

# Management of acute asthma in adults

## Assessment of severe asthma

**B** Healthcare professionals must be aware that patients with severe asthma and one or more adverse psychosocial factors are at risk of death.

### Initial assessment

Moderate acute asthma	Life-threatening asthma
<ul style="list-style-type: none"><li>increasing symptoms</li><li>PEF &gt;50-75% best or predicted</li><li>no features of acute severe asthma</li></ul>	In a patient with severe asthma any one of: <ul style="list-style-type: none"><li>PEF &lt;33% best or predicted</li><li>SpO<sub>2</sub> &lt;92%</li><li>PaO<sub>2</sub> &lt;8 kPa</li><li>'normal' PaCO<sub>2</sub> (4.6-6.0 kPa)</li><li>altered conscious level</li><li>exhaustion</li><li>arrhythmia</li><li>hypotension</li><li>cyanosis</li><li>silent chest</li><li>poor respiratory effort</li></ul>
Acute severe asthma	Near-fatal asthma
Any one of: <ul style="list-style-type: none"><li>PEF 33-50% best or predicted</li><li>respiratory rate ≥25/min</li><li>heart rate ≥110/min</li><li>inability to complete sentences in one breath</li></ul>	Raised PaCO <sub>2</sub> and/or requiring mechanical ventilation with raised inflation pressures

### Initial assessment of symptoms, signs and measurements

<b>Clinical features</b>	Severe breathlessness (including too breathless to complete sentences in one breath), tachypnoea, tachycardia, silent chest, cyanosis or collapse <i>None of these singly or together is specific and their absence does not exclude a severe attack</i>
<b>PEF or FEV<sub>1</sub></b>	PEF or FEV <sub>1</sub> are useful and valid measures of airway calibre. PEF expressed as a % of the patient's previous best value is most useful clinically. In the absence of this, PEF as a % of predicted is a rough guide
<b>Pulse oximetry</b>	Oxygen saturation (SpO <sub>2</sub> ) measured by pulse oximetry determines the adequacy of oxygen therapy and the need for arterial blood gas (ABG) measurement. The aim of oxygen therapy is to maintain SpO <sub>2</sub> 94-98%
<b>Blood gases (ABG)</b>	Patients with SpO <sub>2</sub> <92% or other features of life-threatening asthma require ABG measurement
<b>Chest X-ray</b>	Chest X-ray is not routinely recommended in patients in the absence of: <ul style="list-style-type: none"><li>suspected pneumomediastinum or pneumothorax</li><li>suspected consolidation</li><li>life-threatening asthma</li><li>failure to respond to treatment satisfactorily</li><li>requirement for ventilation</li></ul>