Listless in the Big D: Benefits of the “Flow Sheet” in EMS Care?

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Conflicts of Interest: None

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UNM EMS Medical Direction Consortium
Perceptions?

Benefits?
Per Dr. Gawande-

Checklists should be:

Precise
To the point
Easy to use
Only reminder of critical steps
Practical
## Surgical Safety Checklist (First Edition)

**Before induction of anaesthesia**

<table>
<thead>
<tr>
<th>SIGN IN</th>
<th>TIME OUT</th>
<th>SIGN OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ <strong>PATIENT HAS CONFIRMED</strong>&lt;br&gt; • IDENTITY&lt;br&gt; • SITE&lt;br&gt; • PROCEDURE&lt;br&gt; • CONSENT</td>
<td>☐ <strong>CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE</strong>&lt;br&gt; ☐ <strong>SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM</strong>&lt;br&gt; • PATIENT&lt;br&gt; • SITE&lt;br&gt; • PROCEDURE</td>
<td><strong>NURSE VERBALLY CONFIRMS WITH THE TEAM:</strong>&lt;br&gt; ☐ <strong>THE NAME OF THE PROCEDURE RECORDED</strong>&lt;br&gt; ☐ <strong>THAT INSTRUMENT, SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)</strong>&lt;br&gt; ☐ <strong>HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)</strong>&lt;br&gt; ☐ <strong>WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED</strong></td>
</tr>
<tr>
<td>☐ SITE MARKED/NOT APPLICABLE</td>
<td>☐ <strong>ANTICIPATED CRITICAL EVENTS</strong>&lt;br&gt; ☐ <strong>SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?</strong>&lt;br&gt; ☐ <strong>ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT-SPECIFIC CONCERNS?</strong>&lt;br&gt; ☐ <strong>NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?</strong></td>
<td>☐ <strong>SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT</strong></td>
</tr>
<tr>
<td>☐ <strong>ANAESTHESIA SAFETY CHECK COMPLETED</strong></td>
<td>☐ <strong>RISK OF &gt;500ML BLOOD LOSS (7ML/KG IN CHILDREN)?</strong>&lt;br&gt; ☐ NO&lt;br&gt; ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED</td>
<td>☐ <strong>YES</strong>&lt;br&gt; ☐ <strong>NOT APPLICABLE</strong>&lt;br&gt; ☐ <strong>IS ESSENTIAL IMAGING DISPLAYED?</strong>&lt;br&gt; ☐ <strong>YES</strong>&lt;br&gt; ☐ <strong>NOT APPLICABLE</strong></td>
</tr>
<tr>
<td>☐ <strong>PULSE OXIMETER ON PATIENT AND FUNCTIONING</strong></td>
<td>☐ <strong>DOES PATIENT HAVE A:</strong>&lt;br&gt; ☐ KNOWN ALLERGY?&lt;br&gt; ☐ NO&lt;br&gt; ☐ YES</td>
<td>☐ <strong>YES, AND EQUIPMENT/ASSISTANCE AVAILABLE</strong></td>
</tr>
<tr>
<td>☐ <strong>DIFFICULT AIRWAY/ASPIRATION RISK?</strong>&lt;br&gt; ☐ NO&lt;br&gt; ☐ YES, AND EQUIPMENT/ASSISTANCE AVAILABLE</td>
<td>☐ <strong>RISK OF &gt;500ML BLOOD LOSS (7ML/KG IN CHILDREN)?</strong>&lt;br&gt; ☐ NO&lt;br&gt; ☐ YES, AND ADEQUATE INTRAVENOUS ACCESS AND FLUIDS PLANNED</td>
<td>☐ <strong>YES</strong>&lt;br&gt; ☐ <strong>NOT APPLICABLE</strong>&lt;br&gt; ☐ <strong>IS ESSENTIAL IMAGING DISPLAYED?</strong>&lt;br&gt; ☐ <strong>YES</strong>&lt;br&gt; ☐ <strong>NOT APPLICABLE</strong></td>
</tr>
</tbody>
</table>

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*This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.*
Dr. Novak: Checklists provide “cognitive unloading” & guarantee critical actions are accomplished.
Miracle on the Hudson
Guy knows a thing or two about checklists!

Two part paper written by aviators looking to transfer proving safety innovations from airlines to medicine
EMS already uses “checklists”

- Incident command checklists
- Rescue operations checklists
- Ambulance and Apparatus checklists- DAILY!

ALREADY EVERYWHERE!!
Albuquerque/Bernalillo County EMS
Cardiac Arrest Checklist

DATE: ___________________________  CAD #: ___________________________

☐ Immediate 200 chest compressions
☐ Press “CPR” button for Metronome set w/Airway
☐ LP-12/15 applied in “paddles” view
☐ Apply N/C End Tidal CO2 and print strip
☐ Apply NR mask 10 lpm
☐ New “compressor” every 200 compressions
☐ Pre charge to 200 J, at 1:45 seconds
☐ IV/IO access ___Yes___No
☐ EPI 1 mg q 3 minutes
☐ Advanced Airway ___LMA___ET
☐ ROSC obtained ___Yes___No
☐ If ROSC, turn this sheet over
☐ Code transported ___Yes___No

Form completed by: ___________________________
Comments: __________________________________

IF ROSC obtained TURN OVER
Albuquerque/Bernalillo County EMS
Cardiac Arrest Checklist

IF ROSC obtained follow below:

☐ Obtain 12 lead EKG and transmit Yes___ No___
☐ Obtain complete set of vitals
☐ Heart Rate _____ BP _____ RR _____ Temp _____
☐ Start Vasopressor if needed
☐ Confirm and print ETCO2 printout
☐ Establish 2nd IV if not done Yes_____ No_____
Chf. Shaughn Maxwell & Dr. Rich Campbell
SnoCo Fire 1 (WA)
EMS 10 Winner 2013

EMS Checklists
Highlighting critical areas of the protocols not to be missed

Cynthia Kincaid | From the EMS 10: Innovators of EMS 2013 Issue
http://www.jems.com/article/administration-and-leadership/ems-checklists/ photo by Gary Jackson
Anaphylaxis
Asthma
Cardiac Arrest
Post Arrest/ROSC
Chest Pain
CHF / Pulmonary Edema
COPD
Seizure
Sepsis
Stroke
Syncope
Trauma
Procedural
Cardioversion
RSI
Guides
Downgrade
Non-Transport
Free Standing ED
**Asthma Checklist**

**START - IMMEDIATE ACTION ITEMS**

1. Administer Albuterol 5mg / Atrovent 0.5mg nebulizer
2. Interpret and monitor EtCO₂
3. Administer Methyprednisolone 125mg IV (Ped 2mg/kg)
4. Consider Epi 1:1,000 0.3mg IM (Ped 0.01mg/kg, Max 0.3mg)
5. Consider CPAP (Unless BP < 90)

**KEY CONSIDERATIONS**

- Magnesium 2gm in 100 ml NS 15 min
- Repeat Albuterol 5mg Nebulizer
- Consider intubation
- 12 Lead EKG
- Notify ED
- CPAP
- Intubation

**OTHER CONSIDERATIONS**

- With CPAP use lowest possible pressure
- Contraindications to CPAP include pneumothorax, respiratory arrest or inadequate respirations, unconscious or inability to protect airway, shock or BP<90, penetrating chest trauma, persistent nausea or emesis, facial trauma or abnormalities, or recent GI surgery or bleeding
- EtCO₂ should be monitored for trending and waveform indicators (Ex: Bronchoconstriction)

**Document all checklist action items executed in ePCR**
<table>
<thead>
<tr>
<th></th>
<th>Before Checklists (2011)</th>
<th>After Checklists (YTD 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Sugar Checked</td>
<td>57%</td>
<td>91%</td>
</tr>
<tr>
<td>FAST Documented</td>
<td>78%</td>
<td>91%</td>
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<tr>
<td>&lt; 15 Scene Time</td>
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<td>81%</td>
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<tr>
<td>Trauma</td>
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<tr>
<td>&lt; 10 Minute Scene Time</td>
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<tr>
<td>Asthma</td>
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<tr>
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<tr>
<td>Magnesium</td>
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<tr>
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<td>44%</td>
<td>80%</td>
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<tr>
<td>CHF</td>
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</tr>
<tr>
<td>EtC02</td>
<td>57%</td>
<td>90%</td>
</tr>
<tr>
<td>Nitro</td>
<td>38%</td>
<td>81%</td>
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</tbody>
</table>
Not talking about a return to this…!
Perceptions?
Benefits?
My Talk!!

- EMS Check lists
- = System 1
- = GOOD!!
- “Yeah Drew!”
- Peter Antevy
In Closing…

• Checklists are NOT return to cook book EMS
• Help when “cognitive overload” hinders process
• Proven to reduce surgical mortality- Gawande/WHO
• Already have an acceptance in EMS- just not here!
• Sno 1 can show you how!! Thanks to the innovators Shaughn and Rich
Thank You

• dharrell@cabq.gov
• ajharrell@salud.unm.edu
• http://www.firedistrict1.org/our-services/emergency-medical-services/ems-checklist