City and Hackney Asthma Urgent Care Pathway

Homerton University Hospital NHS Foundation Trust

NHS City and Hackney Clinical Commissioning Group

Initial assessment of history, examination, symptoms, signs and measurements

- **History**: Shortness of breath and wheeze, increased respiratory effort and decreased exercise tolerance, self-treatment so far during episode, concordance to prescribed treatment
- **Examination:** HR, RR, temp, BP, Pulse oximetry, use of accessory muscles of respiration, chest auscultation and percussion, PEFR, assess mental state. Assess severity based on: PEFT, symptoms and response to self treatment, HR and RR, O2 stats. NB: If a patient has signs and symptoms across categories, always treat to the most severe features.
- **Clinical features**: Severe breathlessness (including too breathless to complete sentences in one breath), tachypnoea, tachycardia, silent chest, cyanosis or collapse. None of these singly or together is specific and their absence does not exclude a severe attack
- **PEF or FEV1** are useful and valid measures of airway calibre. PEF expressed as a % of the patient's previous best value is most useful clinically. In the absence of this, PEF as a % of predicted is a rough guide
- **Pulse oximetry:** Oxygen saturation (SpO2) measured by pulse oximetry determines the adequacy of oxygen therapy and the need for arterial blood gas measurement (ABG). The aim of oxygen therapy is to maintain SpO2 94–98%. **Blood gases (ABG:)** Patients with SpO2 <92% or other features of life-threatening asthma require ABG measuremen

Acute Severe Asthma

Any one of:

- PEF 33–50% best or predicted
- respiratory rate ≥25/min
- heart rate ≥110/min
- inability to complete sentences in one breath

Refer immediately to A&E

Start immediate treatment whilst waiting for ambulance

Steroid therapy:

- Prednisolone 40-50 mg STAT
- Bronchodilators

Moderate Asthma

- Increasing symptoms, PEF >50-75% best or predicted
- No features of acute severe asthma
- Advise patients to increase maintenance dose of ICS and increase use of bronchodilator.
- If symptoms do not improve within 24 hours of increasing ICS dose, issue Prednisolone 40 mgs in the morning for 5 days.

Chest X-ray is **not** routinely recommended in patients in the absence of:

- suspected pneumomediastinum or pneumothorax
- suspected consolidation
- life-threatening asthma
- failure to respond to treatment satisfactorily
- Requirement for ventilation

Life Threatening Asthma

In a patient with severe asthma any one of:

- PEF <33% best or predicted
- SpO2 <92%
- PaO2 <8 kPa
- normal PaCO2 (4.6–6.0 kPa)
- silent chest
- cyanosis
- poor respiratory effort
- arrhythmia
- exhaustion
- altered conscious level
- hypotension

Refer immediately to A&E.

Start immediate treatment whilst waiting for ambulance

Steroid therapy:

- Prednisolone 40-50 mg STAT
- Bronchodilators

β2 Agonist Bronchodilators:

- Use high-dose inhaled β2 agonists as first-Line agents in patients with acute asthma and administer as early as possible.
- In patients with acute asthma with life-threatening features the nebulised route (oxygen-driven) is recommended.
- In patients with severe asthma that is poorly responsive to an initial bolus dose of β2 agonist, consider continuous nebulisation with appropriate nebulisers.

Ipratropium Bromide:

- Add nebulised ipratropium bromide (0.5 mg 4–6 hourly) to β2 agonist treatment for patients with acute severe or life threatening asthma or those with a poor initial response to β2 agonist therapy

Follow up

- It is essential that the patient's primary care practice is informed within 24 hours of discharge from the emergency department or hospital following an asthma attack.
- For patients requiring Prednisolone, consider referral to ACERS for follow up. ACERS will also follow up anyone admitted to the Homerton, in the hospital and on discharge within 24-48 hours, dependent on risk.
- Keep patients who have had a near-fatal asthma attacks under specialist supervision. A respiratory specialist should follow up patients admitted with a severe asthma attack for at least one year after the admission.

This pathway is based on BTS/SIGN British Guideline on the Management of Asthma

Authors: Ben Molyneux (Unplanned GP Clinical Lead), Hetal Dhruve (Specialist Respiratory Pharmacist), Chandra Sarkar (GP Clinical Lead) October 2019
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