

The Sutherland Emergency Department Airway Corner Newsletter

August 2019

	August			Δ July		
Number of intubations	4			9		
Indications	Trauma	Medical:		Trauma	Medical:	
	0	ICH/Stroke: 0 Overdose/Ingestion: 1 Sepsis/Resp Failure: 0 Cardiac Failure: 1 Arrest: 1 . Other: 1		0	ICH/Stroke: 0 Overdose/Ingestion: 1 Sepsis/Resp Failure: 3 Cardiac Failure: 0 Arrest: 3 Other: 2	
Team-leader	FACEM	AT	Other	FACEM	AT	Other
	1	1	2	7	1	1
Intubator	FACEM	AT	Other	FACEM	AT	Other
	1	1	2	3	4	2

Airway ax performed	Yes 1 / No 3			Yes 7 / No 2		
Checklist utilisation	Yes 2 / No 2			Yes 8 / No 1		
ApOx used	Yes 3 / No 1			Yes 9 / No 0		
Induction rx	Ketamine	Propofol	Other	Ketamine	Propofol	Other
	2	1	1	5	1	1
Paralytic rx	Rocuronium	Suxamethonium		Rocuronium	Suxamethonium	
	4	0		5	2	
Laryngoscope	Direct	Video		Direct	Video	
	0	4		1	8	
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	3						2					
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

There has been a lot of post intubation hypotension this month. While most of this can be attributed to relative hypovolaemia or over-cooking the propofol we'd like to take a minute to reflect that hypotension in the critically ill patient is associated with significant morbidity and mortality. As part of the preparation for intubation consider augmenting the preload with a fluid bolus, attenuate your doses of induction agent when there is pre-existing shock and consider having Noradrenaline running or having push-dose Adrenaline close to hand. A useful mnemonic we came across during fellowship is AAHSHITE. It serves as a checklist to think through whilst dealing with hypotension by administering fluids and pressors.

You can find a more detailed run through at

<https://rebelem.com/post-intubation-hypotension-the-ah-shite-mnemonic/>



Scenario of the Month: Extubation in the ED

Extubation in the ED

In certain specific situations, extubation in the emergency department may be an appropriate. Extubation in the ED may allow the patient to avoid prolonged periods of intubation, positive pressure ventilation and the possible complications associated with that. The most likely clinical situations where this would be encountered would be in acutely intoxicated and overdose patients where the intoxication has resolved and are improving clinically (usually after a CT brain has proven no intracranial injury). This also can be considered for patients who on further inquiry have declined to be resuscitated and are being transitioned to an end of life pathway. In that situation, those patients can be extubated despite the ongoing disease process.

Below is a guideline being developed for Sutherland ED for (non-palliative) patients undergoing ED extubation:

Step 1: Assess safety for extubation in the ED

- Resolution of the process requiring intubation
- Able to oxygenate and ventilate on low ventilator settings
- Ongoing clinical course does not require mechanical ventilation
- Able to maintain a patent airway (no airway swelling, bleeding or excessive secretions)
- Confirmation that there was not a difficult intubation

Step 2 – Confirm patient ready for extubation

- Assess oxygenation and haemodynamics
 - HR < 100,
 - SBP > 100
 - RR < 30
 - SpO₂ > 95% on FiO₂ < 40%
 - TV > 6mL/kg
- Turn off sedatives and allow for washout period

Step 3 – Test readiness for extubation

- Spontaneous breathing trial for 30 minutes with minimal ventilator support
 - Oxylog ventilator to Spn CPAP mode at 40% FiO₂
 - Set PEEP < 5 and PS < 2 cmH₂O with NIV set to “Off”
 - Trial for 30 minutes observing for clinical deterioration
- Sit patient up to 45 degrees
- Test patient’s ability to follow commands
 - Raise head off of bed
 - Hold arm in air for 15 seconds
 - Ensure patient able to generate a strong cough

Step 4 – Prepare for extubation

- Explain process to patient
- Ensure all equipment and medications available at bedside if re-intubation is needed
- Ensure clinician wearing adequate PPE – eye protection, face mask and gloves
- Oxygenate patient on 100% FiO₂
- Insert a bite block (eg. rolled gauze with tape)
- Position patient upright and suction ETT
- Deflate ETT cuff and listen for air leak – if present reinflate cuff. If not present do not proceed with extubation

Step 5 – Perform extubation

- Suction oropharynx & endotracheal tube, untie tube tie
- At the end of inspiration deflate pilot balloon tube
- As patient exhales/coughs remove the ETT
- Suction oropharynx

Step 6 – Post extubation care

- Apply non-rebreather mask at 15L/min
- Assess airway patency and adequacy of breathing
- Encourage patient to cough up secretions
- Observe in resus bay for 1 hour
- If signs of respiratory distress or respiratory failure apply non-invasive ventilation and plan for reintubation
- If palliative – do not reintubate

Word on the Street

The bottom line: Predicting and planning for a patient with difficult anatomic airway is one of the most important factors in avoiding a potentially cannot intubate, cannot ventilate scenario. This review article looks at the potential physical findings that increased the likelihood of a difficult intubation. It was found that the inability to bite the upper lip with the lower teeth was the best predictor. Although this study was done in only in the OR, the findings are potentially generalizable to the ED setting in combination with other examination findings such as the thyromental and hyomental distance, Mallampati score and assessing for cervical spine mobility.

JAMA | The Rational Clinical Examination

Will This Patient Be Difficult to Intubate?

The Rational Clinical Examination Systematic Review

Michael E. Detsky, MD, MSHP; Naheed Jivraj, MBBS, MSc; Neill K. Adhikari, MDCM, MSc; Jan O. Friedrich, MD, MSc, DPhil; Ruxandra Pinto, PhD; David L. Simel, MD; Duminda N. Wijeyesundera, MD, PhD; Damon C. Scales, MD, PhD

CONCLUSIONS AND RELEVANCE Although several simple clinical findings are useful for predicting a higher likelihood of difficult endotracheal intubation, no clinical finding reliably excludes a difficult intubation. An abnormal upper lip bite test, which is easily assessed by clinicians, raises the probability of difficult intubation from 10% to greater than 60% for the average-risk patient.

Figure 1. Upper Lip Bite Test



The upper lip bite test is performed by asking patients to bite their upper lip with their lower incisors. The results are classified as follows: class 1, the lower incisors extend beyond the vermilion border of the upper lip; class 2, the lower

incisors bite the lip but cannot extend above the vermilion border; and class 3, the lower incisors cannot bite the upper lip at all.

Increasing Difficulty of Intubation