ACLS SUCKS

Dr James French
NO Conflicts of Interest.
the half life of medical knowledge
very hard to get people to remember anything from a lecture - start with the take home message first......
So its eight thirty at night a 34 year old male pedestrian has been hit by a car he has bruising over his chest abdomen and pelvis with bilateral lower limb fractures and he is in cardiac arrest

the first thing is dont give up hope! Try your best!
Outcomes for blunt traumatic arrest could be the same as cardiac arrest!

be definitive
there is nothing worse than dead
you are going to treat all possible reversible causes even if there is no evident signs some of them are their because no test is perfect and there is nothing worse than dead!
NO CPR - CPR on an empty heart does nothing
NO epinephrine - vasoconstriction in the person with maximal vasoconstriction and hypovolaemia does nothing!
the on scene ROSC rates are the same
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you are going to treat all possible reversible causes even if there is no evident signs some of them are their because no test is perfect and there is nothing worse than dead!
This is the recipe that you will go through for every blunt traumatic cardiac arrest case.

Simultaneously and aggressively treat reversible cause, stop bleeding and give blood.

the success of this talk now depends on my ability to make a pneumonic
U stop DIC is the pneumonic for blunt traumatic cardiac arrest
<table>
<thead>
<tr>
<th>U</th>
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Evidence?

so what is the evidence for this? Lets consider each point in turn.......
1. Outcomes for blunt traumatic arrest can be the same as cardiac arrest!

Lets just consider the outcomes claim........
Well to understand the sources of evidence for blunt traumatic cardiac arrest management we need to understand a little about the timing of major trauma death.
Time from incident to confirmation of death
(Fatal Accidents, Cambridgeshire County Council Joint Road Accident Data Report 2003)
Total Pre-hospital Interval in New Brunswick
59.6 +/- 35 minutes

Total Pre-hospital Interval in Nova Scotia
60.5 +/- 30.1 minutes


For people that come direct to a level 1 trauma centre.
Survival to Discharge in HEMS London Dataset
999 patients, 68 patients
**Survived to Discharge 7%**¹

Medical Out of Hospital Cardiac Arrest in the US
359400 patients.
**Survival to Discharge 9.5%**²

2. Heart Disease and Stroke Statistics. American Heart Association 2013 Update

10 year retrospective review of a Physician's Hems service 1000 patients.
so what is the evidence for this? Lets consider each point in turn.......
so what is the evidence for this? Lets consider each point in turn........
What about the evidence for CPR
What is CPR - CPR is a bridge to other therapy to buy you time...... CPR is the standard of care but stop CPR to do all procedures
<table>
<thead>
<tr>
<th>Big Six</th>
<th>Hidden Six</th>
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<tbody>
<tr>
<td>Airway Obstruction</td>
<td>Aortic Disruption</td>
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<tr>
<td>Tension Pneumothorax</td>
<td>Tracheobronchial Disruption</td>
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<td>Cardiac Tamponade</td>
<td>Myocardial Contusion</td>
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<td>Open Pneumothorax</td>
<td>Diaphragmatic tear</td>
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<td>Massive Hemothorax</td>
<td>Esophageal Disruption</td>
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<td>Flail Chest</td>
<td>Lung Contusion</td>
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So let's just talk through how CPR works.

And it gets in the way!

Effectiveness of chest compressions. Chest compressions are still the standard of care in patients with cardiac arrest, irrespective of aetiology. In cardiac arrest caused by...
Effectiveness of chest compressions. Chest compressions are still the standard of care in patients with cardiac arrest, irrespective of aetiology. In cardiac arrest caused by hypovolaemia, cardiac tamponade or tension pneumothorax, chest compressions are unlikely to be as effective as in normovolaemic cardiac arrest.169–172
This is the recipe that you will go through for every blunt traumatic cardiac arrest case.

Let us talk about the evidence for a few of these interventions.....
Needle too short
65%?\textsuperscript{1-6}

2. Chang SJ, Roe SW, Kiefer DJ, Anderson WE, Rogers AT, Sing RF, Callaway DW. Evaluation of 8.0 cm needle at the fourth anterior axillary line for needle chest decompression of tension pneumothorax. J Trauma Acute Care Surg 2014; 76(4): 1029-34.
HOW?
What we concentrate on in some resuscitation training is the patient
You are going to want to do as much as possible before the patient arrives.
But ATLS on its own wont cut it
Skills atrophy
So that's the theory or classification of simulation does it actually work? Well this systematic review of the literature of 14 studies 6 of which were randomized trials.

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<tr>
<th></th>
<th>A RSI</th>
<th>B Open Thoracostomy</th>
<th>C Blood</th>
<th>D Sedation</th>
<th>E Reduction</th>
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<tr>
<td>PCP</td>
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National Competency Profile for Paramedics. Paramedic Association of Canada. 2011
STOP?

EtCO2 less than 1.3 Kpa or 10 mmHg

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Credit and thanks to......