Many deaths from asthma are preventable. Delay can be fatal. Factors leading to poor outcome include:

- Clinical staff failing to assess severity by objective measurement
- Patients or relatives failing to appreciate severity
- Under-use of corticosteroids

Patients with severe or life-threatening Asthma attacks may not be distressed and may not have all the abnormalities listed below. The presence of any should alert the Health Care Professional.

**ASSESS** → **TREAT** → **REASSESS** → **FOLLOW-UP**

### ACCESS AND RECORD

- Oxygen saturation by pulse oximetry (SpO2)
- Peak Expiratory Flow (PEF)% of best or predicted
- Symptoms and response to self-treatment
- Ability to talk/babble
- Heart and respiratory rates
- Blood pressure
- **LOOK AT WHOLE PICTURE**

**TREAT**

as per guidelines attached according to age.

**REASSESS**

If poor response to treatment – **Arrange admission.**
If good response to first treatment continue as per guidelines attached.

**FOLLOW-UP**

after treatment or discharge from hospital:

- Arrange a review within 48hrs.
- Monitor symptoms
- Check inhaler technique
- Provide a written Dudley Asthma Action Plan
- Modify treatment according to Dudley Asthma Treatment Guidelines
- Address potentially preventable contributors to admission

**Admit to hospital if:**

- Any features of Life Threatening Asthma Attack
- Features of acute Severe Asthma Attack present after initial treatment
- Previous near fatal Asthma Attack

**Lower threshold for admission if:**

- Afternoon or evening Asthma Attack
- Recent nocturnal symptoms or hospital admission
- Previous Severe Asthma Attacks
- Parent unable to assess child’s condition
- Concerns over social circumstances

**If Admitting the patient to hospital:**

- Repeat B2 agonist while waiting for the Ambulance
- Stay with the patient until ambulance arrives
- Send written assessment and referral details to hospital

### MANAGEMENT OF ACUTE ASTHMA in general practice

**children 2-5 years**

<table>
<thead>
<tr>
<th>Moderate Asthma</th>
<th>Acute Severe Asthma</th>
<th>Life Threatening Asthma</th>
</tr>
</thead>
</table>

#### ASSESSMENT

**Moderate Asthma**
- SpO\textsubscript{2} ≥ 92%
- Able to talk in full sentences/babble
- Heart rate ≤ 140/min
- Respiratory ≤ 40/min

**Acute Severe Asthma**
- SpO\textsubscript{2} < 92%
- Too breathless to talk in full sentences/babble
- Heart rate > 140/min
- Respiratory > 40/min
- Use of accessory neck muscles

**Life Threatening Asthma**
- SpO\textsubscript{2} < 92% plus any of:
  - Silent chest, cyanosis or poor respiratory effort
  - Agitation
  - Altered consciousness
  - Exhaustion/Confusion

#### MANAGEMENT

**Moderate Asthma**
- Treat at home or in surgery.
- **ASSESS RESPONSE TO TREATMENT**
- Consider Prednisolone 20mg
- Increase B\textsubscript{2} agonist dose by 2 puffs every 2 minutes according to response up to 10 puffs

**Acute Severe Asthma**
- **CONSIDER ADMISSION**
- Oxygen via face mask to maintain SpO\textsubscript{2} at 94 – 98%
- 2-10 puffs of Salbutamol 100 micrograms (give 2 puffs, every 2 minutes according to response up to maximum of 10 puffs)
  - OR nebulised Salbutamol 2.5mg
  - OR nebulised Terbutaline 5mg
- Prednisolone 20mg

**Life Threatening Asthma**
- **ARRANGE IMMEDIATE ADMISSION**
- Oxygen via face mask to maintain SpO\textsubscript{2} at 94 – 98%
- Nebulise:
  - Salbutamol 2.5mg (B\textsubscript{2} agonist)
  - OR Terbutaline 5mg (B\textsubscript{2} agonist) + Ipratropium 0.25mg
- Prednisolone 20mg or IV hydrocortisone 50mg

#### TREATMENT

**IF POOR RESPONSE ARRANGE ADMISSION**

**If good response to first treatment** continue Salbutamol 100 micrograms as required up to a maximum of 10 puffs every 4 hours, continue Prednisolone 20mg for up to 3 days and arrange review within 48 hours.
MANAGEMENT OF ACUTE ASTHMA in general practice

**Moderate Asthma**
- SpO₂ ≥ 92%
- PEF ≥ 50% best or predicted
- Able to talk in full sentences
- Heart rate ≤ 125/min
- Respiratory ≤ 30/min

**Acute Severe Asthma**
- SpO₂ < 92%
- PEF 33-50% best or predicted
- Too breathless to talk in full sentences
- Heart rate > 125/min
- Respiratory > 30/min
- Use of accessory neck muscles

**Life Threatening Asthma**
- SpO₂ < 92% plus any of...
  - PEF < 33% best or predicted
  - Silent chest, cyanosis or poor respiratory effort
  - Agitation
  - Altered consciousness
  - Exhaustion/Confusion

**ASSESSMENT**

**TREATMENT**

**M A N A G E M E N T**

**T R E A T M E N T**

**IF POOR RESPONSE ARRANGE ADMISSION**

**Based on National Asthma Management Guidelines British Thoracic Society/Scottish Intercollegiate Guidelines Network SIGN 153 September 2016**
### Moderate Asthma

**ASSESSMENT**
- 
- 

**MANAGEMENT**
- Treat at home or in surgery.

**TREATMENT**
- Give 4 puffs of Salbutamol 100 micrograms via spacer and a further 2 puffs every 2 minutes according to response up to a maximum of 10 puffs.
- OR
  - Nebuliser (preferably oxygen driven) with Salbutamol 5mg/Terbutaline 10mg.
- OR
  - Give Prednisolone 40-50mg

### Acute Severe Asthma

**ASSESSMENT**
- 
- 

**MANAGEMENT**
- Consider Admission

**TREATMENT**
- Oxygen to maintain at 94 – 98%, if available
- Nebuliser (preferably oxygen driven) with Salbutamol 5mg/ Terbutaline 10mg
- OR
  - Give 4 puffs of Salbutamol 100 micrograms via spacer and a further 2 puffs every 2 minutes according to response up to a maximum of 10 puffs.
- OR
  - Nebuliser (preferably oxygen driven) with Salbutamol 5mg/ Terbutaline 10mg and Ipratropium 0.5mg
- OR
  - Give Prednisolone 40 – 50mg

### Life Threatening Asthma

**ASSESSMENT**
- 
- 

**MANAGEMENT**
- Arrange IMMEDIATE ADMISSION

**TREATMENT**
- Oxygen to maintain at 94 – 98%, if available
- Nebuliser (preferably oxygen driven) with Salbutamol 5mg/ Terbutaline 10mg and Ipratropium 20 micrograms via spacer and a further 2 puffs every 2 minutes according to response up to a maximum of 10 puffs each
- OR
  - Give Prednisolone 40 - 50mg
  - OR
  - IV hydrocortisone 100mg immediately

**IF POOR RESPONSE ARRANGE ADMISSION**

If good response to first treatment continue Salbutamol 100 micrograms as required up to a maximum of 10 puffs every 4 hours, continue Prednisolone 40-50mg for at least 5 days and arrange review within 48 hours.