Nov 2017 v2.2
Review date Nov 19
Owned by C.D. CVICU

6. Hypoxia in a ventilated patient

Unexplained severe oxygen desaturation in ventilated patients

❶ **Call for help and the resuscitation trolley**

❷ **Who is the "hands-off" leader? Assign roles.**

❸ **Turn FiO_2 to 100%**

- Confirm $Fi0_2$ = 100% on gas analyzer
- Confirm $ETCO_2$ is present on capnography and waveform normal

❹ **Hand ventilate with PEEP as necessary** and assess compliance

❺ **Consider pneumothorax as a cause**

❻ **Check**

- Pulse oximeter placement and perform an **urgent arterial blood gas**
- ET tube position – exclude endobronchial intubation
- Accidental extubation go to **CHKLST 9 trachy or 10 ETT**
- Circuit integrity - filter, tubing, one-way valves
- Circulation - blood pressure, heart rate and rhythm
- Patient is sedated and **paralysed**

❼ **Suction ETT (to clear secretions, mucus plugs)**

- Ensure suction catheter can pass all of the way down the ETT
- Consider re-intubation **CHKLST 7**

❽ **Review, investigate and treat possible causes – perform a CXR**

Possible Causes

Airway/lung issue suspected

Airway / Breathing Causes

Aspiration	Obesity/positioning
Atelectasis	Pulmonary oedema
Bronchospasm	Pneumothorax
Hypoventilation	Endobronchial intubation
Ventilator associated dysynchrony	Airway dislodgement

Airway/lung issue not suspected

Circulation

- Embolism – air, thromboembolic, fat, cement
- Heart disease – CHF, IHD, MI, Tamponade, Congenital
- Severe sepsis

Drugs/allergy

- Drug or dose error/anaphylaxis
- Dyes and abnormal haemoglobin states

Investigations and Interventions

- ECG
- Fibreoptic bronchoscopy
- Transoesophagel echocardiogram (TOE)
- Lung recruitment manoeuvres
- Nitric oxide
- ECMO
- HFO

CVICU Resuscitation Checklist – Post cardiac surgery with chest closed

Nov 2017 v2.2
Review date Nov 19
Owned by C.D. CVICU