Research Review: Best of 2015

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Objectives:
• Identify trends in prehospital research
• Predict changes in pre-hospital practice based on current research
• Identify changes that could be made to practise now based on current research
• Identify changes you would like to make in your own service based on current research
2015 PHARM Research Review

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UC SAN DIEGO SCHOOL OF MEDICINE
Airway


ETI was > SGA:
- ROSC 1.28
- Survival to d/c 1.34
- Neurologically intact: 1.33

Limitations of meta-analysis...
Most common indication: cardiac arrest

Most common complication: right main stem

Caveat: used RSI
Trauma

"The Golden Hour" is a myth

Take your time, skip the lights and sirens.

Limitations: secondary analysis of registry data no powered to detect this specific outcome
Cardiac Arrest


Calle PA, Mpotos N, Calle SP, Monsieurs KG. Inaccurate treatment decisions of automated external defibrillators used by emergency medical services personnel: incidence, cause and impact on outcome.

It takes at least 2 minutes after a “successful” shock to get an organised rhythm

You’ve GOT to get back on the chest

Limitations: registry data, single site, SES variance my limit external validity
No patient benefit to mechanical CPR (again)

Limitations: Is the manual CPR arm getting better than usual CPR? Is there a subgroup that will benefit?
AEDs make mistakes

1 in 5 shockable rhythms not correctly detected

Use manual defib if it’s in your scope

Limitations: International study, used physicians for ALS
Trial of Continuous or Interrupted Chest Compressions during CPR

No benefit to continuous compressions

Limitations: hawthorne effect, groups imbalanced (possible confounding), no post-resus care in protocol.
EMS Systems

Crowdsourcing CPR improves bystander CPR

Non-significant trend toward increased 30 day survival

Limitations: Single system, international study. May be a greater benefit in regions with long response times.

Assessment of the Safety and Effectiveness of Emergency Department STEMI Bypass by Defibrillation-only Emergency Medical Technicians/Primary Care Paramedics

BLS providers can safely bypass to a PCI centre

They have the skills to manage the ongoing needs of most STEMI patients

Limitations: Canadian study, consider differences in education and transport times
When O2 is given to STEMI patients without hypoxaemia:

- Larger infarcts
- Higher rates of re-infarct and arrhythmia

No change in

- 6 month mortality
- EF
- Troponin

Limitations: Not randomised until hospital arrival