Lessons from the Dead

Lessons learned from human cadavers about ways to improve clinical outcomes

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Disclosure: Zoll Speakers Bureau

Areas of Inquiry

ITP and ICP and CerPP changes with ACD+ ITD vs S-CPR

ICP and CerPP changes with: head up and ACD+ITD incomplete chest wall recoil Cervical collars Mechanical+ITD flat vs head up

Effect of Airway devices on Carotid flow during CPR

2 CPR Methods

Standard CPR (S-CPR)

ACD-CPR + ITD (ACD+ITD)



versus



SCPR vs. ACD & ITD



What is the optimal head position during CPR?

Will elevation of the head with circulatory enhancement technologies (e.g. ITD and/or ACD) to generate good flows

- 1. Increase brain blood flow?
- 2. Reduce the concussion with each compression?
- 3. Lower ICP?
- . Improve neurological outcomes?

Change of Position: Head Down

Supine 0° CPR30° Head down CPR



Change of position (CPR + ITD: rate 100/min)

Debaty et al, Resuscitation, 2014

Change of Position: Head Up



Change of position (CPR + ITD: rate 100/min)

Departy et al, Resuscitation, 2014

Whole body tilt vs head/thorax elevation?







Do C-Collars Impact Carotid flow?

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Incomplete Chest Wall Recoil During CPR

 Causes persistent elevation of intrathoracic pressure

Reduces venous return: physiologically like a tension pneumo

Increases ICP and reduced cerebral perfusion

ACD & ITD: Incomplete Recoil

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Lets remember what makes this research possible



Cadaveric model has accurately reproduced physiologic findings from animal and human studies.

Cadaveric models have revealed important new physiologic impacts related to CPR and cardiac arrest management

Thank You!

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