

10-minute consultation

Acute cough in children

Alastair D Hay, Knut Schroeder, Tom Fahey

This is part of a series of occasional articles on common problems in primary care

Division of Primary Health Care, University of Bristol, Bristol BS6 6JL

Alastair D Hay
clinical lecturer in primary health care

Knut Schroeder
clinical lecturer in primary health care

Tayside Centre for General Practice, University of Dundee, Dundee DD2 4AD

Tom Fahey
professor of primary care medicine

Correspondence to: A D Hay
alastair.hay@bristol.ac.uk

The series is edited by general practitioners Ann McPherson and Deborah Waller (ann.mcpherson@dphpc.ox.ac.uk)

The *BMJ* welcomes contributions from general practitioners to the series

BMJ 2004;328:1062

A previously well boy of 24 months is brought in by his mother in February. For 10 days he has had worsening cough, fever, and coryza. Both parents have asthma, and his mother is worried that he too might have asthma.

What issues you should cover

- Are the boy's symptoms due to serious or mild illness? Associated symptoms such as shortness of breath, wheeze, reduced fluid intake, dehydration, fever, and reduced activity and social interaction indicate a more severe illness.
- What is the cause? Making an exact diagnosis of cough can be difficult, but useful pointers include the part of the respiratory tract that is most affected, the season, and pattern recognition. At least 90% of children with cough have a respiratory tract infection such as a cold, croup, bronchitis, bronchiolitis, whooping cough, or pneumonia. The peak incidence of cough in January and February is eight times higher than the trough in August. Epidemics of croup tend to occur in autumn, bronchiolitis in winter and spring, and *Mycoplasma pneumoniae* infections in autumn and winter. Croup is characterised, in preschool children, by a bark-like cough, hoarseness, and inspiratory stridor. Whooping cough is characterised by persisting paroxysms of cough with vomiting and, in young children, episodes of apnoea. Asthma affects around 3% of children and should be considered in children over the age of 12 months who have recurrent episodes of wheeze or shortness of breath. In preschool children a response to treatment trial and in schoolchildren evidence of peak flow variability may be useful.
- How did the cough start? Cough often follows other symptoms, such as coryza and fever. An episode of choking suggests an inhaled foreign body.
- Is the cough chronic? Cough is more likely to be chronic after bronchiolitis, in premature babies, or in babies with neonatal respiratory problems. Symptoms from birth or symptoms that are associated with failure to thrive suggest cystic fibrosis.
- Ask whether the child is fully immunised (including for pertussis).
- Ask the mother about her concerns and expectations. Cough causes considerable anxiety for parents and night-time disruption. Many parents worry about death from choking on phlegm or vomit. Ask her whether she expects you to prescribe an antibiotic, as this can influence prescribing.

Normal respiratory and cardiac rates in children

Age	Normal respiratory rate (breaths per minute)	Normal cardiac rate (beats per minute)
< 12 months	30 to 40	110 to 160
1-4 years	20 to 30	95 to 140
5-12 years	15 to 20	80 to 120
> 12 years	12 to 16	60 to 100

Useful reading

Hay AD, Wilson AD. The natural history of acute cough in children aged 0 to 4 years in primary care: a systematic review. *Br J Gen Pract* 2002;52:401-9

Fahey T, Stocks N, Thomas T. Systematic review of the treatment of upper respiratory tract infection. *Arch Dis Child* 1998;79:225-30

Schroeder K, Fahey T. Should we advise parents to administer over the counter cough medicines for acute cough? Systematic review of randomised controlled trials. *Arch Dis Child* 2002;86:170-5

What you should do

- Examination will identify most seriously ill children. Look for pallor, sweating, fever, dehydration, cyanosis, tachycardia and tachypnoea (see table), and respiratory distress (tracheal tug, intercostal or subcostal recession). The absence of tachypnoea is the most useful sign for ruling out pneumonia and hypoxaemia. Wheeze on auscultation may be a response to infection (such as bronchiolitis) or a sign of asthma. In older children with shortness of breath or wheeze, compare peak flow against expected peak flow for height.
- Refer children with respiratory distress or cyanosis immediately for secondary care assessment.
- Your explanation to the mother should include a description of cough as a protective reflex, how long to expect symptoms to last, and which complications occur most commonly. Clinicians tend to underestimate the duration of cough, which often lasts three to four weeks. Complications are common (around 12% of cases) and include otitis media, diarrhoea, bronchitis, and pneumonia. Hospital admission is rarely required (1% to 2% of cases). Give the mother an information leaflet to back up your advice. Encourage rest, antipyretics, and regular fluids. Reassure her that she and her partner are doing everything possible.
- Cough associated with upper respiratory tract infection does not need to be treated. While there is insufficient evidence for definitive conclusions, antibiotics probably do not improve symptoms or prevent complications, and over the counter cough treatments are probably ineffective. Advise the mother to bring the boy back if his cough deteriorates. Children with community acquired pneumonia and asthma should be managed according to the British Thoracic Society guidelines. For community acquired pneumonia the guidelines recommend amoxycillin as first line treatment for children under five years old and a macrolide (to cover *Mycoplasma pneumoniae* infection) for children aged over five years.