

The diagnosis of asthma in adults

Wakefield version

Based on:

- An appropriate history
- Objective demonstration of 15% peak flow variability
- A response to treatment

Two out of three of these criteria are usually sufficient for clinical diagnosis of asthma

Features in clinical history that increase probability of asthma

- Cough
- Wheeze
- Shortness of breath
- Chest tightness
- Symptom VARIABILITY, especially during night and in the early morning
- Symptoms following exercise or exposure to trigger factors/ irritants
- Symptoms after Aspirin / Non-Steroidal Anti-inflammatory Drugs or beta-blockers
- Childhood or family history of atopy including asthma

Objective demonstration of 15% variability in lung function

- Diurnal variation peak expiratory flow rate over two weeks (three dips or more per week)
- Issue prescription for peak flow meter (including diary)
- An improvement in peak flow or spirometry after inhaled β_2 agonist or after a trial of oral steroids
- A reduction in peak flow or spirometry after a trigger (including exercise)

Peak Expiratory Flow Rate (PEFR) measurement:

- A normal peak flow does not exclude the diagnosis of asthma.
- PEFR meters are individually consistent, but readings vary by 20% between meters.
- Ideally use the same peak flow meter for serial readings.
- If best PEFR below 200L/min changes of only 15% unlikely to be significant.
- Readings on waking and in the evening
- Record the best of three readings initially
- PEFR should be compared to expected levels using standard charts. After diagnosis is established, it is customary to compare with previous "best ever" PEFR readings.

Spirometry: 2009

British Guidance (June 2009) offers more advice and puts more emphasis on spirometry. Consider change as suggestive of asthma if FEV₁ increases by > 400ml in response to treatment. Increase in FEV₁ of 15% and at least 200ml in response to treatment can be suggestive of asthma and will require further assessment. Normal spirometry does not rule out asthma. In face of diagnostic uncertainty, obstructive spirometry should lower threshold for trial of treatment for asthma.

Physical examination and other investigations

- Often normal examination findings between exacerbations
- Widespread wheeze on auscultation increases probability of asthma
- Unexplained mild blood eosinophilia (1.0/nl or less).

A combined diagnosis of both asthma and COPD is common and treatment should aim to fully treat the reversible component,

Consider alternative diagnosis if:

- Prominent, dizziness, light headedness, peripheral tingling.
- Daily / recurrent productive cough in the absence of wheeze or breathlessness
- Normal PEF / Spirometry or physical examination when symptomatic
- Symptoms only linked to URTIs
- No response to a trial of asthma therapy
- Isolated cough in absence of wheeze or difficulty breathing
- Clinical features of alternative diagnosis

Remember to consider COPD if:

- Patient > 40 years at onset of symptoms
- Current smoker or ex-smoker (especially greater than 20 pack years)
- Symptoms are persistent and slowly progressive
- Only limited response to asthma treatment with obstructive spirometry

Diagnosis is fundamental in management of patients with asthma. Consider referral if remains unclear.