PHARMACOLOGICAL MANAGEMENT OF ASTHMA IN ADULTS

Patients should start treatment at the step most appropriate to the initial severity of their asthma
Prior to stepping up: ASSESS INHALER TECHNIQUE, check concordance, trigger avoidance
For all steps: Inhaled short-acting $ß_2$ agonist (SABA) as short term reliever

STEP ONE
Mild intermittent asthma

- SABA 1 to 2 puffs as needed for relief of symptoms.

Consider stepping up to step two if:

- Patient has an exacerbation of asthma
- Develops nocturnal asthma symptoms more than once a week
- Daytime symptoms or $ß_2$ agonist more than three times a week

Using 2 or more canisters/ month or 10-12 puffs a day is a marker of poorly controlled asthma that puts individuals at risk of fatal or near-fatal asthma

STEP TWO
Introduction of regular preventer therapy

Add inhaled corticosteroid (ICS) equivalent to 200/800mcg beclometasone
Usual dose 400mcg beclometasone/day*

- Clenil modulite (beclometasone)
- Budesonide (equivalent dose to beclometasone)
- Fluticasone (twice as potent as beclometasone)

Other ICS available, check BNF.
Titrate dose of ICS to lowest dose which gives control of symptoms.
If patient not controlled, consider increasing ICS to 800mcg/day* or go to step 3
* beclomethasone or equivalent

STEP THREE

A: Initial add-on therapy
Add in a long acting $ß_2$ agonist (LABA) such as salmeterol or formoterol in addition to ICS. Assess control after one month. Good response to LABA- continue. If patient stable, consider combination inhalers-see below (when separate inhalers are finished)
B: Benefit from LABA but control still inadequate – increase dose of ICS to 800 mcg/day or equivalent
C: No response to LABA: Stop LABA and ensure ICS dose is equivalent to 800 mcg/day*
Sequential one month trial of leukotriene receptor antagonist (Montelukast 10mg at night), If no response – stop.
Consider one month trial of SR theophylline. If no response – stop.

If patient still uncontrolled go to STEP FOUR before increasing ICS.

STEP FOUR
Persistent poor control

Consider one month trial of leukotriene receptor antagonist - Montelukast 10mg at night. If no response, stop.
Consider increasing ICS dose to 2000 mcg/day*

- Symbicort 400/12 mcg turbohaler 2 inhalations BD
- Seretide 500 mcg accuhaler 1 inhalation BD

If unable to use dry powder device:

- Seretide 250 mcg evohaler and spacer 2 inhalations BD

Consider one month trial of SR theophylline or $ß_2$ agonist tablet or refer for respiratory specialist opinion.

Examples of LABA & steroid combination devices and dose ranges

Seretide evohaler 50 / 125 / 250 } fluticasone + 25 mcg salmeterol per puff
Maximum dose 2 puffs bd

Seretide accuhaler 100 / 250 / 500 } fluticasone + 50 mcg salmeterol per actuation
Maximum dose 1 actuation bd

Symbicort turbohaler 100 / 200 / 400 } budesonide + 6 / 12 } formoterol per inhalation
Standard dosing up to 24mcg formoterol/day

For selected patients who are poorly controlled at Step 2/3 (>400mcg BDP/day), Symbicort SMART is an option: Symbicort 200/6 2puffs OD - 2puffs BD + additional inhalations PRN up to a max of 12 inhalations in 24 hours

Stepping down

- If patient stable, consider stepping down dose of ICS by 25-50% every three months.
- Offer regular review whilst patient is being stepped down

ACUTE ASTHMA

Assess severity of exacerbation

- Salbutamol 100 mcg 2-10 puffs via MDI and large volume spacer device as needed
- Check PEF prior and 15 minute post bronchodilator and monitor response for at least 30 minutes
- 40-50 mg oral prednisolone daily for minimum of 5 days (not enteric coated)

Refer patient to hospital if one feature of acute, severe or life threatening asthma:

- PEF 33-50% best or predicted
- Respiratory rate $\geq$ 25/minute, Heart rate $\geq$ 110/ minute
- Saturated oxygen levels < 92%
- Inability to complete sentences in one breath

Prior to leaving surgery

- Check inhaler technique/concordance to current asthma medications
- Give short-term symptom-based management plan
- Arrange follow up within 48 hours with GP/PN if good response to treatment

North Yorkshire and York NHS

NHS North Yorkshire & York Guidelines for the Diagnosis and Management of Asthma in Adults

Diagnosis

- Accurate history: remember rhinitis and reflux
- Objective evidence of airflow obstruction varying over short periods of time
- Spirometry to be performed in preference to peak expiratory flow (PEF) measurement
- A normal spirogram (or PEF) obtained when the patient is not symptomatic does not exclude the diagnosis of asthma

Features that lower probability of asthma

- Chronic productive cough in the absence of wheeze or breathlessness
- Significant smoking history
- Normal PEF or spirometry when symptomatic
- Repeatedly normal physical examination of chest when symptomatic
- Cardiac disease
- Voice disturbance
- Symptoms with colds only
- Prominent dizziness, light-headedness, peripheral tingling

Features that increase probability of asthma

- More than one of the following symptoms: wheeze, breathlessness, chest tightness and cough, particularly if: symptoms worse at night and in the early morning; symptoms in response to exercise, allergen exposure and cold air; symptoms after taking aspirin or beta blockers
- Widespread wheeze on auscultation of the chest
- Personal or family history of atopic disorder
- Otherwise unexplained low FEV_1 or PEF readings

Aim of asthma management

- No daytime symptoms
- No night time awakening due to asthma
- No need for rescue medication
- No exacerbations
- No limitations on activity including exercise
- Normal lung function (FEV_1 and/or PEF >80% of predicted or best)
- Treatment plans and goals to be negotiated with patient

General management for all patients with asthma

Annual structured review to include:

- **REVIEW OF INHALER TECHNIQUE**
- Asthma control test (RCP 3 questions/ Juniper questionnaire)
- Lung function test
- Check concordance to asthma medication
- General medication review
- Monitor use of rescue medication and number of steroid courses
- Monitor number of unscheduled visits
- Discuss exercise induced symptoms and management
- Offer smoking cessation advice and support in quit attempts
- Influenza vaccination
- Trigger recognition and avoidance, including occupational aeroallergens
- Written self-management plan
- Patient education
- Agree appropriate follow up

When to refer for specialist opinion

- Diagnosis unclear
- Patients symptomatic after treatment at step 4 of asthma management guideline (see overleaf)
- Unexpected clinical findings (crackles, clubbing, cyanosis, cardiac disease)
- Unexplained restrictive spirometry
- Suspected occupational asthma
- Persistant non-variable breathlessness
- Monophonic wheeze or inspiratory wheeze (stridor)
- Prominent systemic features (myalgia, fever, weight loss)
- Chronic sputum production
- CXR shadowing
- Poor response to asthma treatment
- Severe asthma exacerbation

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