data are available, although cyclizine, as an antihistamine, is in a different group than most other commonly prescribed antiemetics. However, as it is often difficult to predict the clinical course of a patient when first assessed, it may be advisable to avoid cyclizine as a first line antiemetic.

**CLINICAL BOTTOM LINE**
Cyclizine should be avoided in patients with acute coronary events.


### Rapid sequence induction in the emergency department by emergency medicine personnel

Report by Colin Dibble, *Specialist Registrar*

Checked by Margaret Maloba, *Consultant*

North Manchester General Hospital, Manchester, UK
doi: 10.1136/emj.2005.032607

**Abstract**

A short cut review was carried out to establish whether there are significant differences in the performance of emergency physicians and anaesthetists when carrying out rapid sequence intubation (RSI) in the emergency department. A total of 407 papers were found of which 12 presented the best evidence to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results, and study weaknesses of these best papers are tabulated. The clinical bottom line is that there is little or no difference in the rates of success and complications between emergency department clinicians and anaesthetists performing RSI.

**Three part question**

[In an emergency department RSI] are [emergency medicine clinicians as effective as anaesthetists] with regard to [complications and success rates]?

**Clinical scenario**

You are in the resuscitation room and are faced with a combative head injury requiring a computed tomography (CT) scan. The patient needs to be intubated via RSI and you wonder whether you should do this, as you have previous anaesthetic training, or whether you should call the anaesthetist and wait for them to do it for you.

**Search strategy**

Medline 1966–2 August 2005 via Ovid interface: {exp Intubation, Intratracheal/ OR (rapid sequence induction).mp OR rsi.mp OR intubation.mp OR (crash induction).mp OR airway management.mp} AND {exp Medical Staff, Hospital/ or exp Emergency Medical Services/ or exp Emergency Service, Hospital/ or (emergency department).mp OR A&E.mp OR (accident and emergency).mp OR casualty.mp} AND {safety.mp. or exp SAFETY/ OR efficacy.mp OR complications.mp OR success.mp}

**Search outcome**

Of 407 papers found, 304 were irrelevant and one of which was relevant was a review article. This left 12 papers for analysis (table 2).

**Comment(s)**

Although many papers looked only at the performance of emergency physicians, there appeared to be ample evidence that emergency physicians can perform RSI and endotracheal intubation at least as well as anaesthetists, and overall there is a high rate of success with a low rate of complications. Emergency physicians themselves must have had training in the field. Among the papers examined in this BET, several mention a trend to call an anaesthetist when a difficult airway is anticipated. In our experience, the use of anaesthetists is variable between departments and is often influenced by the skills available within the emergency department. It would appear that the absolute need for anaesthetists in the resuscitation room is diminishing. It is our belief that endotracheal intubation and RSI in the emergency department should be part of an emergency physician’s core skill.

**CLINICAL BOTTOM LINE**

There is little or no difference in the rates of success and complications seen between emergency department clinicians and anaesthetists performing RSI.

---

**Addendum**

An updated version of this Best evidence topic report is available at [http://emj.bmjournals.com/supplemental](http://emj.bmjournals.com/supplemental).
<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dufour DG et al, 1995, Canada</td>
<td>219 RSIs, including children done in emergency department by emergency physicians</td>
<td>Retrospective observational study</td>
<td>Complications:</td>
<td>24 (10.96%); 3 (1.37%); 2 (0.91%); (no failed intubations)</td>
<td>Observational study; no comparison by grade; no other specialty involved with which to compare; no mention of attempts made</td>
</tr>
<tr>
<td>Solles JC et al, 1997, USA</td>
<td>610 intubations, including children, 515 (89.9%) had RSIs</td>
<td>Prospective observational study</td>
<td>Intubations by specialty</td>
<td>EM=569 (93.3%)/A=18 (3%)/Other=23 (3.8%)</td>
<td>Observational study; no mention of attempts made; no comparison by specialty of success or complications</td>
</tr>
<tr>
<td>Osmert L et al, 2001, USA</td>
<td>200 trauma intubations, 101 anaesthetics in charge (A), 99 emergency medicine in charge (EM)</td>
<td>Prospective observational study</td>
<td>Demographics; Intubation success within 3 attempts</td>
<td>A= higher GCS and RTS p&lt;0.001; A=98%/EM=87.9%*</td>
<td>Observational study, no power study, many of the A group intubations were actually carried out by EM residents but no record of numbers; small numbers (*figures confusing for EM staff v EM residents (~50%) EM staff then intubated 6/7 that the EM residents failed; anaesthetists intubated 6 of the EM group)</td>
</tr>
<tr>
<td>Butler JM et al, 2001, UK</td>
<td>60 RSIs in A&amp;E, 4 aged under 10</td>
<td>Prospective observational study</td>
<td>Specialty of decision maker; Specialty of RSI practitioner; Complications: 3 cases = A, 3 unrecorded</td>
<td>A=16 (26%)/EM=44 (73%); A=35 (50%)/EM=16 (26%); A=5.42min/EM=3.52min (p=0.17); A=51%/EM=62%</td>
<td>Observational study; no power study; small numbers; no comparison of complications by group</td>
</tr>
<tr>
<td>Tam AY et al, 2001, Hong Kong</td>
<td>214 patients requiring intubation in the emergency department (87 in cardiac arrest) including 3 children</td>
<td>Prospective observational study</td>
<td>Success rate: Emergency physicians</td>
<td>207/214 (97.9%) 90% on first attempt; 7/214 (3.3%)</td>
<td>Observational study; no power study; no direct comparison between specialties; included paediatric patients; also included non-RSI cardiac arrest patients; small numbers</td>
</tr>
<tr>
<td>Wong E et al, 2003, Singapore</td>
<td>142 trauma cases</td>
<td>Retrospective observational study</td>
<td>Number of attempts (10 not attempted)</td>
<td>113/132 (85.6%) first attempt; 129 (97.7%) successful</td>
<td>Retrospective observational study; no direct comparison between specialties; small numbers</td>
</tr>
<tr>
<td>Wong E et al, 2003, Southeast Asia</td>
<td>1068 emergency department patients requiring advanced airway management (including cardiac arrests)</td>
<td>Prospective observational study</td>
<td>Specialty = success rate, anaesthetist (A), 16, emergency physician (EP)=equivalent SpR grade or above) 458, medical officer (MO) 392</td>
<td>A=87%; EP=93.1%; MO=85.2%</td>
<td>Observational study; no power study; no breakdown of complications by clinician; no primarily comparing clinician types; large difference in numbers between groups; also included non-RSI cardiac arrest patients</td>
</tr>
</tbody>
</table>
## Absorbable sutures in paediatric lacerations

### Report by Robert Evans, Resident Physician

**Checked by Jeff Jones, Research Director**

Grand Rapids MERC/MSU, USA
doi: 10.1136/emj.2005.032615

**Abstract**

A short cut review was carried out to establish whether absorbable sutures offered any benefits over non-absorbable sutures in the treatment of childhood facial lacerations. A total of 31 papers were found, of which one presented the best evidence to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results, and study weaknesses of this best paper are tabulated. We conclude that absorbable sutures appear to be as good as and show a trend towards benefit in the treatment of paediatric lacerations.

### Three part question

In paediatric patients with traumatic lacerations, does the use of absorbable sutures compared with non-absorbable sutures increase the rates of complications and long term cosmetic impact?

### Clinical scenario

A 10 year old boy presents after a suffering a laceration on his lower leg from a snow skiing accident. It cannot be closed using glue. You would like to save the child the pain and discomfort of suture removal. You wonder if absorbable sutures would increase the rate of complications or scarring.

### Search strategy

Medline 1966–November 2005 using the OVID interface; Cochrane Library, 2005: [exp lacerations or laceration.mp] AND (exp sutures/or suture.mp) AND (exp treatment outcome/ OR exp cosmetic techniques/ OR exp wound infection/)). LIMIT to human AND English AND “all child (0 to 18 years)”. Cochrane Database of Systematic Reviews: [Suture and absorbable].

### Search outcome

Medline: 31 papers found of which 30 were irrelevant or of insufficient quality (see table 3 for the single best paper). Cochrane: 23 papers found, no new additional references found.

### Table 2 Continued

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lau FL et al, 2004, USA</td>
<td>658 trauma patients</td>
<td>Prospective observational study</td>
<td>Number of laryngoscopy attempts:</td>
<td>EM = 394/456 (86.4%) A = 174/194 (89.7%) EM = 50/11% EM = 13/1.6% EM = 12/2.6% A = 7/3.6% Success: EM = 454/456 (99.6%) A = 194/194 (100%) EM = 2/456 (0.4%) A = 0 Cricothyrotomy</td>
<td>Observational study; no power study, only major complications; self reported; More numbers in EM groups</td>
</tr>
<tr>
<td>Bushra JS et al, 2004, USA</td>
<td>673 trauma patients</td>
<td>Prospective observational study</td>
<td>Successful intubations within 2 attempts</td>
<td>A = 442/467 (94.6%) EM = 196/351 (55.1%), odds ratio 1.09 A = 16/467 (3.4%) EM = 4/1.9%, odds ratio 0.558</td>
<td>Observational study; no power study; no mention of complications; different numbers between groups (EM performed most of the intubations and reported EM intubated in 81% of anaesthesia supervised groups and in 98% of EM supervised groups)</td>
</tr>
<tr>
<td>Graham CA et al, 2004, UK</td>
<td>396 trauma patients in emergency department</td>
<td>Prospective observational study</td>
<td>Complications (oesophageal intubation, endobronchial intubation, aspiration, vomit, critical desaturation, cardiac arrest, hypotensive episode)</td>
<td>EP 11/110 (10.0%)</td>
<td>Observational study; no power study</td>
</tr>
<tr>
<td>Reid C et al, 2004, UK</td>
<td>208 RSlS outside theatre, 51 by anaesthetists (A), 82 by non-anaesthetists (NA), 75 by non-anaesthetists supervised by anaesthetists (M)</td>
<td>Prospective observational study</td>
<td>Complications (hypotension, arrhythmias, and hypoxa)</td>
<td>A = 13/123 (10.6%) p = 1.0 A = 33.3% NA 34.2% A = 49.3% (p = 0.23)</td>
<td>Observational study; no power study; no record of duration of hypoxia/hypotension; no comparison of seniority of operator; other complications not included. (When compared with conditions and expected complication rates, no statistical differences between groups)</td>
</tr>
</tbody>
</table>

EM, emergency medicine (physician); A, anaesthetist.

---


