

# RSI AND THE DIFFICULT AIRWAY

## Learners Guide

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### PRE-READING FOR LEARNERS

[Adventures in RSI PEM Playbook](#)

[Paediatric Formulae - LITFL](#)

[Paediatric Rapid Sequence Intubation SID](#) LITFL

[Traumatic brain injury](#)

## CASE SCENARIO 1 (15 MINS)

Robert is a 7 year old boy seen in ED with a cough for 5 days, increasing shortness of breath and fevers. Mum brought him to ED as he was lethargic and breathing quickly. On examination he is lethargic with dry mucous membranes, in respiratory distress with a rate of 45, saturations of 92% on 15L oxygen. He is persistently hypotensive despite 40ml/kg fluids. He is becoming bradycardic and his GCS is now 9. You are worried he is in septic shock with impending respiratory failure and circulatory collapse. You decide to proceed to an emergent RSI.

**How can he be optimized physiologically before RSI? Would you start inotropes? What is your induction agent of choice for RSI in these haemodynamically compromised children?**

## CASE SCENARIO 2 (15 MINS)

Jeremy is a 10 year old boy brought in by ambulance after falling off his BMX at a skate park doing a jump without a helmet on. He had a fall from approximately 2 metres onto his head. He had an initial LOC for 2 minutes then was ok, but since then he has had multiple vomits and become drowsy. The ambulance have issued a pre arrival phone call as they are concerned he has a reduced GCS of 8 but no evidence of raised ICP at this stage. The ambulance crew have immobilised his C Spine.

You decide to prepare for an RSI before the child arrives as it seems he will need a secure airway.

**You recognise this patient has Cushing's triad, you feel he needs hyperosmolar therapy.**

**Why does hyperosmolar therapy work? And would you use Mannitol or 3 % saline?**

**How do you change an RSI with a C spine collar on?**

**His friend tells you they went for McDonalds 2 hours prior to this happening. Would you alter your approach knowing this information? Would you ask for cricoid pressure?**

**What is your choice of induction agent and why?**

## ADVANCED DISCUSSION

### ADVANCED CASE SCENARIO 1

Ashleigh is a 2 year old female brought in to you on New Year's Eve after her sister accidentally let off a firework that exploded in her face.

Ashleigh has obvious burns to her face/neck/chest/upper limbs. When you perform an airway assessment you can hear soft stridor and see burns inside her mouth. You decide that she has a threatened airway and decide to intubate her.

**Your consultant decides to use suxamethonium as the muscle relaxant of choice, you ask why because you heard it was contraindicated in burns. What is the evidence surrounding use of suxamethonium in burns?**

**You find yourself in a CICO situation after failed intubation and LMA placement, what is your difficult plan for this 2 year old?**

**Why is expectant airway management in burns so important?**

### ADVANCED CASE SCENARIO 2

Lily is a 2 month old infant being brought into ED by her mum as she is not feeding well and she has noticed her breathing is abnormal. She has an unremarkable birth history, born at term via NVD, GBS negative, Apgars 9 +9.

She has an older brother Isaac who attends daycare and has a runny nose recently. Lily is in respiratory distress with grunting, nasal flaring, recession and head bobbing. You have tried HFNP and CPAP to little avail over the past 3 hours. She is now tiring and is becoming bradypnoeic and bradycardic. To prevent cardiac arrest you decide to intubate this child so proceed to an RSI.

**Does this child need atropine preloading? Do all children need atropine?**

**Would you use a cuffed or uncuffed ETT?**

**Would you use a bougie?**

## QUIZ

### Question 1.

**The airway assessment mnemonic is named after which fruit?**

**MANGO** - Mallampati/Airway Diameter/Neck/Gnashers/Obstruction

**APPLE** - Airway diameter/Positioning/Palate/Look/Evaluate

**LEMON** - Look/Evaluate/Mallampati/Obstruction/Neck

**LIME** - Look/Incisor distance/Mallampati/Evaluate

### Question 2.

**What can you use to help optimise airway anatomy when intubating a small child?**

1. Philly collar
2. Neck/shoulder Roll
3. Head of the bed sloping downwards
4. Put the child in the recovery position

### Question 3.

**Which of these is an indication for an RSI in the Emergency Department?**

1. Elective surgery for inguinal hernia repair
2. Suspected airway burns
3. Child with GCS 14
4. Trauma - isolated leg injury but going to theatre in a few hours position

## Take home tips

- 1 Understand how to perform an airway assessment
- 2 Know indications for an RSI
- 3 Recognise and be able to choose the correct equipment and be able to size them
- 4 Be able to formulate an airway plan
- 5 Difficult airway plan and front of neck access

## REFERENCES

[Intubation, hypotension and shock LITFL](#)

[Paediatric Difficult Airway Guidelines](#)

[Paediatric RSI LITFL](#)

[Adventures in RSI](#)

[Clinical Practice Guidelines : Emergency airway management](#)

[Size compatibility of airway equipment in children, ETT and LMA](#)

[Atropine Not Needed for RSI](#)

[VORTEX approach](#)

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