Airway Management: is tracheal intubation better than a supraglottic airway?
RAPTOR
Resuscitation with Angiography, Percutaneous Techniques and Operative Repair
Levels of evidence

Class 1★★: Things I believe
Class 1★ : Things I believe despite the data
Class 1: Randomised controlled clinical trials that agree with what I believe
Class 2: Expert opinion that agrees with me
Class 3: Other data that agrees with me
Class 4: Randomised controlled clinical trials that don't agree with what I believe
Class 5: What you believe and I do not
Complex prehospital systems are of unclear benefit. Emphasis needs to be on basic care and rapid transfer.
The efficacy of emergency intubation as currently practised has not been rigorously studied. The skill level of the operator may be key in determining efficacy.

In non-traumatic cardiac arrest, it is unlikely that intubation carries the same life saving benefit as early defibrillation and bystander cardiopulmonary resuscitation (CPR).

In trauma and paediatric patients, the current evidence base provides no imperative to extend the practice of prehospital intubation in urban systems.

It would be ethical and pertinent to initiate a large, high quality randomised trial comparing the efficacy of competently practised emergency intubation with basic bag-valve-mask manoeuvres (BVM) in urban adult out-of-hospital non-traumatic cardiac arrest.
Part 8: Advanced life support
2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations

Charles D. Deakin (Co-chair)*, 1, Laurie J. Morrison (Co-chair)1, Peter T. Morley, Clifton W. Callaway, Richard E. Kerber, Steven L. Kronick, Eric J. Lavonas, Mark S. Link, Robert W. Neumar, Charles W. Otto, Michael Parr, Michael Shuster, Kjetil Sunde, Mary Ann Peberdy, Wanchun Tang, Terry L. Vanden Hoek, Bernd W. Böttiger, Saul Drajer, Swee Han Lim, Jerry P. Nolan, on behalf of the Advanced Life Support Chapter Collaborators
**Advanced airway devices**

Without adequate training or ongoing skills maintenance, the incidence of failed intubations and complications is unacceptably high.

Prolonged attempts at tracheal intubation are harmful if associated with interruption of chest compressions.

Studies comparing supraglottic airway to tracheal intubation have generally compared insertion time and ventilation success rates. No study has shown an effect of the method of ventilation on survival. There are no data to support the routine use of any specific approach to airway management during cardiac arrest.
Timing of advanced airway placement
Conflicting studies

Treatment recommendation There is inadequate evidence to define the optimal timing blah...blah....blah
Tracheal intubation versus supraglottic airways

Consensus on science
Overall in these studies the supraglottic airway device performed as well as, or better than, the tracheal tube

Treatment recommendation
Healthcare professionals trained to use supraglottic airway devices may consider their use for airway management and as a backup or rescue airway in a difficult or failed tracheal intubation.
Doctors Fight To Save Patient’s Life
Needs 4 people
ProSeal LMA

Brain AIJ. BJA 2000;84:650-4

- Pilot balloon and valve
- Integral bite-block
- 15 mm connector
- Flexible, wire-reinforced airway tube
- Strap for introducer tool or finger
- Double cuff permits higher airway pressure
- Drain tube opens at upper esophageal sphincter
- Gastric drain tube parallel to airway tube

NAPH 4 recommends that all hospitals have access to second generation supraglottic airway devices for routine and rescue airway management.
Prehospital Rapid Sequence Intubation Improves Functional Outcome for Patients With Severe Traumatic Brain Injury

A Randomized Controlled Trial

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Mark Fitzgerald, MBBS*, ¶, David J. Cooper, MD‡, ¶, Tony Walker, B Paramed Std, MEd, §, Paul Myles, MD‡, ¶,
Lynne Murray, BAppSc‡, ¶, David, McD, Taylor, MD||, Karen Smith, BSc, MEd, PhD§, Ian Patrick, §,
John Edington, MB, ChB§, Andrew Bacon, MBBS§, Jeffrey V. Rosenfeld, MD, MS‡, ¶, and Rodney Judson, MBBS||


TABLE 2. Treatment and Progress*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Paramedic RSI Group (n = 160)</th>
<th>Hospital Intubation Group (n = 152)</th>
<th>P†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prehospital</strong></td>
<td></td>
<td></td>
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<tr>
<td>Time at scene, min</td>
<td>35 ± 12</td>
<td>23 ± 10</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Transport time, min</td>
<td>24 ± 13</td>
<td>23 ± 11</td>
<td>0.35</td>
</tr>
<tr>
<td>IV fluid, mL</td>
<td>1775 ± 957</td>
<td>1235 ± 912</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Cardiopulmonary arrest</td>
<td>10 (6.3)</td>
<td>2 (1.3)</td>
<td>0.023</td>
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<tr>
<td><strong>Emergency department</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Vital Signs on arrival</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Body temperature, °C</td>
<td>35.0 ± 1.5</td>
<td>35.6 ± 1.4</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Systolic BP, mm Hg</td>
<td>128 ± 31</td>
<td>129 ± 38</td>
<td>0.68</td>
</tr>
<tr>
<td>Heart rate, beats/min</td>
<td>102 ± 28</td>
<td>96 ± 27</td>
<td>0.068</td>
</tr>
<tr>
<td>Oxygen saturation, %</td>
<td>96 ± 12.6</td>
<td>96 ± 4.8</td>
<td>0.98</td>
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<tr>
<td>First arterial blood gas</td>
<td></td>
<td></td>
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<tr>
<td>pH</td>
<td>7.29 ± 0.14</td>
<td>7.29 ± 0.16</td>
<td>0.73</td>
</tr>
<tr>
<td>PaO₂, mm Hg</td>
<td>317 ± 180</td>
<td>327 ± 165</td>
<td>0.63</td>
</tr>
<tr>
<td>PaCO₂, mm Hg</td>
<td>46 ± 12</td>
<td>46 ± 11</td>
<td>0.63</td>
</tr>
</tbody>
</table>

....and 13 patients lost to follow up.......change in ratio of good to bad outcomes by 1 patient would negate the significance of benefit!
Intubation is only part of the management
Association of Prehospital Advanced Airway Management With Neurologic Outcome and Survival in Patients With Out-of-Hospital Cardiac Arrest

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OUT-OF-HOSPITAL CARDIAC arrest (OHCA) is a major public health problem, occurring in 375,000 to 390,000 individuals in the United States each year. The rate of survival after OHCA has increased with advances in

Importance It is unclear whether advanced airway management such as endotracheal intubation or use of supraglottic airway devices in the prehospital setting improves outcomes following out-of-hospital cardiac arrest (OHCA) compared with conventional bag-valve-mask ventilation.

Objective To test the hypothesis that prehospital advanced airway management is associated with favorable outcome after adult OHCA.

Design, Setting, and Participants Prospective, nationwide, population-based study (All-Japan Utstein Registry) involving 649,654 consecutive adult patients in Japan who had an OHCA and in whom resuscitation was attempted by emergency responders with subsequent transport to medical institutions from January 2005 through December 2010.

Main Outcome Measures Favorable neurological outcome 1 month after an OHCA, defined as cerebral performance category 1 or 2.
Conclusion and Relevance Among adult patients with OHCA:

any type of advanced airway management was independently associated with decreased odds of neurologically favorable survival compared with conventional bag-valve-mask ventilation.
• Demetriades 1996
Just because you’ve got one doesn’t mean you have to use it!