



## AUSTRALIAN RESUSCITATION COUNCIL

### GUIDELINE 8.15

#### FIRST AID FOR ASTHMA

##### INTRODUCTION

Asthma is a disorder of the airways of the lungs. People with asthma have sensitive airways which when exposed to certain 'triggers' can narrow, leading to difficulty in breathing.

There are several types of asthma medications. **Relievers**, (usually in blue/grey containers) provide relief of asthma symptoms within minutes. Reliever medications relax the 'tight' muscles around the airways. Brand names include Airomir, Asmol, Bricanyl, Epaq and Ventolin.

**Preventer** medications (usually brown, orange, red or purple containers) are used for longer term prevention of attacks and are not very useful in an acute attack.

One symptom controller, Oxis may be useful in an emergency situation.

##### RECOGNITION

If a victim has obvious difficulty in breathing first aid should be initiated.

Severe asthma can be recognised when a victim's asthma symptoms get worse very quickly and are not relieved by the usual dose of bronchodilator.<sup>1</sup>

##### **Signs of severe asthma include some or all of the following:**

- wheezing (a whistling sound in the chest), although in very severe asthma the chest can be almost silent
- chest tightness, and sometimes coughing
- difficulty speaking more than a few words or inability to speak because of wheezing or breathlessness.
- rapid breathing with in drawing of neck and chest muscles.<sup>1</sup>
- distress.

### **What if the victim has never had asthma diagnosed before?**

If a victim is in respiratory difficulty and it may be asthma, initiate asthma first aid & call an ambulance (000). No harm is likely to result from giving a Reliever in recommended doses to someone who does not have asthma<sup>4,5</sup> (LOE: Expert Consensus Opinion).

### **MANAGEMENT**

If you assess an attack as severe, or if in any doubt, call an ambulance dial (000) and continue asthma first aid as below.

#### **The 4 x 4 x 4 technique**

Four puffs, four minutes, four puffs.

Sit the victim comfortably upright. Be calm and reassuring. Try not to leave the victim alone. Give 4 puffs of a blue/grey Reliever inhaler (puffer). Relievers in a puffer are best given through a spacer, if available. Spacers can be improvised using a paper or styrofoam cup<sup>2</sup> (LOE: II)

**(If only a powder reliever inhalant is available this may be used<sup>3</sup> provided it is properly primed according to manufacturer's instructions.<sup>3</sup>)**

Use 1 puff at a time and ask the victim to take 4 breaths from the spacer after each puff.

Use the victim's own inhaler if possible. If not, use the first aid kit inhaler or borrow one from someone else.<sup>4</sup>

Wait 4 minutes, if there is no improvement, **CALL AN AMBULANCE IMMEDIATELY (DIAL 000)** and state that the victim is having an asthma attack. Keep giving 4 puffs every 4 minutes until the ambulance arrives or the victim improves significantly.

If oxygen is available, it should be administered at least at 8 litres per minute through a face mask, in between administration of the reliever by a person trained in its use.<sup>5</sup>

#### **Collapsed Victim**<sup>6</sup>

If the victim is unable to take the usual bronchodilator reliever medication, call an ambulance (000) immediately.

If oxygen is available, it should be administered at least at 8 litres per minute through a face mask, by a person trained in its use.

If breathing stops, give resuscitation following the Australian Resuscitation Council Basic Life Support Flow Chart Guideline 7.

#### **NOTE:**

Where a victim has collapsed due to a severe asthma attack, expired air resuscitation may be very difficult due to marked narrowing of the lung airways. This requires a different approach for expired air resuscitation. The lungs should be slowly inflated with a steady pressure such that the chest is seen to slowly rise. In expiration the chest should be given time to adequately fall. The rate necessary to cause the chest to adequately rise and fall may need to be as slow as 6 breaths per minute. (LOE: Expert Consensus Opinion).

## Diagrams for the use of Devices <sup>6</sup>



### WITH SPACER

Shake inhaler and place the mouthpiece into the spacer. Place spacer mouthpiece into victim's mouth, administer 1 puff into the spacer and ask the victim to breathe in and out normally for 4 breaths. Repeat this promptly until 4 puffs have been given.



### WITHOUT SPACER

Shake inhaler. Place mouth piece in the victim's mouth and administer 1 puff as the victim inhales slowly and steadily. Ask the victim to hold their breath for 4 seconds and then take 4 normal breaths. Repeat until 4 puffs have been given.

## CLASS OF RECOMMENDATION

Class A - Recommended

## REFERENCES

1. <http://www.asthma.org.au/asthma.htm>
2. Willemsse BW, Toelle BG, Li JS, Shah S, Peat JK. Use of a paper disposable cup as a spacer is effective for the first-aid management of asthma. *Respir Med* 2003 Jan 1997(1): 86-9.
3. Drblik S, Lapierre G, Thivierge R, Turgeon J, Gaudreault P, Cummins-McManus B, Verdy I, Haddon J, Lee J, Spier S. Comparative efficacy of terbutaline sulphate delivered by Turbuhaler dry powder inhaler or pressurised metered dose inhaler with Nebuhaler spacer in children during an acute asthmatic episode. *Arch Dis Child* 2003 April 1988(4): 319-23.
4. First Aid for Asthma: An Overview Personal Correspondence prepared by NAC.
5. [http://us.gsk.com/products/assets/us\\_ventolin\\_hfa.pdf](http://us.gsk.com/products/assets/us_ventolin_hfa.pdf)
6. [http://www.nationalasthma.org.au/first\\_aid.html](http://www.nationalasthma.org.au/first_aid.html)

## CROSS REFERENCES

ARC Guideline 5 Breathing

ARC Guideline 7 Cardiopulmonary Resuscitation

ARC Guideline 10.1.2 The Use of Oxygen in Emergencies