

Moderate Paediatric Asthma Attack Pathway – for use in children 5 yrs and over

(Primarily for use in the hospital setting - but can be used in GP if experience, equipment and time is available)

Rapid Assessment:

- A:** Able to complete sentences? Audible wheeze? (stridor/ other added sounds)
B: Respiratory Rate / Saturations / WOB (accessory muscles, nasal flare, tracheal tug, abdominal breathing, tripodding, cough) / Peak Expiratory Flow (PEF) & calculate PEF% compared with predicted/best (*nb. only use PEF for patients with reliable/reproducible technique*)
C: Heart Rate / BP / Colour / Capillary Refill time (<2s is normal)
D: Level of consciousness – Normal behaviour? Drowsy? Confused?
E: Rashes / Temp

What medication/dose has been administered already? (inhaler? spacer used?)

Always consider other Dx e.g. LRTI/Croup/Foreign body/Epiglottitis/Anaphylaxis/ Sepsis

Mild to Moderate Asthma Attack	Severe Asthma Attack	Life-threatening Asthma Attack
BTS Assessment of Asthma Attack Severity		
NB. If a patient has signs & symptoms across categories, always treat according to most severe features		
<p>Alert, active Able to talk in full sentences Drinking fluids RR <30 Requiring 6-10 puffs SABA 4 hrly (SABA = Short Acting Beta Agonist)</p> <p>NO FEATURES OF SEVERE/ LIFE-THREATENING ASTHMA ATTACK</p> <p>SpO2 >92% PEF >50% best or predicted</p>	<p>Unable to complete sentences in one breath Use of accessory muscles</p> <p>RR: >30/min (5-12 years) >25/min (>12 years) HR: >140/min (5-12 years) >110/min (>12 years)</p> <p>SpO2 <92% PEF 33-50% best or predicted</p>	<p>Poor respiratory effort Drowsiness/exhaustion Confusion Cyanosis/Colour change</p> <p>SpO2 <92% PEF <33% best or predicted</p>
<p>Initial Treatment:</p> <p>- SABA via spacer - consider nebulised SABA if inhaler not tolerated (within 15 mins of triage)</p> <p>- Oral steroids - as per local guideline (within 1 hr of triage)</p>	<p><u>Treat as per BTS Guidelines</u></p> <p>EXIT THIS GUIDELINE</p>	<p><u>Treat as per BTS Guidelines</u></p> <p>EXIT THIS GUIDELINE</p>

Further assessment and history for patients 5 years and above with MODERATE exacerbation of Asthma

with no exclusion criteria (see box on right)

History taking (Full Asthma Hx on Page 3)

HPC: duration of symptoms, are symptoms worsening, previous help sought, treatment used, is treatment working/are inhalers effective, triggers, associated symptoms (fever, rash, coryzal, covid symptoms), appetite, fluid intake, activity level, urine output

PMHx: other conditions, admissions to hospital/ITU, recent D/C

DHx: inhaler/SABA use, steroid use, other meds, epipen, imms

Allergies: atopy, allergies, anaphylaxis

Other: what's normal for this child? Level of concern/anxiety; capacity/experience of carer to manage child at home

Reassess after 30mins of initial treatment

Then review the need for further SABA hourly

If wheeze free & clinically well with an improved WOB then stretch

Repeat SABA at any time if symptoms return

Exclusion criteria/Red Flags

(discuss patient with local Paediatric team)

- Child not responding to treatment or if 10 puffs of SABA not effective relief
- Patient on oral maintenance steroids
- Hx of Severe or difficult to treat asthma
- Previous IV therapy
- Recent discharge or interactions with GP/ED or 111
- Previous PICU/PCCU admissions
- Comorbidities eg. Previous pneumothorax
- If personalised asthma plan has alternative treatment
- History of poor compliance
- Significant parental anxiety
- Communication issues/concern regarding carers ability to manage child at home
- Safeguarding concerns

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If needing further SABA at any point before 3 hrs then exit this guideline & discuss with local Paediatric team/ consider admission to CAU/PAU



If remains wheeze free & clinically well with an improved WOB then can be stretched every hour until 3hrs wheeze free – and start planning for discharge home



Criteria for discharge:

- *Child clinically well with improved WOB and wheeze free at 3hrs*
- *SpO₂ 94% and above*
- *PEF should be >75% of best or predicted (see page 4)*

... can be discharged with next dose given at home 1hr post discharge (at 4 hrs if needed)

THINK...

...Always consider alternative Dx e.g. LRTI/Croup/Foreign body/Epiglottitis/Anaphylaxis/ Sepsis

...If carer or clinician has any doubts/ concerns/ communication issues – then does not meet criteria for 3 hr discharge

Hospitals with access to Hospital@Home (RLH/KCH):

Patient **clinically stable** at 3 hrs (may still have mild wheeze) can go home on 3hrly SABA with same day Hospital@Home review

Prior to discharge the following MUST be in place

1. Discharge plan – [Link to Asthma Care Bundle](#)

- Clear plan for use at home of SABA and steroids
 - SABA as needed if symptomatic as per local “*Going Home Plan*”.
- Carer and patient safety netted – see below
- Inhaler technique checked and education given if needed
- Personalized Asthma exacerbation plan given and explained
- Sufficient supply of SABA and steroids dispensed.

2. Follow up plans

- Community follow up arranged within two working days post hospital visit
- Follow-up to be arranged in 4 weeks post hospital visit either in the community or in Hospital at an Asthma clinic.
(Follow up as per local guidelines)

Safety netting for parents/carers:

Call 111/999 if:

- Requiring SABA more than 4hourly
- SABA ineffective/not providing relief
- Increased WOB
- Any parental concerns

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Detailed Asthma History

No Current Dx of Asthma – Is this Asthma?

✓ One or more of: wheeze, cough, difficulty breathing and chest tightness	✓ Frequent and recurrent symptoms - Worse at night and in the early morning
✓ Exacerbation of symptoms (post exercise/exposure to pets/cold/damp air/ with emotions/ laughter)	✓ Personal history of atopy
✓ History of improvement in response to adequate therapy (suggesting reversibility)	If there are clinical features which do not fit the pattern, consider alternative diagnoses to rule out other serious conditions such as cystic fibrosis etc.

Previously confirmed Asthma Dx:

✓ Last asthma r/v? and care provider?	✓ Do they have a written asthma plan?	✓ Age at Dx	✓ PEF diary ✓
✓ Current medication: preventer/reliever/ usage/compliance /number of repeat prescriptions (<i>having > 3 relievers per yr</i>) /spacer/ technique/ are medications in date/ adequate supply/ number of steroids courses over last year/ number of courses of Abx in last year/ EpiPen	✓ Hx of Recurrent chest infections Pneumonia (Oral Abx courses/Admissions for IV ABx) ✓	✓ Identify modifiable risk factors and known triggers?	✓ Admissions? Recent attendance at GP/ED/ or admission
✓ Missed school days	✓ GP/ED attendances in last year	✓ Previous for IV therapy	✓ PICU admissions

Full PMHx including:

Antenatal/ BHx/ 1st year of life Gestation, ventilated, Hx of CLD, Home O2 GOR / Hx Swallow difficulties/ aspiration Failure to thrive (Plot Wt) Bronchiolitis	Other comorbidities Not forgetting - Obesity/ snoring/ sleep apnoea/ nasal polyps	Atopy Hx: Eczema – well mx/ current flare/ known to dermatologist/ medication Hayfever – well mx/ medication Allergic Rhinitis – well mx/ Medication Food allergies Anaphylaxis Hx EpiPen – do they have 2x in date (good knowledge of how to administer?)	DHx: Full – including previous Asthma regimes / ?NKDA Imms: UTD FHx: Family Hx of Atopy	SHx: Living conditions - Smokers/Pets/sleeps in bunk bed (lower bunk)/carpets Education/Development Known vulnerabilities in this family (SW, CP, CIN, MASH, MARAC) Travel Hx
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Normal Paediatric values <i>(adapted from APLS)</i>			
AGE	RR	HR	SYSTOLIC BP
<1	30-40	110-160	70-90
1-2	25-35	100-150	80-95
2-5	25-30	95-140	80-100
5-12	20-25	80-120	90-110
>12	15-20	60-100	100-120

PEAK EXPIRATORY FLOW RATE <i>For use with EU/EN13826 scale PEF meters only</i>						
Height (m)	Height (ft)	Predicted EU PERFR (L/min)		Height (m)	Height (ft)	Predicted EU PERFR (L/min)
0.85	2'9"	87		1.30	4'3"	212
0.90	2'11"	95		1.35	4'5"	233
0.95	3'1"	104		1.40	4'7"	254
1.00	3'3"	115		1.45	4'9"	276
1.05	3'5"	127		1.50	4'11"	299
1.10	3'7"	141		1.55	5'1"	323
1.15	3'9"	157		1.60	5'3"	346
1.20	3'11"	174		1.65	5'5"	370
1.25	4'1"	192		1.70	5'7"	393