

Test your knowledge

Asthma is a common reason for adults and children to present to their GP. The condition has the potential to require admission to hospital and is still a cause of death. Appropriate assessment and treatment are essential. Are your skills up to date?

The multiple choice questions in this quiz may have more than one answer.

- The prevalence of asthma appears to be increasing in Australian children. Which of the following are true of childhood asthma?
 - peak flow measurements are reproducible and accurate in children under 5 years of age
 - asthma is responsible for more missed days of school than any other chronic condition
 - almost all asthma deaths that occur in childhood affect patients with a long history of severe asthma
 - wheeze is the most sensitive indicator of response to therapy
 - asthma management plans for children should be based more on symptoms than on peak flow measurements
- Which of the following medications are well known to precipitate asthma in some patients?
 - paracetamol
 - proton pump inhibitors
 - aspirin
 - nonsteroidal anti-inflammatory drugs
 - beta blockers
- Which of the following allergens are common precipitants of asthma?
 - pollens
 - dust mites
 - animal dander
 - feathers
 - organic dusts
- Which of the following are true of inhaled corticosteroids, the cornerstone of asthma therapy?
 - adults do not develop systemic side effects due to inhaled corticosteroids
 - the risk of systemic side effects from inhaled corticosteroids is dose related
 - addition of a long-acting β_2 -agonist to treatment may permit reduction in the dosage of the inhaled corticosteroid
 - symptoms and peak flow values should improve almost immediately after starting inhaled corticosteroid therapy
 - sustained improvement in lung function generally takes four to six weeks to occur after starting inhaled corticosteroid therapy
- Which of the following measures help to reduce the dust mite load in a house?
 - frequently vacuuming carpeted floors
 - removing carpets from bedrooms
 - removing soft toys from children's bedrooms
 - washing wooden floors every few days
 - steam-cleaning carpets and curtains
- Which of the following statements are true of oral and parenteral corticosteroids to treat severe attacks of asthma?
 - high dose oral corticosteroids do not exert an effect for 24 hours
 - corticosteroids given intravenously exert an immediate effect
 - an appropriate dose of oral prednisone for a child with severe asthma is 1 mg/kg, up to 50 mg/day
 - in severe asthma, parenteral corticosteroids take about 24 hours to exert a clinical effect
 - an appropriate dose of oral prednisone for an adult is 30 to 60 mg/day, to be reduced quickly
- Which of the following statements are true of oral and parenteral β_2 -agonists for asthma?
 - their maximal effect is within 10 minutes and lasts for four to six hours
 - long term use is associated with osteoporosis
 - long term use is associated with oral thrush
 - tachycardia and tremor can occur
 - tachyphylaxis is well described
- Measurement of peak flow values is an important method of assessing the severity of asthma and adequacy of treatment. Which of the following are true of peak flow values?
 - predicted values vary with height, age and sex
 - variability in peak flow values is defined as the difference between the highest and lowest values divided by the highest value
 - measured values that are consistently under 80% of predicted values indicate mild asthma
 - variability over 30% suggests asthma
 - spirometry is the method of choice for measuring peak expiratory flow.



Further reading

- Woolcock AJ, Jenkins CR. Management of asthma: a decreasing role for bronchodilators. *Mod Med Aust* 1991; 34(2): 18-32.
- National Asthma Council Australia. Asthma management handbook 2002. Melbourne: NACA, 2002.

Answers appear on the inside back cover

Clinical quiz answers

(to questions on page 107)

1. b, e

Asthma is responsible for more missed days of school than any other chronic condition of childhood in Australia. Symptoms are more important than peak flow measurements when developing an asthma plan. Peak flow measurements are not reliable in children under 5 or 6 years of age, and wheeze is not a reliable indicator of improvement.

2. c, d, e

Asthma is well known to be precipitated by aspirin, nonsteroidal anti-inflammatory drugs and beta blockers.

3. a, b, c, d, e

Each of these allergens – pollens, dust mites, animal dander, feathers and organic dusts – can precipitate an attack of asthma.

4. b, c, e

It is important to remember that inhaled

corticosteroid therapy for asthma does not provide immediate improvement – sustained improvement in lung function generally takes four to six weeks to occur. Addition of a long-acting β_2 -agonist may permit a reduction in the corticosteroid requirement, and should be considered for a patient taking a corticosteroid in high dosage.

5. a, c, d, e

Oral and parenteral corticosteroids do not exert a clinical effect in severe asthma for around 24 hours, so other therapy may be required during a severe attack. A useful rule of thumb for prednisone dosage in children is 1 mg/kg, up to 50 mg/day; for adults, between 30 and 60 mg/day, to be reduced quickly, is appropriate.

6. b, c, d

The best plan to reduce the dust mite load in a house is to remove curtains, carpets, soft toys and cushions – particularly from

bedrooms. Vacuuming carpets may simply circulate dust mites into the air. Wooden floors should be washed every few days.

7. a, d

The inhaled short-acting β_2 -agonists are effective within 10 minutes and continue to be active for four to six hours. High doses can cause tremor and palpitations. There is no evidence of tachyphylaxis (decreasing effectiveness with long term use). Osteoporosis and oral thrush are side effects of inhaled corticosteroid therapy.

8. a, b, d, e

Peak flows vary with age, sex and height. The variability is the difference between the highest and lowest peak flow divided by the highest peak flow. A variability of more than 30% suggests asthma. Spirometry is the method of choice for measuring peak expiratory flow, and should be available in all general practices.