

## Protocol for re-intubation in transit.

### 1. Prevention

**Avoid** the need to do this by checking the endotracheal tube (ETT) before leaving

- Do not change functioning and secure ET tubes
- Suction before leaving
- Security of the tube is vital – check the tapes, ties and hat – replace if necessary (replace all woollen hats with non-stretch cotton)
- If using the CPAP hats, undo the Velcro fastener to slide on, and then tie the flaps in a reef knot to fully secure.
- Position – long tubes obstruct on the carina, short tubes fall out
- Check the length of the tube at the lips against table
- Check position on CXR if available (T1/2 ideal)
- Assess the patency of the tube
- Chest movement
- Breath sounds
- Leak - audible/visible/ventilator detected
- Obstruction - audible/visible/ventilator detected
- Are blood gases adequate?
- If you are unhappy with the above, you can replace the ETT or its securing system

### 2. Signs of a problem with ventilation en route

- Decrease in SaO<sub>2</sub> or heart rate
  - Colour change
  - Increased BP
  - Reduced chest movement
  - Breath sounds may not be a reliable sign in the presence of traffic noise
  - Consider:
    - Displacement
    - Obstruction
    - Pneumothorax
    - Equipment

### 3. Short-term management

- Carry out a first line equipment check (is pressure dial moving on ventilator, are any hoses kinked, blocked, waterlogged or disconnected)
- Increase FiO<sub>2</sub> and peak inspiratory pressure

- Look at the chest and listen to breath sounds – what do you think is happening?
- Is there a problem? If so, **STOP THE AMBULANCE**
- Suction the ETT
  - turn on the pump,
  - use an appropriate sized suction catheter
- Reconnect to ventilator, if patient improves, calmly assess patient
- If not, pull out the baby on the incubator tray from the head of the incubator and commence manual ventilation using bag through ETT (remember to connect bag to oxygen supply)
- If patient fails to improve, or if you are not happy with the ETT, make a decision to reintubate, unless you strongly suspect another cause (such as pneumothorax)

#### 4. Reintubation

- Stop Ambulance at a safe appropriate location.
- All team members should be involved and be present in the saloon.
- Remember that babies may cool down quickly when exposed – turn up the incubator temperature setting and the ambulance heater if appropriate

#### Equipment

- Laryngoscope
- ET tube (Coles or straight)
- Introducer
- Suction Catheters
- Resus bag and face mask
- Stethoscope
- Cable tie / Suture
- 10ml Syringe

#### Procedure

- Remove the ET tube
- Suction the oropharynx (10G suction catheter)
- Commence ventilation using bag and mask
- Ensure stomach is regularly emptied of air, via NGT
- Use appropriate size of laryngoscope (term/preterm)
- Visualise larynx
- Suction with 10G suction catheter if necessary
- Intubate. You can use straight or Cole's tube, introducers are allowed
- Stabilise the tube with digital pressure onto the palate
- Start ventilating through the tube using bag system, check HR and SaO<sub>2</sub> improve, listen for leak. Is this tube in the correct place? Check length at the lips (see table below). Listen to hear if breaths sounds are equal on L & R sides of chest.

- Cut the tube holder longitudinally and wrap around tube (remember size 4.0 or 4.5 will be required for Cole's tubes)
- Lock in place with cable tie
- Tie the holder to the hat

### **Once intubated**

- Reconnect to ventilator
- If tube was blocked, suction down ETT
- Replace baby into incubator by sliding in tray
- Assess vital signs and chest movement
- Adjust ventilator settings if necessary
- If patient is still unwell, resume **DOPE** check and take appropriate action
- If all is well, resume journey

Weight of baby versus approximate ETT length at the lips:

500g	- 5cm
1000g	- 5.5cm
1500g	- 6cm
2000g	- 6.5cm
2500g	- 7cm
3000g	- 7.5cm