Figure. Initial management of life-threatening acute asthma in adults and children

National Asthma Council | Australian Asthma Handbook

SEVERITY ASSESSED AS LIFE-THREATENING ACUTE ASTHMA

Any of these findings:

- drowsy
- collapsed
- exhausted
- cyanotic
- poor respiratory effort
- soft/absent breath sounds
- oxygen saturation <90%

⚠ **Consider anaphylaxis and manage if suspected**

⚠ **Consider adrenaline if the patient is unresponsive, cannot inhale bronchodilators, or is considered to be peri-arrest**

GIVE SALBUTAMOL VIA CONTINUOUS NEBULISATION

CHILDREN 1–5 YEARS

Salbutamol 2 x 2.5 mg nebules at a time
Ipratropium 250 microg added to nebulised solution
Use oxygen to drive nebuliser*
Maintain SaO_2 ≥95%

CHILDREN 6–11 YEARS

Salbutamol 2 x 5 mg nebules at a time
Ipratropium 500 microg added to nebulised solution
Use oxygen to drive nebuliser*
Maintain SaO_2 ≥95%

ADULTS AND ADOLESCENTS

Salbutamol 2 x 5 mg at a time
Ipratropium 500 microg added to nebulised solution
Use oxygen to drive nebuliser*
Titrate oxygen to target SaO_2 93–95% in adults/≥95% in adolescents

*Piped oxygen or oxygen cylinder fitted with a high-flow regulator (6 L/min)
SaO_2: Oxygen saturation

ARRANGE IMMEDIATE TRANSFER TO HIGHER-LEVEL CARE AREA NOTIFY SENIOR STAFF

REASSESS IMMEDIATELY AFTER STARTING SALBUTAMOL

Marked improvement

Some improvement

No improvement or worsening

VENTILATE

NPPV OR INTUBATION AS REQUIRED

CONTINUE SALBUTAMOL AND MONITORING

CONTINUE BRONCHODILATOR AND MONITORING

When breathing improves, consider changing salbutamol route of delivery:

pMDI PLUS SPACER

Adults and children 6 years and over:
12 puffs (100 microg/actuation) every 20 minutes

Children 1-5 years:
6 puffs (100 microg/actuation) every 20 minutes

or

INTERMITTENT NEBULISATION

Adults and children 6 years and over:
5 mg nebule every 20 minutes

Children 1–5 years:
2.5 mg nebule every 20 minutes

REASSESS SEVERITY

Figure. Managing acute asthma in adults
Figure. Managing acute asthma in children

ADD MAGNESIUM SULFATE IV

Dilute in compatible solution as single IV infusion over 20 minutes

Adults and adolescents: 10 mmol

Children 2–12 years: 0.1–0.2 mmol/kg (max 10 mmol)

Marked improvement

No improvement or worsening

CONTINUE SALBUTAMOL AND IPRATROPIUM BY CONTINUOUS NEBULISATION*

CONSIDER THE NEED FOR NPPV OR INTUBATION AND VENTILATION

ARRANGE TRANSFER/RETRIEVAL TO ICU

* Salbutamol IV infusion can be considered in critical care units. Follow your hospital/organisation's protocol for dosage and delivery.

⚠ Monitor blood electrolytes, heart rate and acid/base balance (blood lactate)

Salbutamol toxicity can occur with either the inhaled or IV route of administration. Risk may be increased when the inhaled and IV routes are used concomitantly.

Initial management of life-threatening acute asthma. This figure shows in more detail the first stages ('immediate' and 'within minutes') shown in the figures Managing acute asthma in adults and Managing acute asthma in children