New Strategies in Resuscitation

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1. Fix your compressions
100-120 cpm

2.0-2.4”

Figure 4. Adjusted cubic spline of the relationship between chest compression rates and the probability of survival to hospital discharge. The adjusted model includes sex, age, bystander-
Push hard…kinda

Don't push that fast

Push Correctly

Don't Stop

Push Hard

Push Fast
ARE YOU DOING THAT?
60 Seconds
Identify the need
Put the pieces together
Make a controlled stop
Fill in the gap
Rate
Depth
Release
Ventilations
Pauses
Chest compressions: a 2 person job

2.
Your pulse check is too long
Forget about 2 minutes

Don’t stop until you are ready
NOTIFICATION/ say “Pulse check”

STOP CPR

STABILIZE COMPRESSOR

HANDS OFF PATIENT

LOOK AT MONITOR

ANALYZE RHYTHM

COMMAND PULSE CHECK

RECOGNIZE PULSE

VERBALIZE PULSE

COMMAND SHOCK

DELIVER SHOCK

CHARGE DEFIBRILLATOR

CLEAR PATIENT

PUSH BUTTON

SHOCK DELIVERED

FIRST COMPRESSOR MOVES

NEW COMPRESSOR MOVES IN

NEW COMPRESSOR HANDS ON

BEGIN COMPRESSIONS

PULSE CHECK: FINGERS ON PATIENT

MOVE FINGERS

FEEL PULSE
NOTIFICATION/ say “Pulse check”
STOP CPR
STABILIZE COMPRESSOR
HANDS OFF PATIENT
LOOK AT MONITOR
ANALYZE RHYTHM
COMMAND PULSE CHECK
RECOGNIZE RHYTHM
VERBALIZE RHYTHM
PULSE CHECK: FINGERS ON PATIENT
MOVE FINGERS
FEEL PULSE

RECOGNIZE PULSE
VERBALIZE PULSE
COMMAND SHOCK
DELIVER SHOCK
CHARGE DEFIBRILLATOR
CLEAR PATIENT
PUSH BUTTON
SHOCK DELIVERED
FIRST COMPRESSOR MOVES
NEW COMPRESSOR MOVES IN
NEW COMPRESSOR HANDS ON
BEGIN COMPRESSIONS

Precharge defibrillator
Have next compressor ready
Be looking at the monitor
Never just stop
3.
You’re bagging to fast... or maybe too slow
### Trial of Continuous or Interrupted Chest Compressions during CPR

<table>
<thead>
<tr>
<th></th>
<th>Continuous</th>
<th>Interrupted</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROSC</td>
<td>24.2</td>
<td>25.3</td>
</tr>
<tr>
<td>Survival</td>
<td>9.0</td>
<td>9.7</td>
</tr>
<tr>
<td>Neuro intact</td>
<td>7.0</td>
<td>7.7</td>
</tr>
</tbody>
</table>

**SAME!**
<table>
<thead>
<tr>
<th></th>
<th>Continuous</th>
<th>Interrupted</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCF</td>
<td>SAME!</td>
<td>SAME!</td>
</tr>
<tr>
<td>Pauses &gt; 2 sec</td>
<td>REALLY LOW!</td>
<td>SAME!</td>
</tr>
<tr>
<td>Pre-shock pause</td>
<td>SAME!</td>
<td>SAME!</td>
</tr>
<tr>
<td>Post-shock pause</td>
<td>SAME!</td>
<td>SAME!</td>
</tr>
<tr>
<td>Intubated</td>
<td>SAME!</td>
<td>SAME!</td>
</tr>
</tbody>
</table>

Survival: 37 breaths/minute  
P = 0.006
Synchronous Asynchronous Compressions

What is your survival?
What’s your Utstein survival?
4. Data drives your improvements
Improve Family Presence
Improve ETCO2 use
Was Defibrillation shock provided for Ventricular Fibrillation (VF) OR Pulseless Ventricular Tachycardia?
- Yes
- No/Not Documented
- No, Per Advance Directive

If CPR mechanics device (e.g. accelerometer, force transducer, TFI device) used:
- Average compression rate: _________ (per minute)  □ Not Documented
- Average compression depth: _________ mm  □ cm  □ inches  □ Not Documented
- Compression fraction: _________ (enter number between 0 and 1)  □ Not Documented
- Percent of Chest Compressions with complete release: _________(%)  □ Not Documented
- Average Ventilation Rate: _________ (per minute)  □ Not Documented
- Longest Pre-shock pause ______ (seconds)  □ Not Documented
Rate
Depth
Recoil
Ventilation
CCF
Peri-shock interval

Resus

Inadequate compressions

Good compressions
Among patients resuscitated from VF/pVT OHCA with ST-segment elevation on their postresuscitation ECG, the prevalence of coronary artery disease has been shown to be 70% to 85%. More than 90% of these patients have had successful percutaneous coronary intervention.

Conversely, among patients resuscitated from VF/pVT OHCA without ST-segment elevation on their postresuscitation ECG, the prevalence of coronary artery disease has been shown to be 25% to 50%. For these patients, early access to the cardiac catheterization laboratory is associated with a 10% to 15% absolute higher functionally favorable
5. A change in survival takes more than a single department