

Guideline for the management of severe asthma

NO/POOR RESPONSE

STEP 1

15L/min O₂ via NRBM
 3 × Salbutamol nebulisers (2.5-5 mg)
 3 × Ipratropium nebulisers (250 mcg)
 PO Prednisolone (2mg/kg – MAX 60mg)
OR IV Hydrocortisone (4mg/kg – MAX 100MG)

STEP 2

IV **Magnesium** bolus (40 mg/kg – MAX 2g)
 (0.4 mls/kg of 10% solution over 20 mins)
 Salbutamol nebulisers (every 20 mins)

STEP 3

IV **Salbutamol** bolus over 10 mins
 (< 2 years; 5 micrograms/kg; 2-17 years; 15 micrograms/kg – MAX 250mcg)

STEP 4

If improves following Salbutamol bolus
 IV **Salbutamol** infusion (0.5-2 micrograms/kg/min – MAX 20 microgram/min)
 Discontinue Salbutamol nebulisers

STEP 5

If **NO** improvement following Salbutamol bolus
 IV **Aminophylline** bolus (5mg/kg; Max:500mg)
 Followed by
Aminophylline infusion
 < 12 years 1 mg/kg/hour
 12-17 years 500-700 micrograms/kg/hr
Adjusted according to plasma theophylline level

IMPENDING CARDIO-RESPIRATORY ARREST

Worsening agitation/level of consciousness
 SaO₂ ≤ 90% in 15L O₂ via NRBM
 Poor respiratory effort
 High CO₂ + Acidaemia (pH ≤ 7.2)
 Hypotension

INTUBATE AND VENTILATE



HIGH RISK CLINICAL SIGNS

Agitated
 Altered level of consciousness
 Unable to talk/feed
 SaO₂ ≤ 92% in air, PaO₂ < 8 kPa
 PaCO₂ 'normal' (4.6 – 6 kPa)
 Silent chest
 Exhaustion/Poor respiratory effort

INDICATIONS FOR CXR

SaO₂ ≤ 92% in 15L O₂
 To exclude a pneumothorax/consolidation
 To exclude FB/mediastinal mass

SALBUTAMOL TOXICITY

Tachycardia/tachyarrhythmia
 Hyperglycaemia
 Metabolic acidosis
 Elevated LACTATE
 Hypokalaemia

INTUBATION

Can be difficult to ventilate post intubation
 Risk of haemodynamic instability
 Senior anaesthetic assistance
 Rapid sequence induction
 10-20 mls/kg fluid bolus pre induction
 Ketamine 1-2 mg/kg
 AND
 Rocuronium 1 mg/Kg
 Cuffed ETT
 Continue paralysis
 Consider disconnection and manual deflation if haemodynamic collapse

INITIAL VENTILATOR SETTINGS

PCV – may need high PIP
 Rate 8-15/min
 Allow completion of expiration – watch
 E_tCO₂ trace / ventilator flow loops
 (Age independent)
 Inspiratory time 0.8 -1 sec
 PEEP 5 cmH₂O
 FiO₂ 1