Emergency Department Flowchart for the Management of Life Threatening Asthma

**Rapidly deteriorating asthmatic?**

**YES**

**Call for help:**
- ED Staff specialist
- ICU registrar (Contact no: __________)
- Anaesthetic registrar (Contact no: __________)

1. Continuous oxygen driven **nebulised salbutamol** AND 20 minutely **ipratropium bromide** 500mg AND start BIPAP

2. **IV Magnesium Sulphate** 10mmol in 100mL NaCl 0.9% over 20 minutes

3. **IV Salbutamol** Initial loading dose of 250mcg (0.5mL of a 500mcg ampoule) over 1 minute, followed by an infusion [See protocol]

4. **IV Hydrocortisone** 100mg if not already given

**BIPAP Settings (guidelines only):**
- FiO2 1.0, IPAP 10, EPAP 5
- Urgent VBG

**BIPAP not tolerated or patient deteriorating and on maximal medical therapy?**

**Improving?**

- **Admit HDU/ICU for ongoing treatment and monitoring**

**Patient deteriorating?**

**Consider adrenaline IV infusion**

**Periarrrest**
- **Adrenaline:**
  - 0.5ml (500mcg) of 1:1000 IM
  - 5mL (500mcg) of 1:10,000 IV given slowly from a minijet
- **Intubate and ventilate**
  - RSI in position of comfort then lay flat.
  - Induction with Ketamine 2mg/kg IV
  - Paralyse with Suxamethonium 1.5mg/kg IV
  - Optimally fluid load, anticipate need for ALS
  - Maintenance of sedation and paralysis
    - Propofol infusion
    - Rocuronium 50mg IV
  - Admit ICU

**Ventilator Settings (guidelines only):**
- SIMV – volume control, FiO2 1.0, RR 8, TV 6-8mL/kg (ideal body weight), PEEP 0-5cm H2O, I:E ratio 1:4, plateau pressure <30 cmH2O

**Presest in cardiac arrest**
- **Start ALS**
- **Intubate and ventilate**
- **Medical treatments 1-4**
- **Consider adrenaline infusion post ROSC** (if not already started)
- **Investigate for pneumothorax**

**Deteriorates on ventilator**
- **Immediately disconnect ventilator & allow expiration**
- **Attach bag at 15L/min O2 & gently ventilate**
- **Assess MASH & DOPES**
- **Treat reversible causes**
- **Consider ECMO in consultation with Intensivist / Anaesthetist.**

**MASH: Movement of chest, Arterial sats, Skin colour, Haemodynamic stability**

**DOPES: Displacement or Obstruction of ETT, Patient factors (inadequate sedation/paralysis, pneumothorax, bronchospasm), Equipment (ventilator problems), breath Stacking**

**Monitor & treat:**
- Salbutamol side effects
  - Hypokalaemia
  - Lactic acidosis
  - Tachyarrythmias (rare if given MgSO4 prior)
- Maintenance of sedation and paralysis
  - Propofol infusion
  - Rocuronium 50mg IV
- Admit ICU

- Magnesium side effects
  - Flushing
  - Hypotension & respiratory depression (rare in doses advised)

Follow mild/mod or severe asthmatic treatment algorithm