# Kings College Hospital Paediatric Emergency Medicine Asthma and Wheeze Pro-forma For ages 2 – 18y

Patient's name	Ho	spital No.	DOB	Da	ite
nitial Triage As	sessment				
Assessor's na	me, role & signature				
Assessment ti	ime				
Airway	Clinical assessment	Talking norm Reduced spec Not talking Drowsy	ally ech (short phrases, s	single words)	
Breathing	Respiratory rate				
	Oxygen Saturation (in air)				
	Increased work of Breathin	g None $\square$	Mild □ Mo	derate 🗆	Severe 🗆
	Wheezing: • Polyphonic expiratory noise • Prolonged expiration (no gal between end of expiration a of inspiration)		No □ location	n	No. of the last of
Circulation	Heart rate				
BPEWs score					
Pre-hospital treatment		Medication: Dose: Route: Time given:			
Treatment goals		Start inh	aled / nebulized bro roids ASAP and at le		
Refer to W	heeze flow chart overlea	f and categorise child's	condition into one	of the followin	g categories:
		Mild/Moderate	_	_	threatening $\square$

# Commence treatment as per flow chart

If you have chosen the **severe or life threatening** categories

- please inform the Nurse in charge and the ED Registrar / Consultant or the Paediatric Registrar immediately
- CONSIDER MOVING TO RESUS

#### Wheeze Flowchart<sup>1</sup>

# Please categorise patient according to the most severe feature

#### Mild/Moderate

- SaO2 ≥92% in air
- <5yrs: RR ≤40 HR ≤ 140</p>
- ≥5yrs: RR ≤30 HR ≤ 125
- Can talk in short sentences / feeding well
- Mild-Moderate recessions & wheeze

#### Severe

- SaO2 <92% in air
- <5yrs: RR >40 HR >140
- ≥5yrs: RR >30 HR >125
- Unable to talk/feed
- Marked recessions
- CONSIDER MOVING TO RESUS

#### Life threatening

- SaO2 <92% and any of the following
- Silent chest
- Poor respiratory effort
- Altered consciousness
- Cyanosis
- MOVE TO RESUS AND PUT OUT RED PHONE CALL

# Give oxygen to maintain oxygen saturations of 94-98%

# Salbutamol via spacer

• Salbutamol 2-10 puffs via a spacer

Give one puff of salbutamol every 30 – 60 seconds up to 10 puffs according to response

#### AND

- <u>Consider</u> prednisolone:
  - <u><5yrs</u> 20mg

if known asthmatic/not improving

OR

Give prednisolone if

>5yrs 30-40mg within 1h of arrival

- Reassess within 1 hour
- Repeat salbutamol if needed

#### Salbutamol via spacer or nebuliser

• Salbutamol 10 puffs via spacer (if in air)

OR

Nebulised salbutamol (only if in O<sub>2</sub>):

<5yrs 2.5mg >5yrs 5mg

AND

• Prednisolone:

<5yrs 20mg >5yrs 30-40mg

OR

If vomiting: IV hydrocortisone 4mg/Kg (max 100mg)

- If poor response to initial salbutamol prescribe 3 x salbutamol nebuliser with 3 x nebulised ipratropium bromide (0.25mg if < 12yrs or 0.50mg if >12yrs) back-to-back
- Repeat nebulised salbutamol + ipratropium every 20 minutes for 2 hours as needed

#### Salbutamol via nebuliser

• 3 x Nebulised salbutamol

<5yrs 2.5mg >5yrs 5mg

**PLUS** 

- 3 x Nebulised ipratropium bromide (0.25mg if < 12yrs or 0.50mg if >12yrs)
  - To be given back-to-back
  - Consider adding 150mg magnesium to each nebulized salbutamol and ipratropium in the first hour

AND

Prednisolone: <5yrs 20mg</li>

>5yrs 30-40mg

OR

If vomiting: IV hydrocortisone
4mg/Kg (max 100mg)

- Discuss with ED consultant/Paediatric SpR
- Repeat nebulised salbutamol + ipratropium every 20-30 minutes
- Consider intravenous bronchodilators if not improving

Continuous saturation monitoring and hourly documentation
At least hourly Doctor's Review or sooner if deterioration.

#### Review 15 minutes after each treatment

Continuous reassessment

#### Responding

Improvement in vital signs, work of breathing, wheeze etc. Does not have to be full resolution of signs / symptoms

- Continue bronchodilators 1-4 hourly as needed
- Discharge when stable on 4 hourly treatment
- Continue prednisolone for 3 days

<sup>1</sup> British guideline on the management of asthma, BTS Oct 2014

# Non Responding

# No improvement or worsening vital signs / examination

■ IV salbutamol bolus – 15 microgram/kg over 10 mins (max 250 micrograms), then infusion of 1-5 microgram /kg/min (> 2 microgram/kg/minute usually only in PICU)

OR

- IV magnesium sulphate bolus 40 mg/kg over 20 mins (max 2g)
- IV aminophylline 5mg/kg over 20 mins (max 500mg)
   Do not give loading dose if patient is taking theophylline
- Consider CXR and blood gases
- Do not intubate without discussing with PICU Consultant

Patient's name	Hospital No.	DOB	Date
	1		1
History of Presenting Complaint			
Past Medical History			
	Hayfever: Yes $\square$ No $\square$	Birth history:	
	Anaphylaxis: Yes □ No □		
163 🗆 110 🗀	Details:		
Risks for severity	_		
Previous PICU/HDU w/asthma: Yes ☐ No			
Number of asthmatic exacerbations need	ing steroids in the last year:		
Recent symptom control (in past 4 week	c)		
Number of times reliever inhaler used:	5)		
Number of times asthma caused night-tim	ne/early morning waking:		
		Developmental h	istory:
Other medical conditions:			
Medications:		Allergies:	
Wedledtons.		Alici gics.	
		Immunisations:	
Number of doses of preventer missed /we	aek.		
Uses spacer device with inhalers:	Yes □ No □		
Use of complimentary therapy:	Yes □ No □ Details:		
Social and Family history			
	Details:		
Days of school missed because of asthma	in past year:		
Housing issues:			
Smoker/smoking in the house / e cigarett	es: Yes □ No □		

Patient's name		Hospital No.	DOB	Date
Examination fin	dings			
	First Review after	Second Review	Third Review	Fourth Review
Description	Triage	Second Review	Tima Keview	Tour thi Keview
Assessor's				
name & role				
Signature				
Time				
Date				
Airway				
SaO <sub>2</sub>				
RR				
Increased	None $\square$	None	None	None
work of	Mild / Moderate	Mild / Moderate	Mild / Moderate	Mild / Moderate
Breathing	Severe	Severe	Severe	Severe
Heart Rate				
BPEWs	Vee $\square$	Van 🗆	l Van	Van 🗆
Wheezing	Yes   No	Yes   No	Yes   No	Yes   No
Wheeze Location	To a second seco	To the state of th		
Other examination findings				
Severity Progress	Mild / Moderate	Mild / Moderate	Mild / Moderate	Mild / Moderate
	Deteriorating	Deteriorating	Deteriorating	Deteriorating

Refer to Wheeze flow chart on page 2 to re-categorise severity and treatment regime after each assessment. Immediately inform the Nurse in charge and the ED Registrar / Consultant or the Paediatric Registrar if categorised as severe or life threatening.

Patient's name	Hospital No.	DOB	Date
		<u>.</u>	<u>.</u>
Additional Notes			
Clinician (print)	Role	Time	Signature

Patient's name		Hospital N	10.		DOB		Date	
Treatment				•		_		
Drug / Fluid		Dose	Route	Time	Signature	Name	Given by	Tir
Outcome	Discharged hom Admitted to CD Admitted to ger Admitted to PIC	U [ neral ward [						
Discharge Checklist	Complete every	item. If the	re is no sm	oke expo	sure or follow	-up is not in	dicated, please	e rec
								Plea
	<u> </u>							whe
Inhaler and spacer tech	nique cnecked							
Asthma information lea	aflet (attached to th	ne back of th	is pack) giv	en to and	discussed wit	th the family	,	
Written asthma action	plan (attached to the	he back of th	is pack) fill	ed in, giv	en to family a	nd discussed		
Have very discussed ass		t ad/aale	::140					
Have you discussed sm					500		_	
	/child wants to con		ig cessation	refer via	I EPK			
Parents advised to see		_						
	nformation in your							
	gests poor control				r GP in your d	ischarge lett	er	
Arrange hospital follow								
Reen seen ty				1 1 11	1 / . –	DD)		
	vo or more times in ening features at an				ma clinic (via E piratory clinic		-	

#### King's College Hospital Patient Information: Childhood Asthma and Wheeze

#### What is asthma?

Asthma causes inflammation (redness and swelling) of the airways. When there is an asthma trigger the muscles of the airway wall tighten up, the lining of the airway becomes more swollen and the mucus that cleans and protects the lining of their airways builds up and gets in the way of the air that's trying to reach the lungs. All of this means that the airways become narrower, making it more difficult to breathe. Asthma is a serious condition, and if not treated properly can lead to life-threatening asthma attacks and death.

Healthy airway

Airway in person with asthma

# What are the symptoms of asthma?

- wheezing (a whistling noise in the chest), but not every child with asthma sounds
   wheezy
- getting short of breath they may have difficulty feeding, playing or speaking
- coughing, particularly at night and after exercise
- feeling tight in the chest some children will say their chest or tummy hurts Asthma symptoms often come and go. With the right medicines, taken properly, your child should be able to lead a full life without symptoms.

# What are asthma triggers?

A trigger is anything that can make a person's asthma worse by irritating their airways. Everyone's asthma is different and you'll probably find your child has several triggers.

- Colds and viral infections
- Furry or feathery animals
- Exercise and excitement



- Weather
- Pollen and Mould
- Food allergies



#### Diagnosing asthma

There isn't a single test your child can take to tell if they have asthma. Your doctor or nurse will ask about your child's symptoms, and might ask you to keep a record of them and what seems to make them better or worse. Asthma is more likely if your child has more than one of the typical symptoms, particularly if these are:

frequent

- in response to a trigger
- worse at night or early in the morning
- when your child doesn't have a cold

#### Children under the age of two

At this age it's difficult to tell if a child has asthma because nearly one-third of very young children will have wheezing at some point. Over time, most of them will stop wheezing as their airways grow; however for others early wheezing can be a sign they will get asthma in later childhood or adult life.

#### Control

Your child's asthma is not under control if they:

- are having asthma symptoms more than once a week
- are using their reliever inhaler more than three times a week
- · are waking at night due to their asthma
- need to miss school or exercise, or any other activity, because of their asthma
- have an asthma attack

The doctor or asthma nurse should work with you and your child to help them achieve 'good control' to reduce the risk of an asthma attack. It may take a few visits to get this right.



#### What can I do to help my child's asthma?

Make sure your child has an asthma plan, that you understand it and know where it is. Use it every time your child has asthma symptoms and take it with you to all appointments. You might want to take a picture of it on your phone.



You should learn what their medicines do, make sure that they take their medicines and know how to manage their triggers. Your doctor or asthma nurse should help you with this. Make sure your child has a planned asthma review at least once a year, or more often if their asthma is not under good control.

One of the best ways to help your child's asthma is not to smoke. Cigarette smoke triggers asthma attacks and is especially harmful to growing lungs, causing long-term damage. It's important for your child to keep your home smoke free, and not to expose them to smoke, even outside. If you want help to stop smoking, see below.

#### Where can I get help to stop smoking?

You can refer yourself to these local services:

Southwark community stop smoking service Tel: 0800 169 6002 or 020 3049 8550

 $\pmb{ Email: \underline{Gst-tr.stopsmokingsouthwark@nhs.net}}\\$ 

<u>Lambeth</u> community stop smoking service Tel: 0800 856 3409 or 020 3049 5186

Email: Gst-tr.stopsmokinglambeth@nhs.net

Alternatively ask at your GP surgery/local pharmacy or visit www.nhs.uk/smokefree.

#### Where can I get more information about asthma?

Asthma UK Advice Line – 0800 121 6244 www.asthma.org.uk

Your GP and Primary Care Asthma Nurse

King's College Hospital Children's Asthma Nurse Specialist 0203 299 4640 / 07659 145 125

Email: slatham1@nhs.net

King's College Hospital Children's Respiratory Specialist Nurses 0203 299 4580 / 0203 299 5183

Name	Hospital Number	Date of Birth	Date seen in ED
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# Emergency Asthma and Wheeze Plan - King's College Hospital Emergency Department

# What should you do next?

Make an appointment to see your GP, ideally in the next 2 days, so you can:

- make sure your child is responding to treatment
- talk about what triggered this asthma (or wheeze) attack
- get a full 'Asthma Action Plan' (take this temporary plan with you to the appointment)
- make sure you know what to do if they have another attack
- stop future asthma attacks by checking they are on the right preventer medicine

You should do this even if you have been given an appointment with the hospital asthma clinic

Prednisolone (steroids):					
Give	_ 5mg tablets =	daily for the next	days		
This help	s to reduce the infl	ammation (redness an	d swelling) causi	ng your child's asthma	
symptom	ıs				

#### Other medicines

If you child has been prescribed a preventer inhaler (brown, orange, purple etc.) or tablets for their asthma you should continue with the usual dose.

#### Salbutamol (blue) inhaler:

Salbutamol is a reliever, it helps to open-up the airways. **Always use the spacer** in the way you were shown.

Give 2 puffs and repeat as needed, continuing up to 10 puffs if necessary To start with you will probably need to use \_\_\_\_\_ puffs each time The dose should be repeated after 4 hours (SEE BELOW)

# If your child is stable or improving they are: You should

Only wheezing and breathless just before the next dose of salbutamol Responding well to each dose of salbutamol	Keep giving salbutamol every four hours Use the same number of puffs each dose Discuss with your GP if not improving after 2 days
Coughing and wheezing less Returning to normal activities	Keep giving salbutamol every 4 hours Try reducing the number of puffs If symptoms worsen more puffs may be needed
No coughing and wheezing	Stop using salbutamol inhaler

# If your child is worsening they are: You should:

Drowsy, tired or frightened	Ring 999 - you need immediate help
Severely wheezy or breathless with a	Give 10 puffs of salbutamol straight away.
heaving chest	Continue giving 2 puffs every 2 minutes until the
Unable to speak or feed normally	ambulance arrives
Wheezing and breathless again less than	Give another 10 puffs of salbutamol straight
four hours after salbutamol	away
Not showing a good response to 10 puffs of	See your GP or return to the Emergency
salbutamol	Department as soon as possible

# **Useful contacts:**

King's College Hospital Children's Asthma Nurse Specialist – 0203 299 4640 / 07659 145 125 King's College Hospital Children's Respiratory Specialist Nurses – 0203 299 4580 / 0203 299 5183 Asthma UK Advice Line – 0800 121 6244 website – <a href="http://www.asthma.org.uk">http://www.asthma.org.uk</a>