South East London Integrated Care System

NHS King's College Hospital NHS Foundation Trust

South East London Emergency Department Asthma Pathway

ASTHMA CARE HAS CHANGED

Management with ***separate preventer & salbutamol (blue) reliever inhalers*** is no longer recommended

Patients should be prescribed a ***single combined inhaler*** that contains an Inhaled Corticosteroid (ICS) AND Long-Acting Beta Agonist (LABA) to use as Maintenance And Reliever Therapy (MART)

Prescribe either:

Symbicort Dry Powder 200/6 Inhaler

Preferred option as lower carbon footprint and easier technique

OR

Fostair pressurised Metered Dose 100/6 Inhaler with Spacer

NB. Do not step down patients already on high dose ICS – see full guidance

Every patient with confirmed or suspected asthma should leave hospital with a steroid containing inhaler & a course of Prednisolone
DO NOT PRESCRIBE A SALBUTAMOL (BLUE) INHALER ON ITS OWN ON DISCHARGE

Useful contacts – KCH: Med SpR 35454 or bleep 101; IRT ext 36531; Resp SpR bleep 133 (complex patients, those on high dose ICS or well known to Resp team). **PRUH:** Resp CNS ext 64228 or 64229

All patients with suspected/confirmed asthma attending ED or Acute Medicine with exacerbation/uncontrolled symptoms should be referred to IRT/Resp CNS for review in ED (in hours) AND post discharge follow-up – KCH: IRT review in ED ext 36531. All patients place an EPIC Dispo order *'Outpatient Referral to KCH Integrated Respiratory Team'.* **PRUH:** M-F 8-5.30/ Sat & Sun 8-2.30 Call Resp CNS 64228/64229. Out of hours email details to kch-tr.respiratorycns-pruh@nhs.net

See DH ED Kingsweb page > Adult Clinical Guidance > Chest > Asthma for full asthma guidance

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ED Acute Asthma Management Flowchart

MODERATE
PEF >50-75% best or predicted
SpO_2 >92%
No features of acute severe or life-threatening asthma

ACUTE SEVERE
ANY ONE OF:
PEF 33-50% best or predicted
Respiration ≥25/min
Pulse ≥110 beats/min
Cannot complete sentences in one breath

LIFE THREATENING
ANY ONE OF:
- ❑ PEFR <33% best or predicted
- ❑ SpO_2 <92%
- ❑ Silent chest,cyanosis, poor respiratory effort
- ❑ Arrhythmia, hypotension
- ❑ Exhaustion, GCS <15

See next page for PEFR normal values

5 MIN

Salbutamol 2.5mg nebuliser OR 10 puffs of 100microgram/dose inhaler given via spacer
Prednisolone 40mg PO
Oxygen to maintain SpO_2 94-98%

URGENT SENIOR REVIEW MOVE TO RESUS

CONSIDER INVOLVING ICU

15 MIN

PEFR Checked
% PEFR recorded
Full set of Obs recorded

Clinically improving AND PEF >75%

Improving AND PEF 50-75%
No life threatening features

Any life-threatening features OR PEFR <50%

IMMEDIATE MANAGEMENT
Salbutamol 2.5mg back-to-back AND Ipratropium 500mcg
Both to be given via oxygen driven nebuliser
Hydrocortisone 100mg IV
Oxygen to maintain SpO_2 94-98%

Repeat ipratropium bromide 500mg nebulised every 4-6hrs in acute severe or life-threatening asthma

Give salbutamol via nebuliser or spacer according to severity

60 MIN

PEFR Checked
% PEFR recorded
Full set of Obs recorded

ABG
Markers of severity:
- Normal or raised $PaCO_2$ (>4.6kPa)
- Severe hypoxia (PaO_2 <8kPa)
- Low pH or high H+

CXR for all patients with life-threatening symptoms, poor response to treatment or concern of pneumothorax

Recovering AND PEF >75%

Moderate asthma AND PEF 50-75% AND not requiring further treatment

Moderate asthma but requiring further treatment

Signs of severe or life-threatening asthma OR PEF <50%

FURTHER MANAGEMENT
Repeat salbutamol 2.5mg nebulised
Magnesium Sulphate 1.2-2g IV over 20 minutes
CXR
Consider IV fluids
Check K+ and replace as needed
Repeat ABG
Monitor PEFR if able

Aim K+>4.0, may require IV replacement

PEFR Checked and % PEFR recorded
Full set of Obs recorded

120 MIN

Consider discharge: see discharge criteria and care bundle below

Aim to space out to 3-4 hours post treatment, then consider discharge

Continue treatment, monitor for severity change, refer Acute Medicine

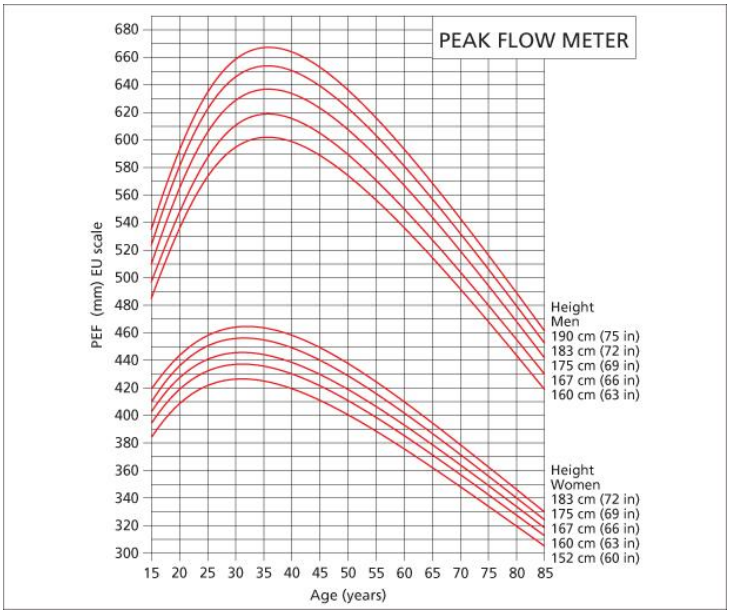
Signs of severe of life threatening asthma OR PEF <50%

ADMIT
Acute Med vs ICU depending on response to treatment

Aminophylline IV is not recommended unless failure to respond to conventional treatment and recommended by a Consultant.

ADDITIONAL INFO

Peak Expiratory Flow Rate (PEFR) Normal Values



Adapted by Clement Clarke for use with EN13826/EU scale peak flow meters from Nunn AJ, Gregg I, *Br Med J* 1898;298:1068–70

Always check and record Peak Flow rate

Remember adverse medical/psychosocial features. These increase the risk of death from asthma.

- Poor adherence with treatment
- Socially isolated
- Frequent ED attender/non-attender at clinic
- Multiple medical co-morbidities
- Psychiatric illness
- Psychological difficulties
- Physical disability
- Learning difficulties
- Presentation to acute medical services at night
- Pregnancy

Consider these factors when making discharge decisions: see below.

Criteria for admission/referral to acute medicine

- Any feature of a life-threatening or near-fatal asthma attack
- Any patient requiring further treatment after 2x rounds of salbutamol – please be mindful of any *pre-hospital treatment* given, lower threshold to refer if *multiple rounds of treatment pre-hospital*
- Known severe disease or previous near-fatal asthma attack (unless very mild/moderate presentation only requiring 1 round of treatment – but consider close follow up for these)
- Pregnant and treated for acute severe asthma exacerbation
- Persisting/worsening symptoms after 48+ hours of oral steroid use in the community
- Re-attender to healthcare services for same exacerbation
- Ongoing significant symptoms
- Not meeting discharge criteria
- **Caution when discharging patients with adverse medical/psychosocial features – consider if discharge truly appropriate or if additional follow up can be arranged quickly via an appropriate pathway**

Criteria for referral to ICU

Any patient:

- Requiring ventilatory support
- With acute severe or life-threatening asthma, who is failing to respond to therapy
  - Deteriorating PEFR
  - Persisting or worsening hypoxia
  - Hypercapnia/normocapnia
  - ABG analysis showing low pH
  - Exhaustion, feeble respiration
  - Drowsiness, confusion, altered conscious state
  - Respiratory arrest
- Any other concerns warranting ITU review

South East London Asthma ED pathway

CRITERIA FOR DISCHARGE

- Does not meet criteria for admission (see criteria previous page)
- Required only 1 round of treatment and PEFR >75% after treatment
    - Consider discharge if remains stable 2 hours after treatment
- Required 2 rounds of treatment
    - Consider discharge 3-4 hours after last treatment if:
        - No signs of severe / life threatening asthma
        - PEFR >50% predicted / best
        - No requirement for ongoing treatment
        - No additional significant risk factors - see box on page above
- *Please consider any pre-hospital severity assessment or treatment when making discharge decisions* – patients who required repeated pre-hospital treatment or who were severe/life threatening on initial assessment may require prolonged observation or admission even if well on arrival to the Emergency Department. If unsure, please ask for advice from Integrated Respiratory Team/Acute Medicine/Respiratory Registrar or Consultant

NB. A virtual ward pathway is NOT recommended for any patient presenting with known or suspected acute asthma

Every patient with confirmed or suspected asthma should leave hospital with a steroid containing inhaler and a course of Prednisolone.
DO NOT PRESCRIBE A SALBUTAMOL (BLUE) INHALER ON ITS OWN ON DISCHARGE

DISCHARGE CHECKLIST

- ❑ **Personalised Asthma Action Plan & Information Leaflet*** – *must be completed for all patients*, use EPIC smartphrase .EDASTHMAPLAN in Patient Summary in Dispo tab to generate information leaflet and asthma action plan
- ❑ **Inhalers** – medication & dose review* and/or new prescription, see guidance next page
- ❑ **Prednisolone** 40mg once a day for 5 days – all patients
- ❑ **Antibiotics** if evidence of bacterial infection – as per local guidelines
- ❑ **Peak Flow Meter** - prescribe/dispense for all patients who do not have one at home
- ❑ **Smoking Cessation Support*** – prescribe Nicotine Replacement Therapy and refer to Outpatient Tobacco Dependence Support Services if current smoker
- ❑ **Refer to respiratory service*** – all patients, aim to be contacted <4/52, see local guidance below
- ❑ **Discharge Letter to GP** which highlights any CHANGE to inhaler management and plan for follow-up

*These steps are based on the BTS Asthma Attack Bundle, aiming to reduce risk of further asthma attacks, reduce number of re-admissions, and encourage appropriate follow-up.

MART asthma action plan via QR code. Alternatively use the EPIC smartphrase **.EDASTHMAPLAN** in Patient Summary in the Dispo tab. See ED Kingsweb page > Clinical Guidance > Chest > Asthma for details.

mart-asthma-action-plan

DISCHARGE MEDICATIONS

Prescribe Prednisolone 40mg once a day for 5 days

Then ask: **Is the patient currently on a single combined inhaler containing Inhaled Corticosteroid/Long-Acting Beta Agonist (ICS/LABA)?**

Continue inhaler: Optimise inhaler technique and adherence, consider seeking advice if symptomatic despite good inhaler technique and adherence. **NEVER step-down treatment** if a patient is prescribed high dose ICS/LABA such as: Relvar Ellipta 184/22; Fostair 200/6; Trimbow 187/5/9; Symbicort Turbohaler 400/12; Seretide 250 Evohaler; Seretide 500 Accuhaler

YES

NO

Prescribe and issue medications below
DO NOT prescribe Salbutamol (blue) inhaler

Inhale QUICK and DEEP

START: Symbicort Turbohaler 200/6 MART (Maintenance and Reliever Therapy) two puffs twice a day and one puff as needed

If patient is unable or unwilling to use a dry powder inhaler

Inhale SLOW and STEADY

START: Fostair 100/6 pMDI MART (Maintenance and Reliever Therapy) two puffs twice a day and one puff as needed

Every patient with confirmed or suspected asthma should leave hospital with a steroid containing inhaler and a course of Prednisolone.
DO NOT PRESCRIBE A SALBUTAMOL (BLUE) INHALER ON ITS OWN ON DISCHARGE

Potential scenarios and ways to optimise inhaled asthma treatment if patient presents to ED:

Any low/moderate dose ICS/LABA inhaler PLUS Salbutamol where patient is willing to switch

→ **Symbicort Turbohaler 200/6 MART** or Fostair 100/6 pMDI MART

Clenil pMDI 100 any dose OR Clenil pMDI 200 any dose OR Pulmicort Turbohaler any dose PLUS Salbutamol

→ **Symbicort Turbohaler 200/6 MART** or Fostair 100/6 pMDI MART

Fostair NEXThaler 100/6 PLUS Salbutamol

→ Patient may prefer to remain on NEXThaler device. STOP Salbutamol and switch to MART dosing

Remember to stop Salbutamol (blue) inhaler!

If you are unsure about changing ICS inhaler device or dose:

- In hours - seek advice from respiratory team.
- Out of hours - continue current inhaler regime, prescribe a course of prednisolone, and refer to respiratory for a review.

See CESEL Asthma in Adults Guidance for more guidance on asthma management

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South East London Asthma ED pathway

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DISCHARGE RESOURCES AND REFERRAL GUIDANCE

You must complete a personalised **asthma action plan** for your patient and go through it with them prior to discharge.
If they already have one in place this should be reviewed and updated.
For information on how to complete a MART Action Plan CLICK HERE
Add EPIC smartphrase **.EDASTHMAPLAN** in the Patient Instructions section of the Dispo tab. Add smartphrase **.EDASTHMAMARTGPINFO** to the GP info section.
For patients not going on MART use **.EDASTHMAPLANNONMART**

mart-asthma-action-plan

ADDITIONAL PATIENT RESOURCES

- Signpost patient to RightBreathe.com or to download the RightBreathe App - it provides detailed information on all UK-licensed inhaler products and links to videos on inhaler technique
- Asthma & Lung UK - www.asthma.org.uk/advice/
- Local community pharmacies can support & advise patients on inhaler technique

Inform patients to **return all their used inhalers to community pharmacies** for safe disposal or recycling

USEFUL CONTACTS

KCH:
Med SpR 35454 or bleep 101
IRT 36531
Resp SpR bleep 133 (complex patients or well known to Resp team)

PRUH: Resp CNS ext 64228 or 64229

ONWARD REFERRAL

All patients with suspected/confirmed asthma attending ED or Acute Medicine with exacerbation/uncontrolled symptoms

KCH: Call IRT for review in ED ext 36531. All patients place an EPIC Dispo order 'Outpatient referral to KCH Integrated Respiratory Team'
PRUH: M-F 8-5.30/ Sat & Sun 8-2.30 Call Resp CNS 64228/64229. Out of hours email details to kch-tr.respiratorycns-pruh@nhs.net