COMMOTIO CORDIS

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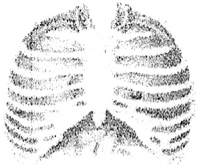
What is it? Commotio Cordis is a "Cardiac Concussion" or a disturbance of the heart. It is a non-penetrating, precordial blow to the chest that causes cardiac arrest and tachycardia/ fibrillation. This is unassociated with any structural damage to the heart, ribs, or sternum.

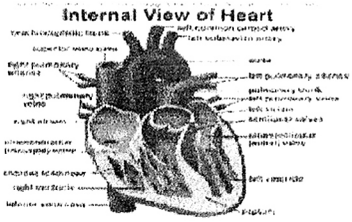
MUSCULAR ANATOMY

- Pectoralis Major
- Trapezius
- Serratus anterior/ posterior
- Levator scapulae
- Rhomboids



HEART ANATOMY

- Right/ left Atrium
- Right/ Left Ventricle
- Superior/Inferior Vena Cava
- Tricuspid Valve
- Mitral Valve
- Semilunar Valve
- Pulmonary Arteries

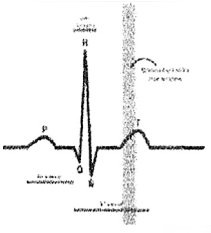


MOI

- Impact directly over the lower left breast bone
- Impact involving a small part of the chest wall
- High energy impacts
- Impact occurring within a specific 10-30 millisecond portion of the cardiac cycle
- Researchers believe children are more susceptible due to the softer chest wall

SIGNS AND SYMPTOMS

- Cardiac arrest occurs immediately after the blow
- Followed by cardiac arrhythmia, most frequently ventricular fibrillation
- Immediate treatment must be taken to ensure survival



PREVENTION

- Due to the poor survivability rate, prevention has become a huge issue
- Many youth leagues have began using softer balls for their sports
- At risk positions, such as pitchers and catchers, have started wearing chest protectors
- Although prevention steps have been taken, incidents have still occurred, mostly due to improperly fit equipment

STATISTICS

- Only about 152 cases have been reported
- Mean Age: 13.6 years of age
- 72% of victims were younger than 18
- 95% Male
- 87% white
- 2/3 are sports related
- Only a 16% survival rate

PROPER STEPS FOR CPR/AED

- Position the victim on his back.
- Tilt head back and lift chin. Check for breathing for no more than 10 seconds.
- If the victim is not breathing, give 2 rescue breaths.
- Check for signs of circulation. If there is no circulation, then the heart is not pumping.
- Turn on the AED and follow audio commands.
- Open the victim's shirt and wipe his chest dry of sweat or water.
- Attach one pad to the victim's upper right chest and one to the lower left side. The pads will be labeled with a picture of where they go.
- Plug the wire from the pads into the AED if they are not already attached.
- Make sure no one is touching the victim so the AED can analyze correctly.
- Push the 'Analyze' button or let the AED automatically begin its analysis.
- Just wait for the analysis to complete.
- If the AED determines a shock is required:
- Keep everyone clear of the victim.
- Press the 'shock' button.
- Let the AED reanalyze.