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Asthma: Management of Severe and Life-threatening Disease

1st Line Therapies

O₂ to maintain **SpO₂ 94-98%**

Salbutamol 2.5-5mg Nebule combined with
Ipratropium Bromide 250micrograms Neb every **20-30mins** for three doses

Hydrocortisone 4mg/kg IV 6hourly (convert to oral prednisolone 1mg/kg/day (max 60mg) when tolerated)

2nd Line Therapies

Fluid bolus of **10ml/kg** IV and repeat as required

Magnesium sulphate injection 50% w/v 0.2mmol/kg (50mg/kg) Max single dose **8mmol (2g)** IV over **20min**

IV Aminophylline Load with **5mg/kg over 20min** (unless on maintenance oral theophylline) followed by continuous infusion at **1mg/kg/h**

IV Salbutamol load of **5micrograms/kg/min** for **1h** followed by continuous infusion at **1-5micrograms/kg/min**

Rescue Therapies

Adrenaline 1:1000 10micrograms/kg IM if possible anaphylaxis

Helium/Oxygen

Intubation and Invasive Ventilation

Induction:

Preload with fluid bolus

Ketamine 2mg/kg, Midazolam 100micrograms/kg, Suxamethonium 1-2mg/kg or
Non-depolarising agent (Avoid Atracurium and Mivacurium)
Use Cuffed ETT

Ventilate with **PRVC, VT 5-7ml/kg, RR 15-20, PIP \leq 35cmH₂O, PEEP 5cmH₂O**
Permissive hypercapnia (pH \geq 7.2) and consider **NaHCO₃**

Continuous Sedation including **Ketamine** infusion at **15-33 micrograms/kg/min**
(1-2mg/kg/h)

Isoflurane (or Sevoflurane) delivered at **0.5 to 1.5%**

ECLS