

The Sutherland Emergency Department Airway Corner Newsletter

September 2019

	September			Δ August		
Number of intubations	4			4		
Indications	Trauma		Medical:	Trauma		Medical:
	0		ICH/Stroke: 0 Overdose/Ingestion: Sepsis/Resp Failure: 2 Cardiac Failure: 0 Arrest: 0 . Other: 2	0		ICH/Stroke: 0 Overdose/Ingestion: 1 Sepsis/Resp Failure: 0 Cardiac Failure: 1 Arrest: 1 Other: 1
Team-leader	FACEM	AT	Other	FACEM	AT	Other
	2	2	0	1	1	2
Intubator	FACEM	AT	Other	FACEM	AT	Other
	1	2	1	1	1	2

Airway ax performed	Yes 4 / No 0			Yes 1 / No 3		
Checklist utilisation	Yes 4 / No 0			Yes 2 / No 2		
ApOx used	Yes 3 / No 1			Yes 3 / No 1		
Induction rx	Ketamine	Propofol	Other	Ketamine	Propofol	Other
	4	0	0	2	1	1
Paralytic rx	Rocuronium		Suxamethonium	Rocuronium		Suxamethonium
	3		1	4		0
Laryngoscope	Direct		Video	Direct		Video
	0		4	0		4
First pass success rate	100%			100%		

Intubation manoeuvres	Nil	NPA/OPA	BVM	LMA	Repositioned	Cric	Nil	NPA/OPA	BVM	LMA	Repositioned	Cric
		0	0	0	0	0	0	0	0	0	0	0
Desaturation	None						None					
Hypotension	None						3					
Equipment Failure	None						None					
Aspiration	None						None					
Oesophageal intubation	None						None					
Mainstem intubation	None						None					
Laryngospasm	None						None					
Drug error	None						None					
Airway trauma	None						None					
Cardiac arrest	None						None					

Case Observations

First Pass Success

Three months in a row with 100% first pass success for intubations at Sutherland which is excellent. First pass intubation success is associated with less complications including hypoxia, aspiration, and bradycardia and it is expected that intubation conditions would deteriorate after an unsuccessful initial attempt. Continue to focus on details such as optimising patient position, adequate preoxygenation, assessment for predictors of an anatomically difficult airway and ensuring the checklist has been completed will allow us to keep our first pass success rates > 90%. Excellent work all round, stay vigilant and stick to the plan.

Autoflow

There have been a couple patients last month where ventilating the patient was difficult and there was minimal improvement with the usual troubleshooting techniques. **Please remember to turn Autoflow "OFF"** if this is the case as it can inaccurate and lower tidal volumes delivered, especially in patients with variable lung compliance (ARDS/asthma). Autoflow is automatically turned on when starting up the Oxylog and can be easily turned off under the settings tab. For a more detailed discussion about Autoflow please see DG's section in the April Airway Corner.

Scenario of the Month: How to Stay Proficient

How good is good enough? Here at the airway corner we think that all airways should be manageable in the Emergency Department. You should be able to lean on experience, resources and staff to support the most difficult of airways. The college stipulates that maintaining proficiency in terms of intubation and airway management you need to do one intubation and one airway support intervention (NIV/BVM) per calendar year (these can be simulated or real). However according to an article out of WestJEM as an Emergency Physician you need to perform 3 or supervise 5 intubations annually to demonstrate proficiency on a simulated model.

There are a few ways to set yourself up for success

- 1) Interdepartmental training
- 2) Deliberate Practice
- 3) Simulation
- 4) Airway or Procedures Course

Interdepartmental training

We can reach out to our Colleagues at Anaesthesia to go and assist with airway management up in theatre. It reminds us there are other parts of the Hospital, helps to forge relationships which are not based around critical airway crises and generates uniformity of practice across departments.

Deliberate Practice

This is where we set aside time and deliberately practice the elements of intubation either on a Simulation Dummy or simply run through the algorithm in our heads. Deliberate Practice is used by successful sports teams to train for high pressure critical moments. This means running through the moment to moment aspects of intubation or airway management and actively practising the micro-skills of positioning/epiglotoscopy/tube delivery/ventilation.

Simulation

This is akin to deliberate practice in that you can undertake the actual procedure of intubation on a dummy however the key to successful simulation is reflective learning and accepting observed structured critique of our practice. We are happy to run through airway simulation with the consultant group as we do with the registrars.

Courses

These are a good way to tick boxes all over the show (micro-skills, simulation, task accrual) however these courses take part outside your usual practice environment. A course will give you a very good launching platform but you will need to engage in spaced repetition in your practice environment to really hone your skills.

We hope this opens the door to more engaging simulations and practice amongst all staff regards airway management.

Gillett B, Saloum D, Aghera A, Marshall JP. Skill Proficiency is Predicted by Intubation Frequency of Emergency Medicine Attending Physicians. West J Emerg Med. 2019;20(4):601–609. doi:10.5811/westjem.2019.6.42946

Quick note

In the previous airway corner we reviewed post-induction hypotension. There was some good off air chat about simply using Metaraminol to bridge to inotropes or in cases where you over-cook the induction agent. After some reflection we reckon that a few bolus doses of Metaraminol are fine but once you've established that the hypotension is more than just a heavy thumb on the Propofol syringe you should really be starting peripheral Noradrenaline.



Word on the Street

The bottom line: This retrospective audit looked at the numbers of intubations performed by emergency physicians in the USA. They found that in this group the median number of intubations performed per year by the emergency physician was 10, furthermore 25% of the emergency physicians performing 4 or fewer intubations per year. The maximum number of intubations in a year was 109. Although not specifically studied, this study brought up the discussion point of what is the minimum number of intubations per year required to maintain proficiency in airway management. Proficiency can be achieved as a combination of both skill acquisition and maintenance. If clinical exposure proves insufficient for airway proficiency other avenues for skill maintenance may be needed such as simulation, deliberate practice, courses and mentored procedures. It is unclear how this data from the USA would compare with the Australian system.

AIRWAY/ORIGINAL RESEARCH

Procedural Experience With Intubation: Results From a National Emergency Medicine Group

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Study objective: Although intubation is a commonly discussed procedure in emergency medicine, the number of opportunities for emergency physicians to perform it is unknown. We determine the frequency of intubation performed by emergency physicians in a national emergency medicine group.

Methods: Using data from a national emergency medicine group (135 emergency departments [EDs] in 19 states, 2010 to 2016), we determined intubation incidence per physician, including intubations per year, intubations per 100 clinical hours, and intubations per 1,000 ED patient visits. We report medians and interquartile ranges (IQRs) for estimated intubation rates among emergency physicians working in general EDs (those treating mixed adult and pediatric populations).

Results: We analyzed 53,904 intubations performed by 2,108 emergency physicians in general EDs (53,265 intubations) and pediatric EDs (639 intubations). Intubation incidence varied among general ED emergency physicians (median 10 intubations per year; IQR 5 to 17; minimum 0, maximum 109). Approximately 5% of emergency physicians did not perform any intubations in a given year. During the study, 24.1% of general ED emergency physicians performed fewer than 5 intubations per year (range 21.2% in 2010 to 25.7% in 2016). Emergency physicians working in general EDs performed a median of 0.7 intubations per 100 clinical hours (IQR 0.3 to 1.1) and 2.7 intubations per 1,000 ED patient visits (IQR 1.2 to 4.6).

Conclusion: These findings provide insights into the frequency with which emergency physicians perform intubations. [Ann Emerg Med. 2019;■:1-9.]

Please see page XX for the Editor's Capsule Summary of this article.