



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.

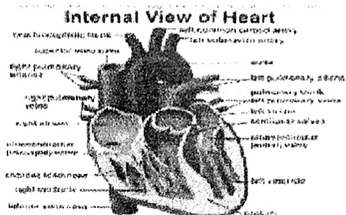
MUSCULAR ANATOMY

- ❖ 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



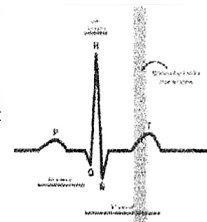
MOI

- ❖ 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

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.



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

