



# Breathlessness with cough and fever

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## Case history

David aged 35 years, presents complaining of feeling generally unwell and tired over the previous 2-3 weeks. He has a nonproductive cough with generalised muscle aches and pains and is breathless on moderate exertion. He has been intermittently febrile with temperatures up to 37.5°C during the week before presentation and had experienced an occasional night sweat. His wife had commented on his persistent 'bad breath'. David was previously well but had been unconscious for 'a minute or so' following a hard tackle while playing football about three weeks before presentation. David recovered very quickly without any obvious after effects. A CT of the brain had been performed and was normal. David is a nonsmoker and takes no regular medications.

Clinical examination was unremarkable and, in particular, there were no focal signs on examination of the chest. There was no dental abnormality but his breath was foul smelling.

## Question 1

What is the likely diagnosis?

## Question 2

What tests would you perform?

## Question 3

What do these tests show?

## Question 4

Are there any further questions you would ask David?

## Question 5

How would you treat David?



**Figure 1. Chest X-ray**

## Answers

**Table 1. Full blood examination results**

Results	Full blood examination	
	Haemoglobin 153 gm/L	(Normal range: 125-175 m/L)
	White cell count 16.5 x 10 <sup>9</sup> /L	(Normal range: 4.0-11.0 x 10 <sup>9</sup> /L)
	Neutrophils 13.7 x 10 <sup>9</sup> /L	(Normal range: 2.0-7.5 x 10 <sup>9</sup> /L)
	Lymphocytes 2.4 x 10 <sup>9</sup> /L	(Normal range: 1.0-4.0 x 10 <sup>9</sup> /L)
	Eosinophils 0.4 x 10 <sup>9</sup> /L	(Normal range: 0-0.5 x 10 <sup>9</sup> /L)

### Answer 1

The history suggests a respiratory tract infection. The history of an episode of loss of consciousness prompts the possibility of aspiration and the finding of foul smelling breath of an anaerobic infection.

### Answer 2

David should have a chest X-ray and full blood examination.

### Answer 3

Chest X-ray (Figure 1) shows an abscess in the right upper lobe with an air fluid level. Full blood examination (Table 1) shows an elevated white cell count with a neutrophilia.

### Answer 4

Lung abscess is more common in persons who have aspirated, have poor dental health and who have been in contact with tuberculosis. It is important to inquire about:

- seizure disorders
- episodes of loss of consciousness
- recent general anaesthetic
- tuberculosis contact
- overseas travel, and
- dental health.

As David is not ill, treatment at home with oral antibiotics and rest is reasonable. In more severe cases with generalised toxicity, admission to hospital and treatment with intravenous antibiotics is indicated. The presence of a lung abscess and foul smelling breath would suggest that David has an anaerobic infection. He should be treated with clindamycin 300 mg four times daily for seven days and then reviewed. If David's condition has improved treatment should be continued for at least six weeks and longer if chest X-ray changes persist. Follow up with repeat chest X-rays is important to assess the response to treatment. Tuberculosis, fungal infections, carcinoma, infected cysts, septic infarcts and diffuse vasculitis should be considered and appropriate investigations carried out if the abscess does not completely resolve. If David's condition does not respond promptly then referral to a respiratory physician for possible bronchoscopy should be considered.

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### Answer 5