1. Assessment by appropriate healthcare professionals (Dr/Nurse)
- Saturation
- Use of accessory muscle
- Breathlessness
- Auscultation of chest
- Peak flow
- Record vital signs

2. Moderate
- Saturation ≥ 92% in air
- Mild to moderate use of accessory muscles
- Breathless on exertion only
- Mild wheeze
- Peak flow ≥ 50% best/predicted

3. Severe
- • Saturation <92% in air
- • HR >125 bpm, RR > 30 breaths / min
- • Marked use of accessory muscles
- • Too breathless to talk
- • Marked wheeze
- • Peak flow 33-50% best/predicted

4. Life-threatening
- • Saturations < 92% in air
- • Silent chest/ poor respiratory effort
- • Exhausted
- • Confusion / coma
- • Cyanosis
- • Hypotension
- • PEF <33% best/predicted

5. Give 10 puffs of 100 microgram salbutamol MDI via spacer (Tidal breathing, 1 puff to every 5 breaths)
- Reassess 20-30 minutes post intervention
- Consider giving 3 day course of soluble prednisolone 1mg/kg (max 40mg). Those already receiving maintenance oral steroid give 2mg/kg (max 60mg). (Box 18)

6. Good response?
- • Subtle or no use of accessory muscles
- • Can complete sentences
- • Minimal wheeze
- • Saturation >94%

7. Discharge Plan (BTS recommendations)
- • Before discharge review overall asthma control, inhaler technique, medication and ask about smoking parent and child (if > 11yrs). If yes offer quit smoking support.
- • Check understanding of condition and signpost to further resources.
- • All children need a wheeze/asthma plan, for regular medication and what to do when they start to become unwell.
- • Give a weaning plan for salbutamol 100 micrograms MDI plus spacer
  - Day 1: 6 puffs every 4 hours
  - Day 2: 4 puffs every 6 hours
  - Day 3: 2 puffs as required
  - Advise parents to book a GP/Practice Nurse review within 48-72 hrs.
  - Complete a three day course of prednisolone (Box 18)

9. Good response?
- • Subtle or no use of accessory muscles
- • Can complete sentences
- • Minimal wheeze
- • Saturation >94%

10. (Primary Care)
- • Dial 999
- • Contact duty paediatric registrar at referring hospital
- • Continue oxygen and nebulisation therapy (Box 8)
- • Send written assessment with patient

11. (A&E)
- • Dial 2222
- • Continue oxygen and nebulisation therapy (Box 8)

12. (Primary Care)
- • Contact duty paediatric registrar at referring hospital
- • Send written assessment with patient

12. (A&E)
- • Follow local asthma emergency guidelines

* If a child has not performed a peak flow before, the technique used may be suboptimal. In this instance the result should be treated with caution.

** Useful resources:
- www.asthma.org.uk
- www.itchysneezywheezy.co.uk

Referral to secondary care if: (See box 14)
- • Diagnosis unclear or in doubt
- • Symptoms present from birth or perinatal lung problem
- • Excessive vomiting or possetting
- • Persistent wet or productive cough
- • Family history of unusual chest disease
- • Failure to thrive
- • Nasal polyps
Acute Asthma Attack Management Pathway for Known Asthmatic Children (5 – 18 Years)

13. Community Children’s Nursing Teams
Barnet
Tel: 020 8216 5242
Fax: 020 8216 5244
Camden & South Barnet
Tel: 020 7830 2571
Fax: 020 7830 2146
Enfield
Tel: 020 8375 1992
Fax: 020 8375 1903
Haringey
Tel: 020 8887 4301
Fax: 020 8887 2973
Islington
Tel: 0203 316 1950
Fax: 020 77690 2861

14. Secondary Care Referrals
Barnet Hospital
Switchboard: 020 8216 4600
Royal Free Hospital
Dr. Rahul Chodhari
R.Chodhari@nhs.net
Switchboard: 020 7794 0500
North Middlesex Hospital
Dr. Arvind Shah
Switchboard: 020 8887 2000
University College Hospital
Dr Eddie Chung
Switchboard: 020 3456 7890
Whittington Hospital
Dr. John Moreiras
John.Moreiras@nhs.net
Switchboard: 020 7272 3070

15. Normal Paediatric Values
Respiratory Rate at Rest:
2-5yrs      25-30 breaths/min
5-12yrs    20-25 breaths/min
>12yrs     15-20 breaths/min
Heart Rate:
2-5yrs      95-140 bpm
5-12yrs    80-120 bpm
>12yrs     60-100 bpm
Systolic Blood Pressure:
2-5yrs      80-100 mmhg
5-12yrs    90-110 mmhg
>12yrs     100-120 mmhg

16. Inhalers Vs. nebulisers
For moderate asthma, use an inhaler and spacer. If >5-years old use the mouth piece, rather than mask (providing their technique is good)
Indications for nebulisers:
• Low saturations <92%
• Unable to use inhaler and spacer (not compliant)
• Severe and life threatening respiratory distress
• Nebulisers are not generally recommend for home use.

17. Nebulised drug doses
Salbutamol
2-5 yrs  2.5 mg
> 5 yrs   5 mg
Ipratropium
< 12 yrs  250 mcg
12-18 yrs 500 mcg

18. Prednisolone
• Those already receiving maintenance steroid give 2 mg/kg (max 60 mg)
• Repeat the dose in children who vomit and/or consider IV steroids
• Three days is usually sufficient, but can be increased/tailored to the number of days necessary to bring about recovery.
• Weaning is unnecessary unless the course of steroids exceeds 14 days.

19. Predicted peak flows
For use with PEF meters EU/EN13826
<table>
<thead>
<tr>
<th>Height (m)</th>
<th>Height (ft)</th>
<th>Predicted EU PEFR (L/min)</th>
</tr>
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</tr>
<tr>
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<td>2'11&quot;</td>
<td>95</td>
</tr>
<tr>
<td>0.95</td>
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<tr>
<td>1.00</td>
<td>3'3&quot;</td>
<td>115</td>
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<td>3'5&quot;</td>
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<td>393</td>
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</tbody>
</table>

20. Poor Asthma Control
• Frequent use of reliever
• Stopping daily activities
• Poor sleep, cough
• Frequent exercise induced symptoms
• Frequent admissions or attendances
• Frequent courses of prednisolone
• Difficult Asthma: Difficult asthma is defined as persistent symptoms and/or frequent exacerbations despite treatment at step 4 or 5
  *Asthma Control Test: [www.asthma.com/resources/asthma-control-test.html](http://www.asthma.com/resources/asthma-control-test.html)

This guidance is written in the following context: This pathway was arrived at after careful consideration of the evidence available including but not exclusively using the BTS guidelines. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer. If you have any queries with regards to the information contained in this document please contact Dr John Moreiras (john.moreiras@nhs.net)

Review date: July 2014