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 EVMS  
 Journal Club

P: In ED patients requiring emergent intubation  
 I: Is the use of the Sellick maneuver (cricoid pressure)  
 C: Compared to not utilizing cricoid pressure  
 O: Associated with a higher success rate for intubation

Question:

In a patient undergoing rapid sequence intubation in the emergency department is Sellick's maneuver of any clinical benefit?

Clinical Scenario:

After a trauma intubation in a critically injured patient you are filling out the procedure form when you realize you didn't actually hold cricoid pressure did you just commit a sin against the airway gods.

Search Strategies:

PubMed was searched using the words "Cricoid pressure OR Sellicks maneuver" AND English [language] AND Humans [terms]. 37 articles resulted from search of those 37 articles that were reviewed 6 relevant articles were identified and included in handout.

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses
<b>Brimacombe 1997 Australia (1)</b>	40 studies reviewed.	Literature review	12 studies showed that cricoid pressure could prevent aspiration  15 studies were identified that showed possible hazardous outcomes with the use of cricoid pressure.	Cricoid pressure did not show clinical benefit.	Review of multiple studies most of them were case reports. None of them blinded
<b>Thibodeau 1997 (4)</b>	133 pt undergoing	Retrospective chart review	Aspiration occurred in 3	aspiration after urgent ET	retrospective

USA	RSI in the ED		(3.5%) patients (95% confidence interval, 0%, 7.4%). Including one of those witnessed during cricoid pressure.	occurs infrequently in ED patients	
<b>Thom 2005 USA(5)</b>	10 healthy volunteers	Non-blinded uncontrolled prospective study	There was a significant decrease in LESP and BrP when a cricoid pressure of 30 N was performed in the awake volunteers (P < 0.05)	This shows the importance of when to apply cricoid pressure during rapid-sequence induction.	Non-blinded uncontrolled study in an awake volunteer
<b>Petito 1988 USA (6)</b>	50 pt undergoing 3 min of standardized BVM randomized to cricoid pressure or no cricoid	Prospective non-blinded randomized trial	Patients who had had cricoid pressure applied had less gas in the stomach after mask ventilation (P less than 0.001)	Cricoid pressure is a useful technique for reducing gastric inflation during mask ventilation, particularly in patients who are relatively easy to ventilate	Small study size, unblinded. Non-standardized amount of cricoid pressure
<b>Levitan 2006 USA (3)</b>	104 participants using 4 cadavers producing 1530 sets of comparative laryngoscopies	Randomized interventional study	POGO score improved 25 with bimanual, 5 with BURP, and 4 with Cricoid. POGO score worsened in 4% bimanual,	Bimanual improved laryngeal when compared to cricoid, BURP, or no manipulation	Relied on study participants to grade view.

			29% with cricoid, 35% with BURP		
<b>Ellis 2007 USA (2)</b>	147 articles reviewed	Literature review	Of the literature reviewed there wasn't enough data to definitively support or refute the use of cricoid pressure	Authors suggest using cricoid pressure on "high aspiration-low desaturation risk" pt and abandoning it on "high desaturation – low aspiration risk" pt	Literature review

inflation – a neglected benefit of cricoid pressure. Anaesth Intensive Care. 1988

**Clinical Bottom Line:**

Cricoid pressure seems to have minimal clinical benefit; however there seems to be no significant harms found. It may help prevent aspiration in the patient at high risk such as the intoxicated trauma victim with a head injury. On the same hand there are studies indicating that cricoid pressure can worsen the view making difficult intubations even harder. If cricoid pressure is to be used it should probably be used in a bimanual fashion

**Bibliography:**

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5. Thorn K, et al. the effect of cricoid pressure, remifentanyl, and propofol on esophageal motility and lower esophageal sphincter. Anesth Analg 2005
6. Petito SP, et al. the prevention of gastric with the appropriate amount of force.