

Appendices

Appendix 1: Diagnostic Algorithm

SIGN and British Thoracic Society Guideline

In patients with suspected asthma

1. Record the patient as having 'suspected' asthma.
2. Proceed to a carefully monitored initiation of treatment. The initial choice of treatment will be based on an assessment of the degree of asthma severity. Typically, this will be six weeks of inhaled steroids through a device the patient can use but in more acute clinical circumstances a course of oral steroids may be appropriate (see section 9.3.3).
3. Assess the baseline status using a validated questionnaire (e.g. Asthma Control Questionnaire or Asthma Control Test) and/or lung function tests (spirometry or peak expiratory flow)
4. Arrange a follow-up appointment in 6–8 weeks to assess response to treatment.
5. At the follow-up appointment, symptomatic response may be assessed with a validated questionnaire. Lung function may be monitored with FEV1 at clinic visits or domiciliary serial peak flows.

If the objective response is good (i.e. a clinically important improvement in symptoms and/or substantial increase in lung function)

6. Confirm the diagnosis of asthma and record the basis on which the diagnosis was made.
7. Adjust the treatment according to the response -to the lowest dose that maintains the patient free of symptoms. Careful observation during a trial of withdrawing treatment will also identify patients whose improvement was due to spontaneous remission (this is particularly important in children).
8. Provide self-management education and a personalised asthma action plan before arranging repeat prescribing so that the patient is aware of the action to take if their control deteriorates.

If the objective response is poor or equivocal

9. Discuss adherence and recheck inhaler technique as possible causes of treatment failure.
10. Arrange further tests or consider alternative diagnoses. It will usually be appropriate to withdraw the treatment.

Appendix 2: Clinical clues to alternative diagnoses in adults

Clinical clue	Possible diagnosis
Without airflow obstruction	
Predominant cough without lung function abnormalities	Chronic cough syndromes, pertussis
Prominent dizziness, light-headedness, peripheral tingling	Dysfunctional breathing
Recurrent severe 'asthma attacks' without objective confirmatory evidence	Vocal cord dysfunction
Predominant nasal symptoms without lung function abnormalities	Rhinitis
Postural and food-related symptoms, predominant cough	Gastro-oesophageal reflux
Orthopnoea, paroxysmal nocturnal dyspnoea, peripheral oedema, pre-existing cardiac disease	Cardiac failure
Crackles on auscultation	Pulmonary fibrosis
With airflow obstruction	
Significant smoking history (i.e., >30 pack-years), age of onset >35 years	COPD
Chronic productive cough in the absence of wheeze or breathlessness	Bronchiectasis*; inhaled foreign body*; obliterative bronchiolitis; large airway stenosis
New onset in smoker, systemic symptoms, weight loss, haemoptysis	Lung cancer*; sarcoidosis*

* may also be associated with non-obstructive spirometry

Appendix 3: Low dose, medium dose and high dose inhaled steroids

Table 9: Categorisation of inhaled corticosteroids by dose - adults* (see also Figure 2)

ICS	Dose		
	Low dose	Medium dose	High dose [†]
Pressurised metered dose Inhalers (pMDI)			
Beclometasone dipropionate			
Non-proprietary	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	200 micrograms four puffs twice a day
Clenil Modulite	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	250 micrograms two puffs twice a day 250 micrograms four puffs twice a day
Qvar (extrafine) Qvar autohaler Qvar Easi-breathe	50 micrograms two puffs twice a day	100 micrograms two puffs twice a day	100 micrograms four puffs twice a day
Ciclesonide			
Alvesco Aerosol inhaler	80 micrograms two puffs once a day	160 micrograms two puffs once a day	
Fluticasone propionate			
Flixotide Evohaler	50 micrograms two puffs twice a day	125 micrograms two puffs twice a day	250 micrograms two puffs twice a day
Dry powder Inhalers			
Beclometasone			
Non-proprietary Easyhaler	200 micrograms one puff twice a day	200 micrograms two puffs twice a day	
Asmabec	100 micrograms one puff twice a day	100 micrograms two puffs twice a day	
Budesonide			
Non-proprietary Easyhaler	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	400 micrograms two puffs twice a day
Budelin Novolizer		200 micrograms two puffs twice a day	200 micrograms four puffs twice a day
Pulmicort Turbohaler	100 micrograms two puffs twice a day	200 micrograms two puffs twice a day	400 micrograms two puffs twice a day
	200 micrograms one puff twice a day	400 micrograms one puff twice a day	
Fluticasone propionate			
Flixotide Accuhaler	100 micrograms one puff twice a day	250 micrograms one puff twice a day	500 micrograms one puff twice a day
Mometasone			
Asmanex Twisthaler	200 micrograms one puff twice a day	400 micrograms one puff twice a day	

* Different products and doses are licensed for different age groups and some may be applicable to older children. Prior to prescribing, the relevant summary of product characteristics (SPC) should be checked (www.medicines.org.uk/emc).

[†] High doses (shaded boxes) should only be used after referring the patient to secondary care.

Appendix 4: Asthma Control Test

	1 point	2 points	3 points	4 points	5 points
During the last 4 weeks, how much of the time has your asthma kept you from getting as much done at work, school or home?	All of the time	Most of the time	Some of the time	A little of the time	None of the time
During the last 4 weeks, how often have you had shortness of breath?	More than once a day	Once a day	3 – 6 times a week	Once or twice a week	Not at all
During the last 4 weeks how often have your asthma symptoms (wheeze, cough, shortness of breath, chest tightness or pain) woken you up at night, or earlier than usual in the morning?	4 or more nights a week	2 – 3 nights a week	Once a week	Once or twice	Not at all
During the last 4 weeks, how often have you used your rescue inhaler, or nebuliser medication (such as salbutamol)?	3 or more times per day	Once or twice per day	2 or 3 times per week	Once a week or less	Not at all
How would you rate your asthma control during the last 4 weeks?	Not controlled at all	Poorly controlled	Somewhat controlled	Well controlled	Completely controlled

Advice for patients:

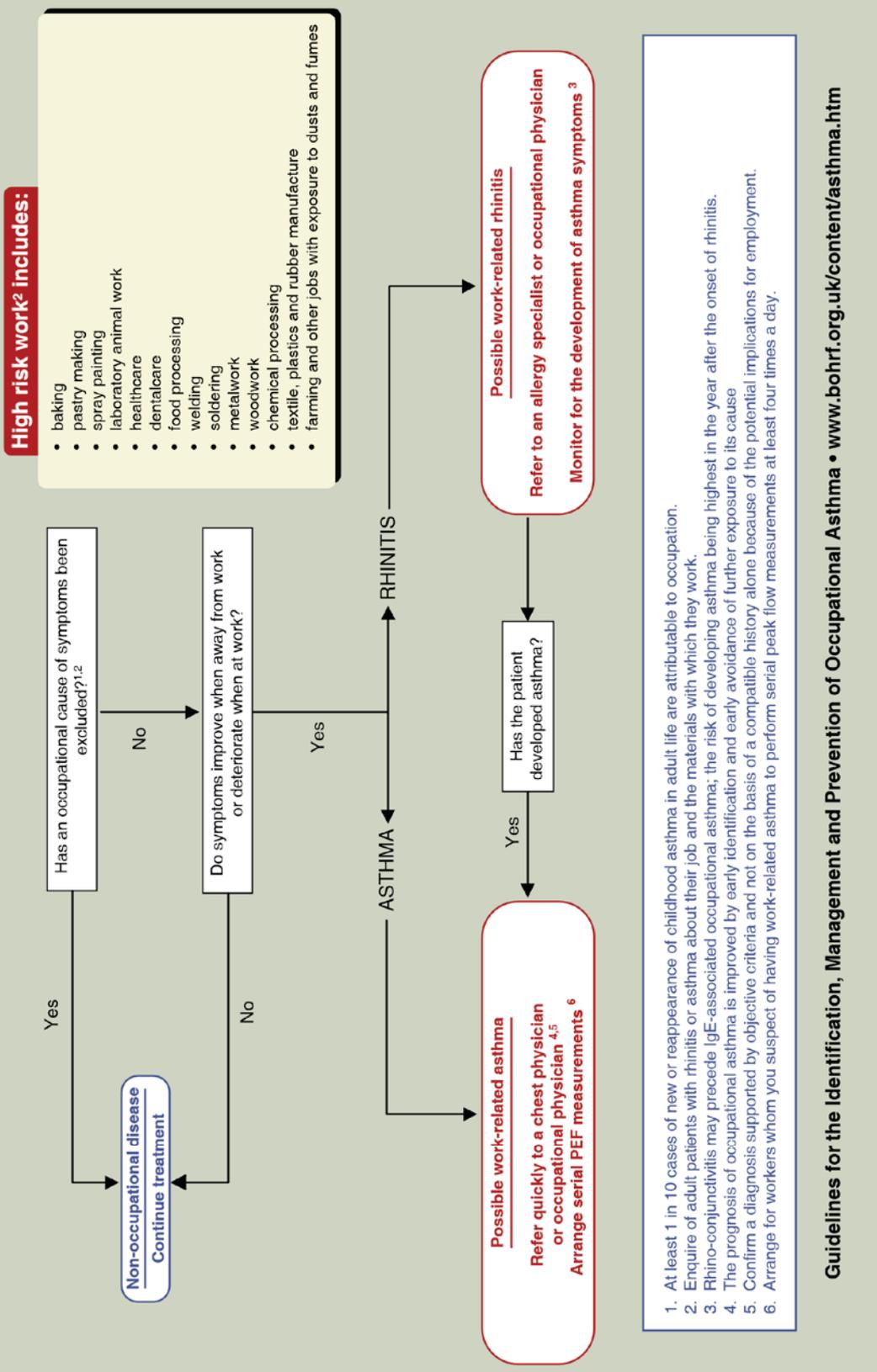
Scores between **20 – 25**: Your asthma symptoms appear to be well-controlled. Even so, asthma control can change over time so it's important to retest yourself regularly. Continue to talk to your healthcare provider about your asthma control.

Scores between **16 – 19**: Your asthma symptoms may not be as well controlled as they could be. There may be more that you or your health care provider could do to help control your asthma symptoms.

Scores of **15 or less**: Your asthma may be very poorly controlled. Please contact your healthcare provider right away.

Appendix 5 – Occupational Asthma

WORK-RELATED ASTHMA AND RHINITIS: CASE FINDING AND MANAGEMENT IN PRIMARY CARE



● Applies only to adults ● Applies to children ≥1 ● Applies to children 5-12 ● Applies to children under 5 ● General ● Applies to adolescents

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Appendix 6 - SIGN/BTS Guidelines on Asthma

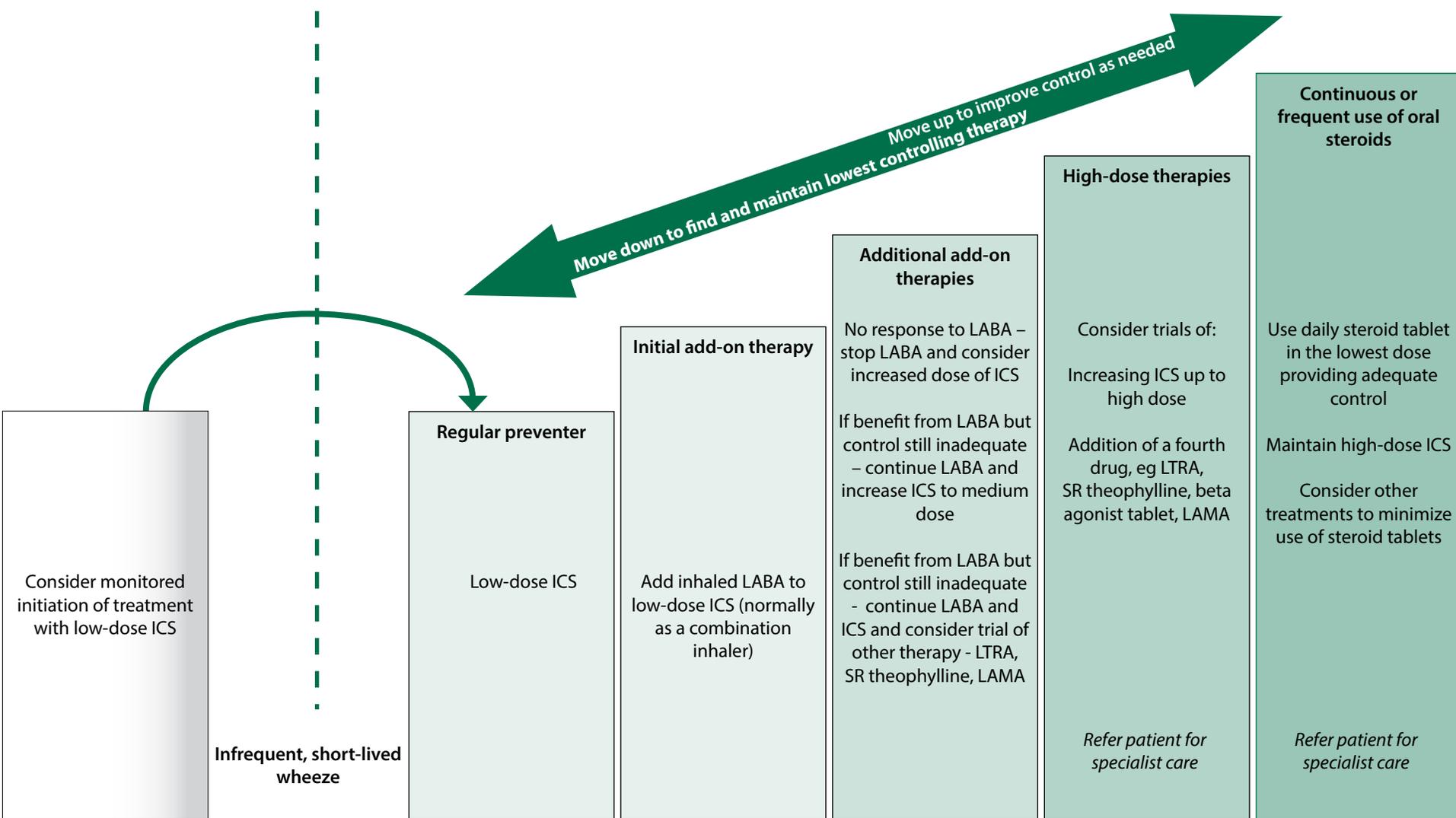
Indications for referral to secondary care

(Note this contains information about referral of children which this module does not focus on)

ADULTS	CHILDREN
Referral for tests not available in primary care	
Diagnosis unclear	Diagnosis unclear
Suspected occupational asthma (symptoms that improve when patient is not at work, adult-onset asthma and workers in high-risk occupations)	
Poor response to asthma treatment	Poor response to monitored initiation of asthma treatment
Severe/life-threatening asthma attack	Severe/life-threatening asthma attack
'Red flags' and indicators of other diagnoses	
Prominent systemic features (myalgia, fever, weight loss)	Failure to thrive
Unexpected clinical findings (eg crackles, clubbing, cyanosis, cardiac disease, monophonic wheeze or stridor)	Unexplained clinical findings (eg, focal signs, abnormal voice or cry, dysphagia, inspiratory stridor)
Persistent non-variable breathlessness	Symptoms present from birth or perinatal lung problem
Chronic sputum production	Excessive vomiting or possetting
Unexplained restrictive spirometry	Severe upper respiratory tract infection
Chest X-ray shadowing	Persistent wet or productive cough
Marked blood eosinophilia	Family history of unusual chest disease
	Nasal polyps
Patient or parental anxiety or need for reassurance	

Diagnosis and assessment

Evaluation: •assess symptoms, measure lung function, check inhaler technique and adherence
•adjust dose •update self-management plan •move up and down as appropriate



Short acting β_2 agonists as required – consider moving up if using three doses a week or more