



London Health Sciences Centre

Southwest Ontario Regional Base Hospital Program

American Heart Association 2010 Guidelines: An Update

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OBJECTIVES

Through active participation in this webinar, the paramedic will be able to:

- summarize the recommended changes to Emergency Cardiovascular Care by the American Heart Association
- explain how expert opinion and research guides the creation of new Provincial Advanced Medical Directives
- compare the current standard of practice to the recommended changes, and defend the rationale for these changes
- verify that the current practice does not change until new Advanced Life Support Patient Care Standards are released and paramedic training is complete.

OUTLINE

- The BIG disclaimer.....
- What is **NEW** and **EXCITING** in....
 - CPR
 - Cardiac Arrest
 - Post Arrest
 - Acute Coronary Syndromes
 - Tachycardia
 - Bradycardia
 - First Aid
 - Special Situations

CPR

- Sequence is to become CAB, not ABC (Berg et al., 2010, p. S687)



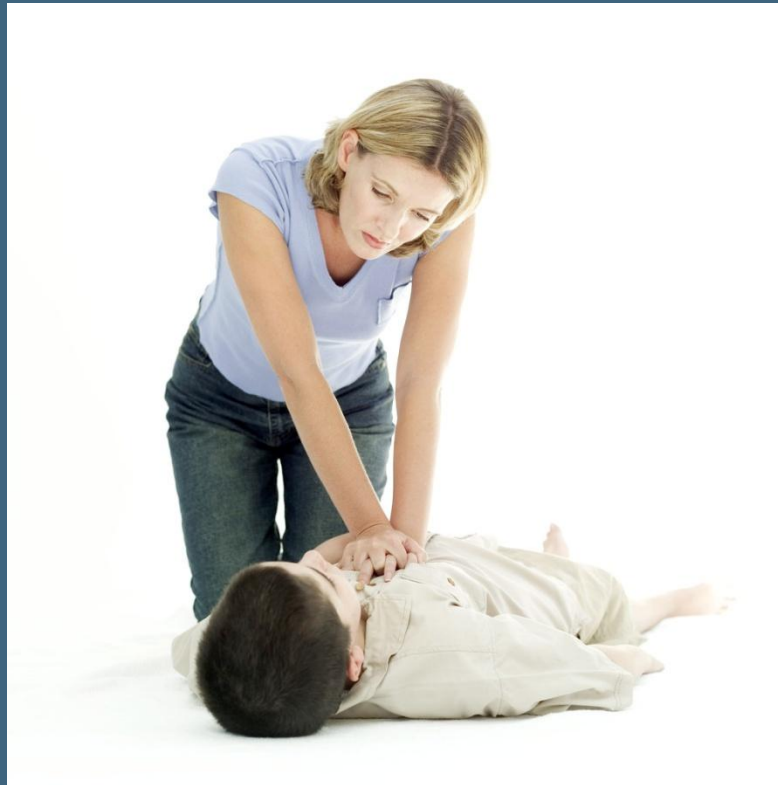
CPR

- Seizures and other atypical presentations such as gasping resps may delay time to activation or performing CPR (Field et al., 2010, p. S643)



CPR

- Lay rescuer should not attempt pulse check ever, and not interrupt CPR until EMS arrives or an AED is applied (Berg et al., 2010, p. S691)



CPR

- Pulse checks are a delay and are not accurate– no longer than 10 seconds (Berg et al., 2010, p. S696)
 - even in hypothermia



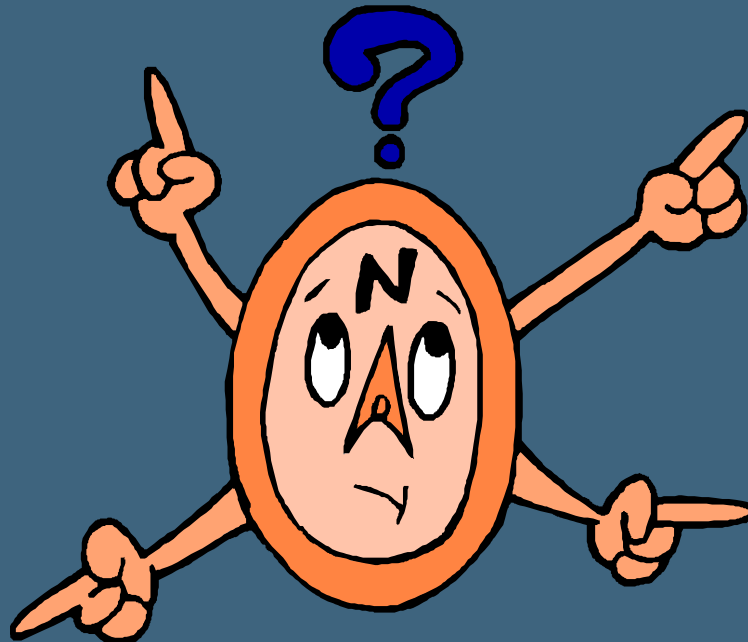
CPR

- CPR providers should switch every 2min (Berg et al., 2010, p. S690)



CPR

- CPR before defib did not improve outcome in unwitnessed arrest but CPR while getting defib seems reasonable (which usually means 2min) (Link et al., 2010, p. S707)



CPR

- ITD made no difference to outcome or neuro intact discharge but did improve ROSC and short term survival (Field et al., 2010, p. S644)

CPR

- Load distributing band mechanical CPR showed no improvement in 4h survival and worse neuro outcome but debate about applications surrounds this study (Field et al., 2010, p. S644)

CPR

- Dispatchers are to provide instructions on Hands Only CPR (Class I recommendation) as well as advice on rescue breathing for pediatric or suspected asphyxial arrests (Bhanji et al., 2010, p. S921)



CPR

- EMS should provide dispatcher instructions over the telephone for CPR and for ASA use in suspected ACS (O'Connor et al., 2010, p. S789)



Cardiac Arrest

- Resuscitation should be performed where the patient is found (Berg et al., 2010, p. S691)
- Avoid using the defib in water but snow and ice is ok (Link et al., 2010, p. S709)



Cardiac Arrest

- Avoid placing pads directly over an ICD or a transdermal medication patch... (Link et al., 2010, p. S709)



Cardiac Arrest

- BLS and ALS TOR Rules should be implemented (Morrison et al., 2010, p. S668)
 - Reduces the rate of transport by 37%–60%
 - Should be applied before moving the patient to the ambulance



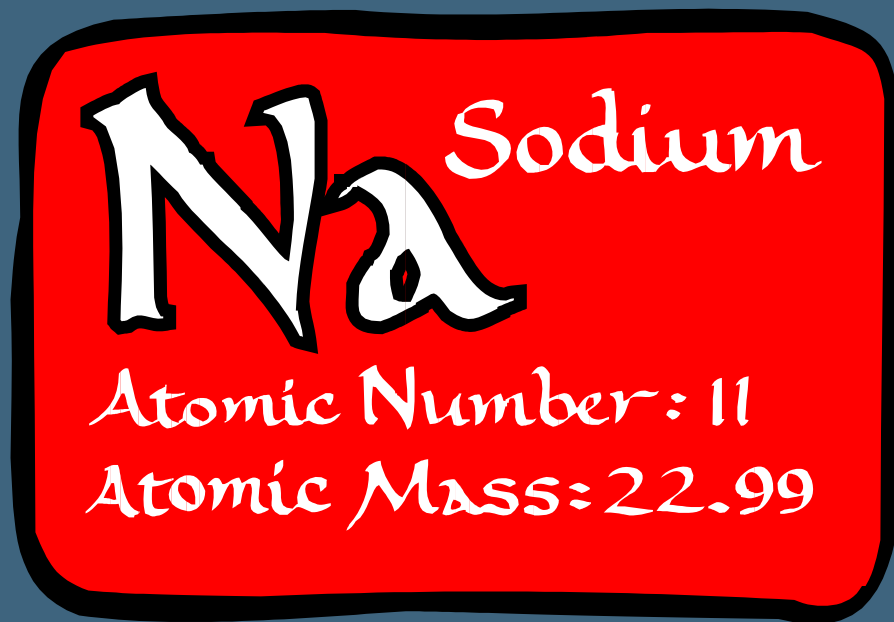
Cardiac Arrest

- Atropine is gone from PEA and Asystole
(Neumar et al., 2010, p. S744)



Cardiac Arrest

- Routine use of sodium bicarbonate is not recommended (Neumar et al., 2010, p. S745)



Cardiac Arrest

- Interruptions in CPR should not be limited to more than 10 seconds for ETT and not at all for SGA.....ummmmm (Neumar et al., 2010, p. S733)

Cardiac Arrest

- A second attempt at ETT is reasonable but early consideration of SGA should be performed (Neumar et al., 2010, p. S733)

Cardiac Arrest

- Once intubated in cardiac arrest, ventilations should occur at 8–10 breaths/min to avoid hypocapnea and decrease cerebral blood flow (CBF) (Neumar et al., 2010, p. S734)



Cardiac Arrest

- There is insufficient evidence to recommend a specific timing or sequence to drug administration or advanced airway placement (Neumar et al., 2010, p. S742)



Cardiac Arrest

- Amiodarone is the first line antiarrhythmic agent since it has been clinically shown to improve ROSC and hospital admission in adults with VF and VT (Neumar et al., 2010, p. S739)

Cardiac Arrest

- If a drug is administered in arrest IV peripherally, it should be administered by bolus and followed by a 20cc IV fluid bolus (Neumar et al., 2010, p. S742)



Cardiac Arrest

- Epi via ETT may actually have undesired consequences such as vasodilation and lower coronary perfusion pressure (CPP) but if an IV or IO is unavailable, ETT is still acceptable (Neumar et al., 2010, p. S742)



Post Arrest

- NO RCT Exists to compare outcome between hypothermia and normothermia for NONVF arrest (Peberdy et al., 2010, p. S771)
 - Historical controls have reported some benefit
 - The timing of hypothermia remains unclear– as long as it is achieved before 12h post arrest

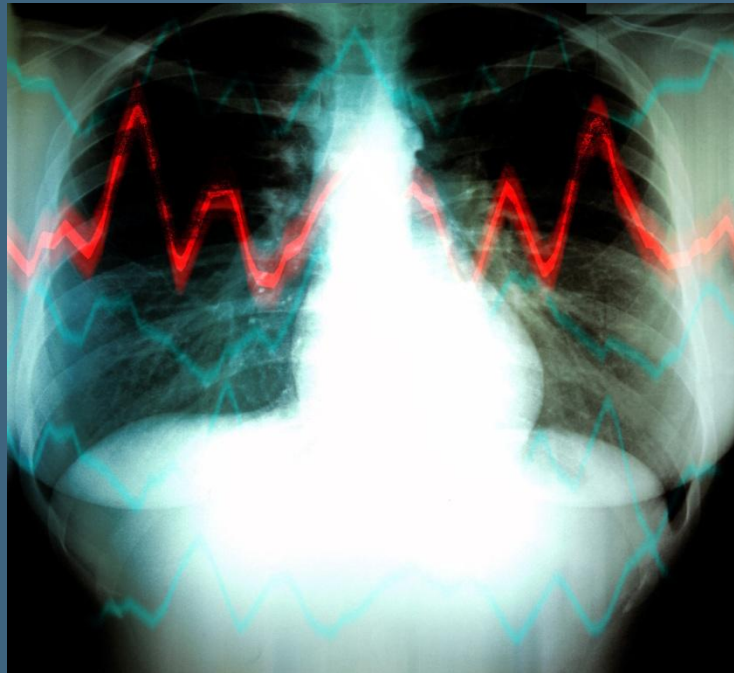


Post Arrest

- Post arrest patients are prone to HYPERglycemia and this has been shown to increase mortality and worsen neurological outcome. (Pederby et al., 2010, p. S775)
- Strategies to moderate glycemic control without inducing hypoglycemia may be considered
- Certainly another argument for NOT giving glucose DURING a cardiac arrest

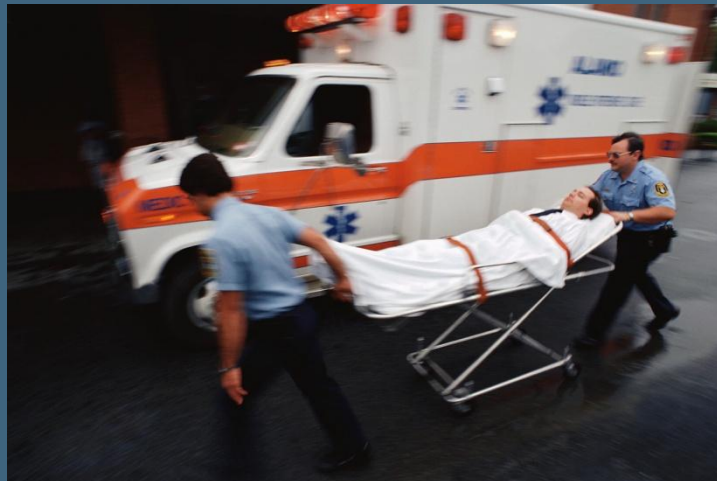
Acute Coronary Syndromes

- 12 lead prehospital must be linked to advanced notification and medically directed quality assurance (O'Connor et al., 2010, p. S790)



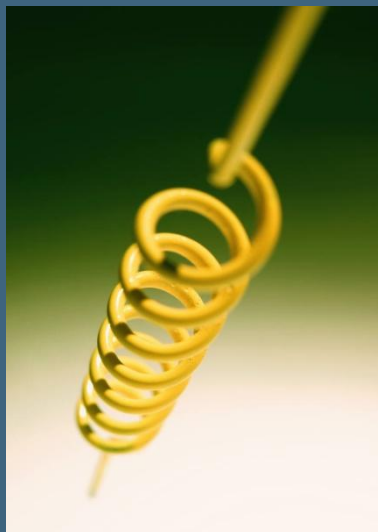
Acute Coronary Syndromes

- STEMI BYPASS:
 - It is reasonable to bypass local ED if first medical contact to balloon up in experienced providers is <90min AND transport is less than 30min (O'Connor et al., 2010, p. S790)
 - NO word on level of training for the paramedic



Acute Coronary Syndromes

- Routine angiography/PCI should be considered for any patient ROSC post arrest even in absence of STEMI and regardless of neuro status (even coma) (O'Connor et al., 2010, p. S798)
 - This would not be a direct from the field, but rather an ED sending a patient interfacility



Tachycardia

- The use of Adenosine in patients using carbamazepine or dipyridamole is contraindicated in Ontario
 - Half doses are advocated in guidelines (Neumar et al., 2010, p. S753)
- Adenosine can be used for diagnosis in wide complex tachycardia that is monomorphic and regular (Field et al., 2010. p. S645)

Bradycardia

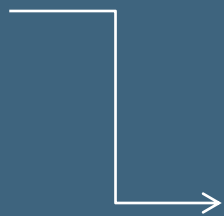
- Pacing is out for asystole (Link et al., 2010, p. S712)



Bradycardia

- Chronotropic IV meds like Dopamine can be considered or pacing if Atropine ineffective (Neumar et al., 2010, p. S746)

(Faster)



Bradycardia

- Atropine appears to be first line for ANY symptomatic bradycardia (Neumar et al., 2010, p. S749)
 - Caution remains in 2nd and 3rd degree HB

First Aid

- Outside of diving related decompression illness, there is no benefit to oxygen administration by first aid providers (Field et al., 2010, p. 648)
 - Implications for fire departments and tiered response agencies



First Aid

- Tourniquets are too variable in the application and manufacturing to be adopted for widespread civilian use (Markenson et al., 2010, p. S937)

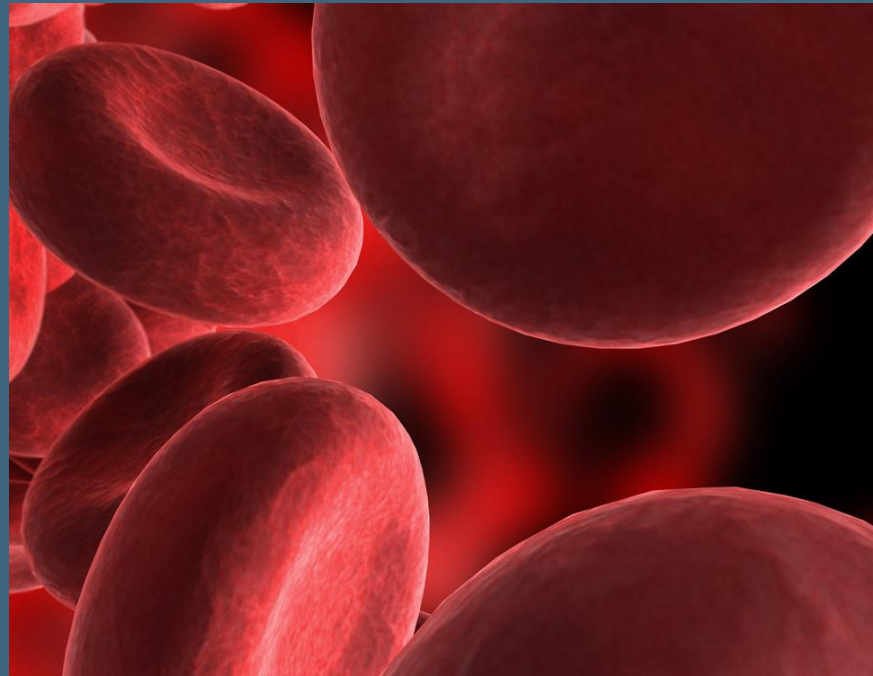


First Aid

- Pressure points and elevation are not recommended to control bleeding (Markenson et al., 2010, p. S937)

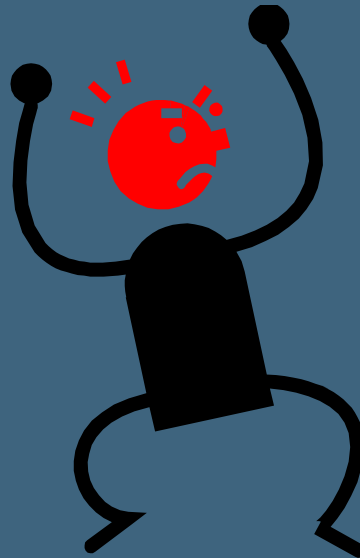
First Aid

- Routine use of hemostatic agents are not recommended due to potential for adverse events (Markenson et al., 2010, p. S937)



Special Situations

- In setting of Anaphylaxis BLS should immediately administer epi EVEN in the setting of cardiac arrest (Vanden Hoek et al., 2010, p. S832)
 - This has HUGE potential protocol implications....



Summary

- Changes to ECC through AHA Guidelines
- “Evidence Based” – ILCOR
- Provincial MAC review of recommendations and development of new ALS Directives
- Provincial Training through Regional Base Hospitals once approved

- Until then – Status Quo!

A yellow diamond-shaped sign with a black border, tilted slightly to the right. The sign features the words "DEAD" and "END" stacked vertically in a bold, black, sans-serif font. The background is a solid blue color with a subtle gradient.

**DEAD
END**

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