ASTHMA

Top tips for MURs

- Check asthma control using the asthma control test (ACT) **(see overleaf)**
- Check patient understands the differences between preventer and reliever therapy
- Assess the number of issues for reliever and preventer in last 12 months to highlight reliever overuse / preventer underuse (The National Review of Asthma Deaths Report recommends asthma patients using 12 or more relievers per year should be called for urgent review)
- Check the patient is having a review of treatment and condition at least every 12 months. Patients on high dose inhaled corticosteroid (ICS) should attempt to step-down every 3 months if asthma under control
- Check patient's inhaler technique – refer to specialist nurse / GP if alternative inhalers required
- Long acting beta 2 agonist (LABA) should only be prescribed in combination with ICS (consider referring patients prescribed ICS and LABA in separate inhalers back to prescriber for a single combination inhaler to prevent use of LABA alone).
- Check that patients prescribed ICS have been advised to rinse mouth with water after use
- Patients prescribed high dose ICS should be issued with a steroid warning card **(see table below)**
- Ensure that patients who have allergic rhinitis are being treated for this and advise on correct technique for nasal spray
- Ensure that theophylline preparations and inhalers are prescribed by brand
- Check patients prescribed a spacer with a pMDI device have a replacement at least every 12 months and are advised on correct spacer maintenance i.e washing and drying
- Check whether the patient has a self-management plan / asthma action plan (download from www.asthma.org.uk)
- Counsel patients on asthma triggers and how they can be managed
- Check that patient has had an annual influenza vaccination (if they require continuous or repeated use of inhaled or systemic steroids or have had previous exacerbations requiring hospital admission)
- Check that patient has had a pneumococcal vaccination (if they have used oral steroids for more than one month, at an equivalent dosage of 20mg prednisolone or more per day)
- Advise patients to avoid royal jelly products which can trigger an asthma attack
- Signpost patients to useful resources, for example Asthma UK and the British Lung Foundation
- Discuss potential serious drug interactions by referring to the BNF Appendix 1
- Counsel patients on common side effects **(see overleaf)** and signs and symptoms of complications that need referral **(see red flags below)**.
- Report any relevant adverse drug reactions to the yellow card scheme

Pathophysiology of asthma

Asthma is a hyperactivity inflammatory response caused by airway wall inflammation and constriction of the smooth muscle, due to release of inflammatory mediators. Blood vessels in the airways become engorged resulting in plasma leakage through the respiratory capillaries, causing increased fluid in the airways and damage to the epithelial lining. Mucus secreting goblet cells increase in size, adding to the increased thickness of mucus and generation of mucus plugs, which together with the airway inflammation and smooth muscle constriction result in airflow obstruction[2].

Red flags that need referral

- Any symptoms of uncontrolled asthma or score <20 on asthma control test (see below)
- Any symptoms suggestive of liver dysfunction (anorexia, nausea, vomiting, right upper quadrant pain, fatigue, lethargy, itching, jaundice or flu-like symptoms)
- Any signs of theophylline toxicity (vomiting, agitation, restlessness, pupil dilatation, sinus tachycardia and hyperglycaemia)
- Any symptoms of adrenal crisis (anorexia, abdominal pain, weight loss, tiredness, headache, nausea, vomiting, decreased level of consciousness, hypoglycaemia and seizures)
- Any symptoms of hypokalaemia (muscular weakness, myalgia, and muscle cramps)
- Paradoxical bronchospasm
- Frequent courses of antibiotics and/or oral corticosteroids

When to issue a steroid treatment card[1]?

A steroid treatment card should be given for inhaled steroid doses greater than:

Steroid	***Adult (>12 years) total daily dose:***
Beclometasone dipropionate (including clenil modulite®)	>800mcg daily
Fostair® and Qvar®	>400mcg daily
Budesonide	>800mcg daily
Symbicort®	>800mcg daily (or all doses for the 200/6 and 400/6 turbohalers
Ciclesonide (Alvesco®)	>80mcg daily
Fluticasone propionate (Flixotide® and Seretide®)	>400mcg daily
Mometasone furoate (Asmanex®)	>400mcg daily

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Quick practice guide for targeted MURs

Lifestyle issues

- Counsel patient on reducing alcohol intake to within safe limits (up to 14 units a week, spread evenly over 3 or more days)
- Counsel patient on healthy eating, exercise & weight loss (if BMI > 25kg/m^2) and advise adequate dietary calcium to counteract osteoporosis
- Advise patients who smoke the benefits of stopping smoking and how to access pharmacy smoking cessation services or Help Me Quit resources (theophylline patients should be made aware of the effects of stopping smoking)

Asthma control test (ACT test)[2]:

Q1 During the past 4 weeks, how often did your asthma prevent you from getting as much done at work, school or home?

All of the time	1	Most of the time	2	Some of the time	3	A little of the time	4	None of the time	5

Q2 During the past 4 weeks, how often had you had shortness of breath?

More than once a day	1	Once a day	2	3-6 times a week	3	1-2 times a week	4	Not at all	5

Q3 During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, chest tightness, shortness of breath) wake you up at night or earlier than usual in the morning?

4 or more times a week	1	2-3 nights a week	2	Once a week	3	Once or twice	4	Not at all	5

Q4 During the past 4 weeks, how often have you used your reliever inhaler (usually blue)?

3 or more times a day	1	1-2 times a day	2	2-3 times a week	3	Once a week or less	4	Not at all	5

Q5 How would you rate your asthma control during the past 4 weeks?

Not controlled	1	Poorly controlled	2	Somewhat controlled	3	Well controlled	4	Completely controlled	5

Total score

What does your score mean?

Score: 25 – WELL DONE

- Your asthma appears to have been UNDER CONTROL over the last 4 weeks
- However, if you are experiencing any problems with your asthma, you should see your doctor or nurse

Score: 20-24 – ON TARGET

- Your asthma appears to have been REASONABLY WELL CONTROLLED during the past 4 weeks
- However, if you are experiencing symptoms your doctor or nurse may be able to help you

Score: less than 20 – OFF TARGET

- Your asthma may NOT HAVE BEEN CONTROLLED during the last 4 weeks
- Your doctor or nurse can recommend an asthma action plan to help improve your asthma control

What are the common side effects to look out for?

Drug	Common side effects	Recommendation
Adrenoreceptor agonists	Tremor (particularly of the hand).	Inhaler technique assessment and counselling and then refer to prescriber for dose reduction, if prescribed dose is too high.
	Tension, headache, muscle cramps, palpitations, angioedema.	Refer to prescriber.
	Hypokalaemia in high doses (e.g muscular weakness, fatigue, muscle cramps).	Refer to prescriber for blood tests.
Antimuscarinic bronchodilators	Dryness of mouth, cough, nausea, constipation and headache, dizziness.	Advise patient to drink plenty of fluids and refer to GP if troublesome.
Theophylline	Nausea, vomiting, tremor, palpitations and arrhythmias.	Refer to prescriber for blood tests.
Corticosteroids	Oral candidiasis & sore mouth.	Inhaler technique assessment /counselling. Advise patient to rinse mouth with water immediately after use and refer to prescriber for addition of spacer device if needed.
	Dysphonia & hoarseness.	Refer to prescriber.
	Adrenal suppression, water retention, hypertension, diabetes, cataracts, muscle weakness, osteoporosis (long term use).	Ensure patient is taking oral steroids in morning as single dose and has a steroid warning card. Refer to prescriber.
Cromoglicate and related therapy	Coughing upon inhalation, headache and sore throat.	Inhaler technique assessment and counselling and then refer to prescriber if troublesome.
	Bronchospasm.	Refer to prescriber for symptom control.
Leukotriene receptor antagonists	Abdominal pain, thirst, headache, insomnia.	Refer to prescriber if troublesome.
	Eosinophilia (wheezing and breathlessness), vasculitic rash, worsening pulmonary symptoms or peripheral neuropathy.	Advise to stop taking medication and refer to prescriber urgently.

Where can you find more information?

- The British National Formulary **www.BNF.org**
- Chronic respiratory disorders distance learning pack that can be found on WCPPE website (**www.wcppe.org.uk**)
- British Thoracic Society (BTS) and Scottish Intercollegiate Guidelines Network (SIGN) guidance – British guideline on the management of asthma can be found on BTS website (**www.brit-thoracic.org.uk**)
- Clinical Knowledge Summary (Prodigy) Asthma & COPD can be found on CKS website (**www.cks.nhs.uk/home**)
- National Review of Asthma Deaths **http://www.rcplondon.ac.uk/sites/default/files/why-asthma-still-kills-full-report.pdf**

References

1. ABHB prescribing guideline NHS Cymru – When to Issue a Steroid Treatment Card. May 2012
2. Asthma UK and GSK - Asthma Control Test TM 2002

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