SPONSORED BY
Two Oceans AQUARIUM
18-5
LOCATION NO:



On a Global Scale

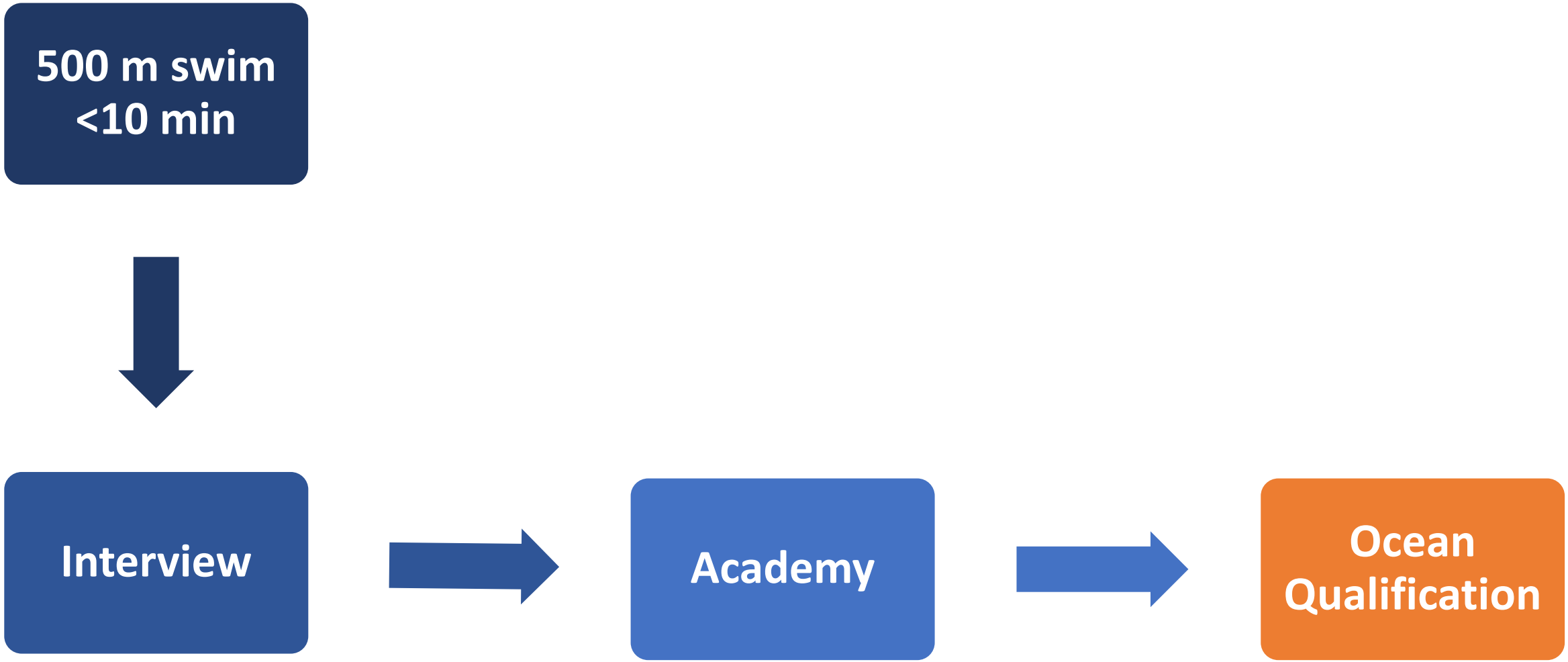
- [1]Drowning = 3rd leading cause of accidental death worldwide
- 236,000 deaths annually (vastly underrepresented)
- 90% low/middle income countries
- Children
- Males 2x more likely
- Coastal drowning in US = $273 million in direct & indirect cost

[1] WHO Global Report on Drowning (2014)

San Diego Lifeguard Service

- **Originated in 1918 with 5 lifeguards after mass drowning at Ocean Beach**
- **2023: 300 lifeguards, ~100 full time, ~200 seasonal**
- **24 miles of coastline, up to 3 miles offshore, Mission Bay (4000 acres)**
- **4 districts**
- **24/7 response**
- **Lifeguard Dispatch Center**
- **Year Round: 9 main stations**
- **Summer: 38 seasonal towers/coverage**
- **12 RWC's, 3 Fire-Boats, 2 Patrol Boats, 7 Surf Boats**

So You Want to Become a Lifeguard…



What do Lifeguards do? Breaking the "Baywatch" Stereotype

In 2020 alone, San Diego Lifeguards Responded to:
2,397 Stingray Victims
3,653 Medical Aids
6,375 Water Rescues (88% due to Rip Currents)

What do Lifeguards do?

- Medical Aids: CPR's, seizures, OD's, drowning victims, trauma, etc.
- Missing/Found Juveniles
- Boating Accidents
- Law Enforcement
- Dive, Swift Water, Cliff Rescue, DMO, EVOC Specialty Teams
- Junior Lifeguard Program

Video Links:

Boomer Rescue:
https://youtu.be/qCn4mbP9Q1g?t=308
Shores Kayak:
https://youtu.be/7nUDW1zTajo?t=486
Dive Rescue:
https://youtu.be/DuPgdqUVdTg?t=83
Mass Rescue (cove):
https://youtu.be/gqCJwkG0tGo?t=202
Torrey Pines Rescue:
https://youtu.be/q4a2WNLKP08?t=318
Stingray:
https://youtu.be/Nw32y9ARp6w?t=834
Junior Lifeguards:
https://youtu.be/IUyrA2e5RtY
Diver Code X Home Vid:
https://youtu.be/SpcolJ3kJi0

Observe. Prevent. Rescue.

Victim Prediction

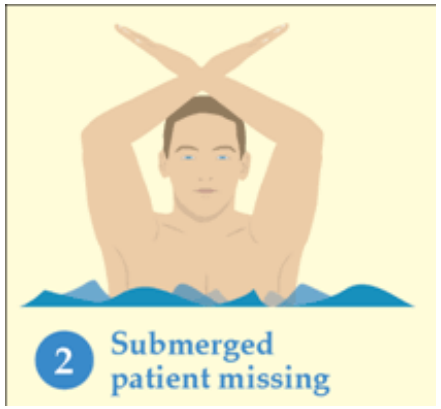
- **Entering water in full clothing**
- **Backwards wetsuit**
- **Equipment**
- **Goggles**
- **Pale skin/clothing style**
- **Jumping over waves**
- **Young children**
- **Intoxication**

Victim Identification

- **Waving for help**
- **Hair in the face**
- **Facing towards shore**
- **Low head**
- **Low stroke**
- **”Climbing the ladder”**

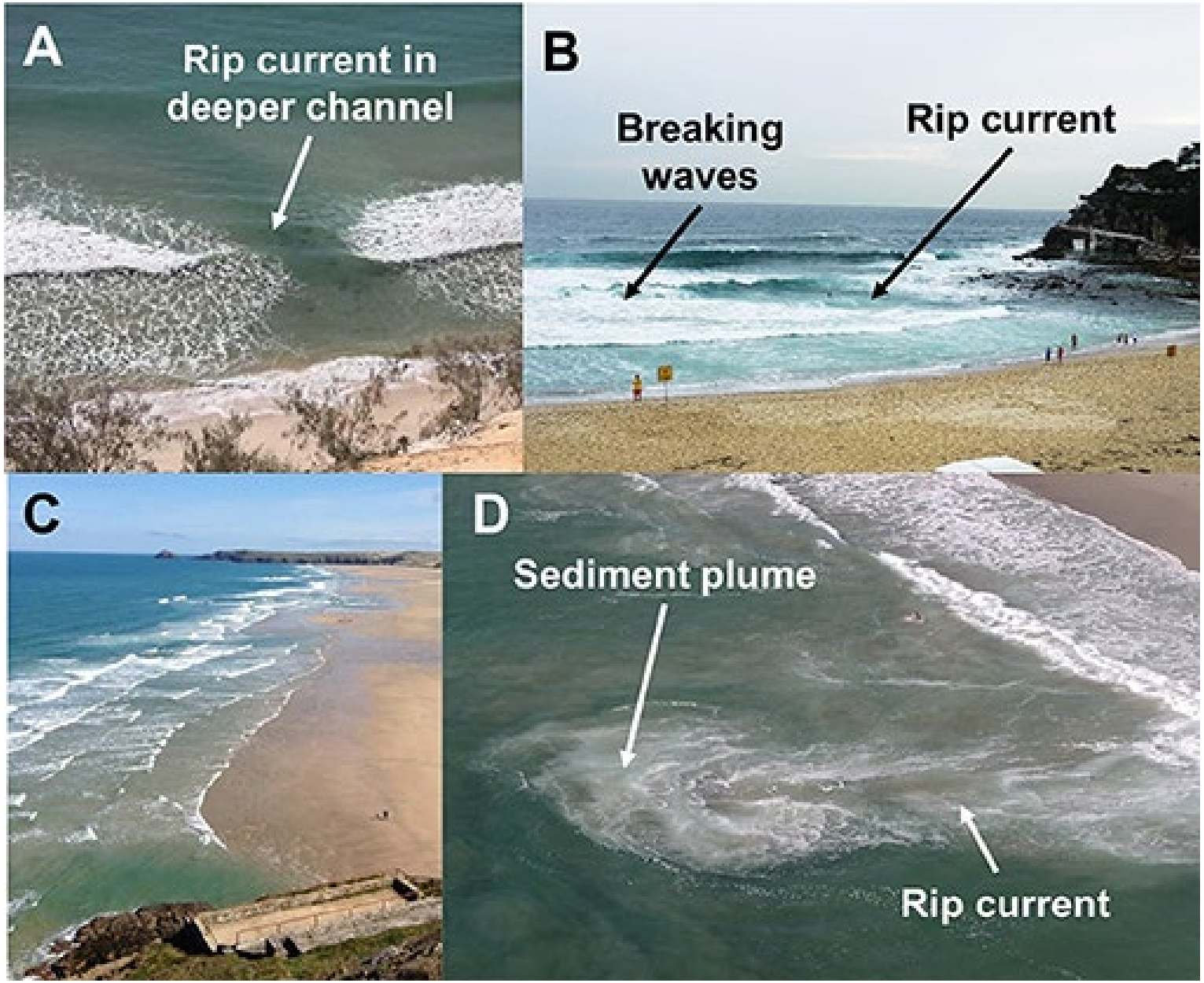
Lifeguard Hand Signals

- Assistance Required
- Need Help QUICK – Life threat
- All Clear
- Code X: Witnessed struggle & Submersion



Rip Currents

- Churning, choppy, discolored water, waves that are not breaking
- Caused by changing bottom topography, structures, tides
- Fixed or Flash
- Current pulls away from shore



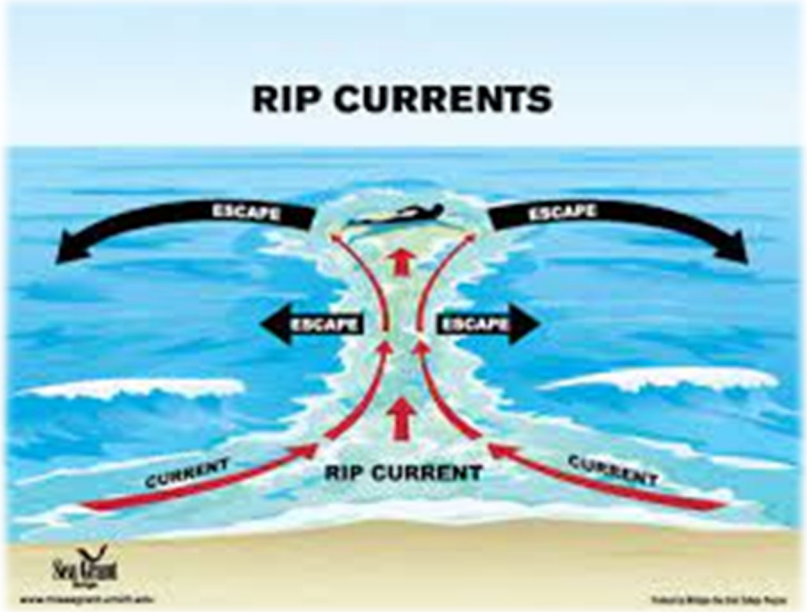
Rip Currents

If you find yourself in a rip current:

1. Do not panic, swim horizontal to shore if able
2. If unable to escape, tread water or float & wait for help

If you witness someone else in a rip current:

1. Contact nearest lifeguard or call 911
2. Maintain visual of person, keep them calm
3. Reach, Throw, Row, but **Don't** *necessarily* Go! - Know your own limitations. Don't become a second victim.



Basic Rescue Equipment

Burnside Buoy (Can)

Peterson Buoy

Fins

Rescue Board

Specialty Rescue Equipment

KPBS

Medical Equipment

- Trauma Supplies/Wound Care
- Patient Assessment/Vitals/Glucometer
- Glucose, Narcan
- Oxygen, BVM, NRB, NC, OPA, NPA
- Backboard
- C-collar

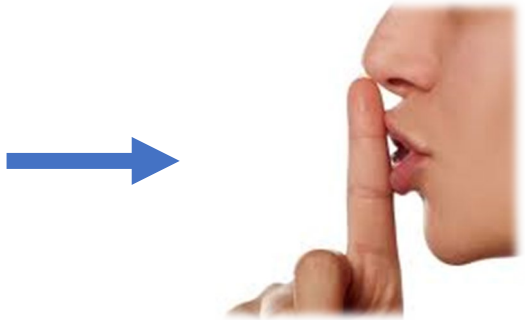
Stations

1. Can Rescue
2. Board Rescue
3. Drowning Resuscitation & Hypothermia Wrap
4. Coast Guard Rescue

Bonus: Tower Tour (optional)

Tower Tour

- Communications
- Medical Room
- Equipment
- Observation Tower



Buoy Rescue

Unwrap Buoy
Wear buoy strap like pageant sash

Release Buoy in ankle deep water

High Knees & Dolphin Dive

Put fins on in waist deep water

Give buoy to victim

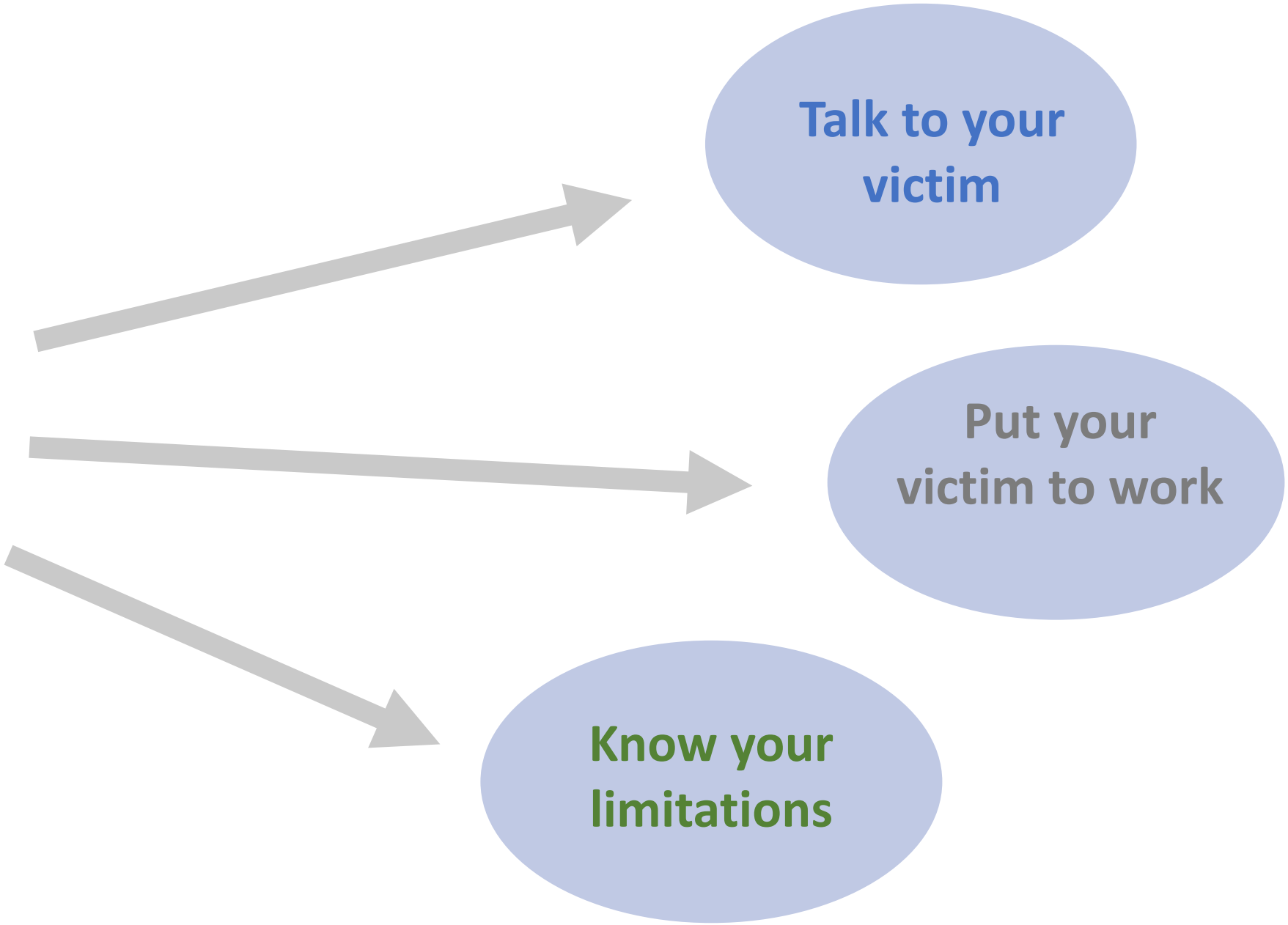
Swim in

Board Rescue

https://youtu.be/G9FaRz4gCSs?t=71

https://youtu.be/i7r6mb_LHCw?t=82

Pro Tips!


Talk to your victim
Put your victim to work
Know your limitations

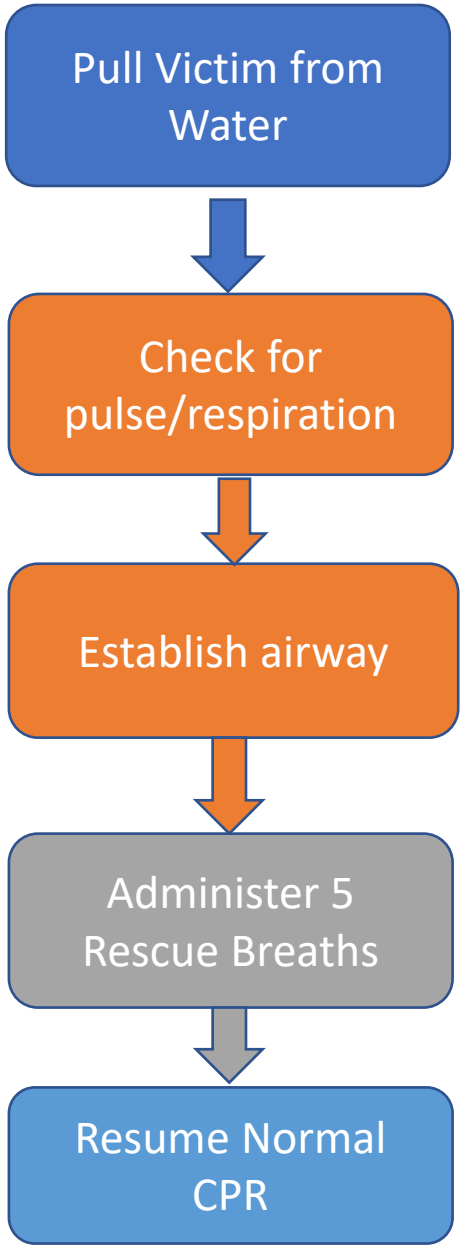
Drowning Resuscitation

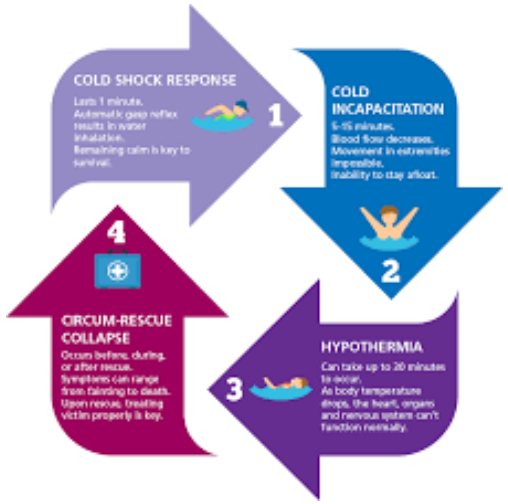
- **AHA/ERC:** 5 Rescue Breaths before compressions
- Why?

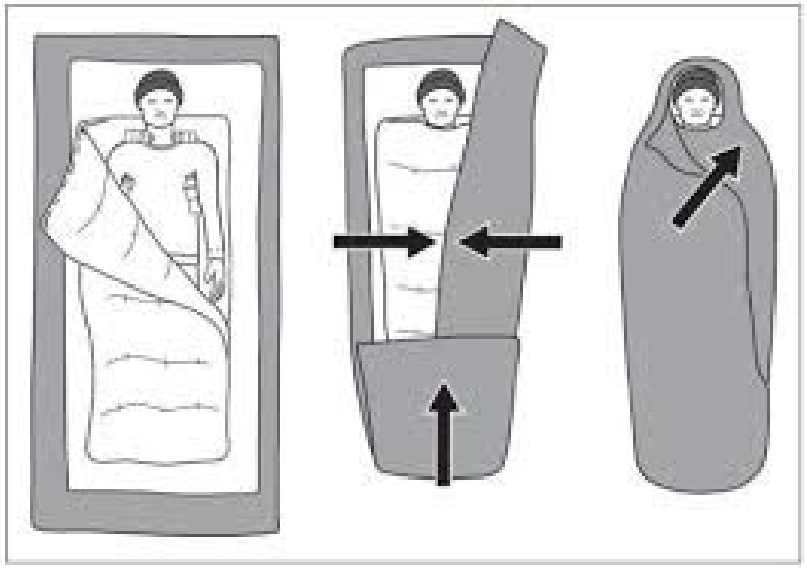
→Drowning Cardiac Arrest is secondary to **HYPOXIA → Prioritize Ventilation**

- Drowning Victims: significant foam vomitus, focus on CPR & ventilation, NOT suction

"The first and most important treatment of the drowning victim is the immediate provision of ventilation. Prompt initiation of rescue breathing increases the victim's chance of survival." (AHA Journal, 2005)







Hypothermia Wrap

- Considerations:

→Water Temperature

→Time in water

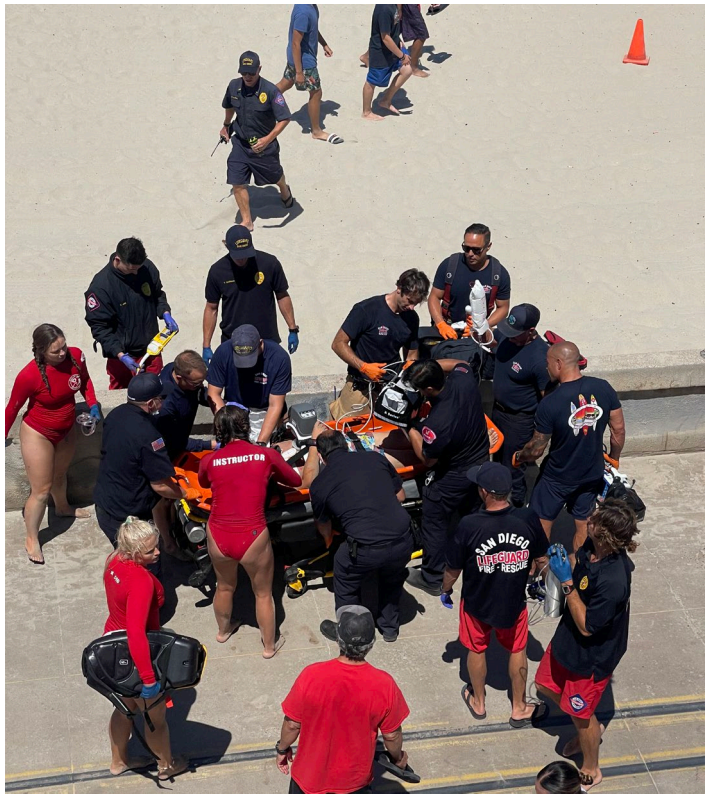
→Age

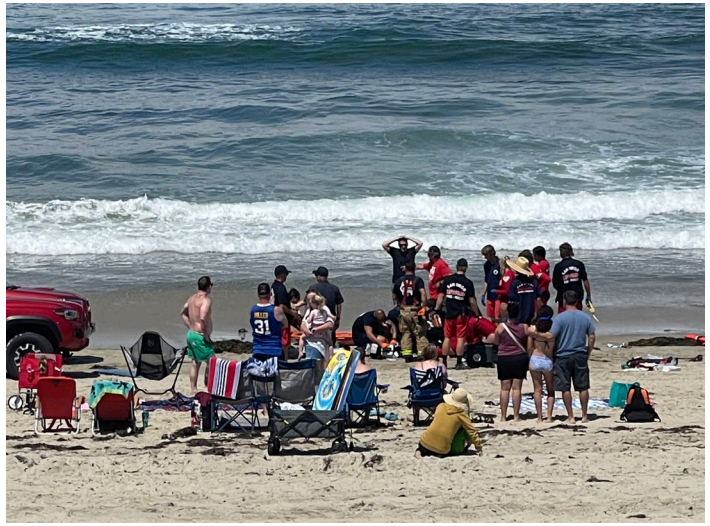
→Body Mass

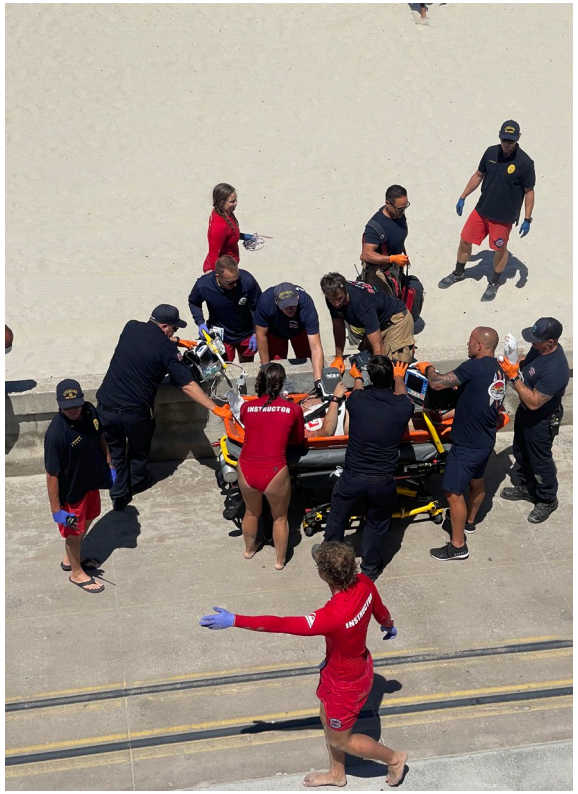
→Extrication time

→Evacuation Time

→Shock







Why are we here?