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Respiratory conditions

Asthma

Condition

A common disorder in which there is reversible bronchospasm of the bronchial airways, resulting in chest tightness and wheeze.

Treatment options

Inhaled short-acting β_2 agonist, inhaled corticosteroids, inhaled long-acting β_2 agonist (LABA), leukotriene receptor antagonist, theophylline and oral corticosteroids.¹

MUR tips

Inhaled short-acting β_2 agonists (e.g. salbutamol)

Excessive use of this inhaler can cause cramp, nervousness and tremor. Patients get instant relief from this inhaler and often feel that their corticosteroid inhaler does not give the same instant relief.² During the MUR it is useful to check how often the patient is using this inhaler, because overuse does not provide adequate disease control and may indicate that an escalation of therapy is needed (Figure 3.1).

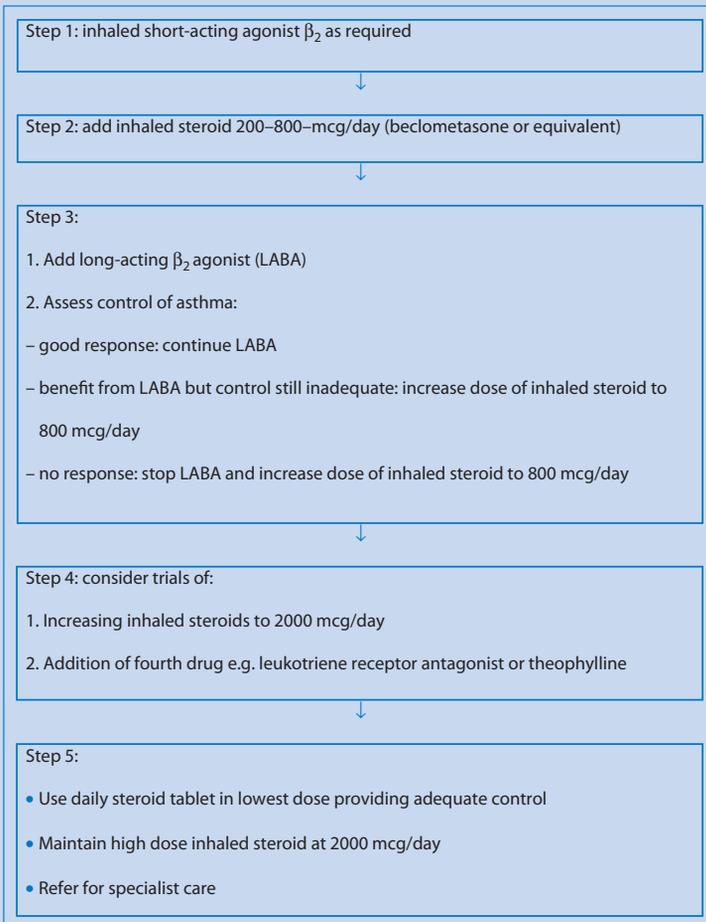


Figure 3.1 BTS/SIGN guidelines showing stepwise asthma management in adults.¹

Inhaled corticosteroids (e.g. beclometasone, fluticasone)

Advise patients to rinse the mouth, gargle with water or brush their teeth after using this inhaler. This reduces the incidence of hoarseness caused by candidiasis of the mouth and throat,

especially in patients on higher doses. Patients on high doses of corticosteroids may also benefit from a spacer device in order to minimise occurrence of adverse effects. This can be recommended on the MUR form. Patients should be reminded to clean their inhaler device on a weekly basis by wiping the mouthpiece and cover with a dry cloth or tissue.³

Inhaled long-acting β_2 agonists (e.g. salmeterol)

The onset of action is slower than short-acting β_2 agonists.⁴ Excessive use of this inhaler can cause cramp, nervousness and tremor. Patients using the pressurised metered dose inhaler should be reminded to clean their inhaler device on a weekly basis by wiping the mouthpiece and cover with a dry cloth or tissue.³

Leukotriene receptor antagonists (e.g. montelukast)

These are generally well tolerated, although they may cause headache and abdominal pain.⁴ Patients should be reminded that leukotriene receptor antagonists are not suitable for relieving symptoms of acute asthma exacerbations.⁵

Theophylline

This has a narrow therapeutic window. Serum theophylline levels should be checked every 6–12 months unless the patient experiences symptoms suggestive of toxicity, e.g. nausea, vomiting, tremor or palpitations.⁵ Patients should be maintained on the same brand of theophylline due to differences in bioavailability among brands.⁴ If prescribed generically ask the GP to consider prescribing by proprietary name to resolve this potential problem, documenting this recommendation on the MUR form. Smokers who take theophylline and decide

to stop smoking should be aware that theophylline blood levels may increase. A reduction in theophylline dose may be required.⁵ The patient should be referred back to the GP and the appropriate documentation made on the MUR form.

Oral corticosteroid (e.g. prednisolone)

Short courses are given in acute asthma exacerbations. Adverse effects are uncommon with infrequent, short courses of oral corticosteroids.⁵ Doses should be given as a single dose in the morning, after food, to mimic circadian cortisol production.⁴ Soluble prednisolone tablets are available for patients who are unable to take large numbers of tablets or patients who experience difficulties in swallowing.

Additional considerations

- Check that patients understand their treatment management strategy. Patients may require further guidance on when to step up or step down their therapy (Figure 3.1).¹
- Check how regularly patients are ordering their prescription for inhalers, because frequent repeat prescriptions especially for short-acting β_2 -agonist inhaler types may indicate poor asthma control.
- Check the patient's inhaler technique. Patients displaying poor inhaler technique with a pressurised metered dose inhaler may benefit from a Haleraid device, the use of which can be demonstrated during the MUR (Figure 3.2). If patients are unable to use a pressurised metered dose inhaler, consider recommending a switch to a breath-actuated or dry powder inhaler device, to aid effective drug administration. If a suggestion for change is required, ensure that the appropriate documentation is made on the MUR form.
- Order placebo inhaler devices from manufacturers to allow patients to demonstrate their inhaler technique during an MUR.
- If patients are using a combination of inhaled short-acting β_2 agonist and/or inhaled LABA with inhaled corticosteroids then

advise patients to use the β_2 -agonist inhaler first and if convenient the inhaled corticosteroid about 15–20 min later.²

- Check that patients understand how to use their peak flow meter and that they record their results. Ensure that a peak flow meter is available in the MUR to use as a demonstration aid for patients who require clarification on its use. Encourage patients to maintain a peak flow diary (Figure 3.3). Peak flow diaries are available from organisations such as Asthma UK (visit website – www.asthma.org.uk).
- Advise patients to stop smoking. Signpost to a smoking cessation service.
- Asking patients the following questions will help to determine how well their asthma is controlled:
 - Have you had difficulty sleeping because of your asthma symptoms (including cough)?
 - Have you had your usual symptoms during the day (cough, wheeze, chest tightness or breathlessness)?
 - Has your asthma interfered with your usual activities, e.g. housework, school, work?
 - If patients answer ‘yes’ to any of these questions then a referral to their asthma nurse may be required, with the appropriate documentation on the MUR form.



Figure 3.2 Haleraid device.



Figure 3.3 Peak flow meter and diary.

References

1. British Thoracic Society and Scottish Intercollegiate Guidelines Network (BTS/SIGN). *British Guidelines on the Management of Asthma*. London: British Thoracic Society, 2008. Available at: www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/Asthma/Guidelines/asthma_final2008.pdf (accessed 19 October 2009).
2. Melnick P. Patients with asthma: problems revealed by medicines use reviews. *Pharm J* 2008; 280:281.
3. Electronic Medicines Compendium. Clenil and Serevent. Available at: <http://emc.medicines.org.uk> (accessed 19 October 2009).
4. Joint Formulary Committee. *British National Formulary 57*. London: BMA and RPSGB, 2009.
5. NHS Clinical Knowledge Summaries. Clinical Topic: Asthma. Available at: <http://cks.library.nhs.uk/asthma> (accessed 19 October 2009).