

## Pneumonia

## What is pneumonia?

Pneumonia is inflammation of lung tissue caused by infection. Infections are caused by germs (usually bacteria or viruses).

Most pneumonia develops outside the hospital, this is described as community acquired pneumonia. Pneumonia can also develop whilst being treated in hospital for another condition, this is called hospital acquired pneumonia.





## How do you get pneumonia?

Pneumonia is caused by breathing in bacteria and viruses, if you are healthy they are caught in the sputum (phlegm) and killed by the immune system. If you are already in poor health, for example you are frail, elderly, have known lung disease or have a weakened immune system due to factors such as alcohol excess and diabetes you will be at higher risk of developing pneumonia. However, even healthy people sometimes develop pneumonia.

#### What are the symptoms?

- High temperature: Our bodies increase in temperature to try to kill off germs and infections.
- Coughing: This can be dry or you may cough up phlegm, which may be yellow or green.
- Phlegm: This is produced by the lungs when fighting an infection.
- Difficulty breathing: Oxygen levels may be low due to the infection causing breathlessness.
- Chest pain: This may be either due to coughing or inflammation of the lung lining. These layers are called pleura and the pain is called pleurisy.
- Reduced appetite
- Muscle aches
- Fatigue

You may not have all these symptoms.

## How is pneumonia diagnosed?

The diagnosis is made from a clinical examination in which the doctor will examine your chest, together with a chest x-ray which will show shadowing in the area of the affected lung. Sputum and urine samples may also be needed.

## How is pneumonia treated?

## At home

If you are usually healthy and the pneumonia is not severe you can be treated at home.

Treatment includes:

- Tablet antibiotics it is important to complete the full course.
- Fluids to keep hydrated, especially important if your appetite is reduced.
- Painkillers paracetamol and/or ibuprofen for fever and pain.
- Rest as symptoms improve your level of activity can be increased.

#### Hospital treatment

Hospital treatment will usually be required if the episode of pneumonia is severe.

- Antibiotics may be given intravenously.
- Fluids for hydration, through an intravenous drip if you have a severe infection.
- Painkillers paracetamol and/or ibuprofen for fever and pain.
- Oxygen if your levels are low.
- You may also be given blood thinning injections to reduce the risk of developing clots whilst in hospital if you are felt to be at risk.

In the majority of cases treatment is effective with the above measures. Less commonly complications can occur such as fluid accumulating between lining of the lung and the chest wall or a lung abscess. In these cases treatment and hospital stay will be longer.

#### Ventilation

If the pneumonia is very severe it can cause severe breathlessness and very low oxygen levels. In this case if the patient has a good level of function prior to admission they may require ventilation. This involves a tube being inserted into the lungs through the throat and artificial ventilation provided by a machine on the intensive care unit.

#### What should you expect after starting antibiotics?

#### **Symptoms**

Your symptoms should start to improve after taking antibiotics within two three days.

If you are being treated at home you should tell your doctor if you don't start feeling better after taking antibiotics for three days, or at any time if you start to feel worse.

Some people get better quicker than others; this may depend on how severe your pneumonia is.

It is important you try to stay mobile and do not stay in hospital any longer than felt necessary by your medical team.

You should expect that after:

- 1 weeks your fever should be gone
- 4 weeks your chest will feel better and you will produce less phlegm
- 6 weeks you will be coughing less and finding it easier to breathe
- 3 months most of your symptoms will be gone, but you may still feel tired
- By 6 months you should feel back to normal <sup>1.</sup>

#### Time off work

The time you need to take off work will depend on when your energy levels go back to normal. A fitness to work certificate can be obtained if required.

#### Follow up

Most patients with pneumonia should have a chest x-ray six weeks after the episode, this is how long it usually takes for the x-ray changes to fully resolve. The arrangements for this will be discussed with you prior to your discharge from hospital.

## What do I do if I get worse after discharge from hospital?

If you feel unwell after discharge with symptoms such as worsening breathlessness, chest pain or fevers you must either see your GP or return to the A&E department.

#### How can pneumonia be prevented?

Identifying the symptoms early is important as this would lead to prompt treatment of pneumonia. It is also important to stop smoking as this increases the risk of developing pneumonia.

Patients with pre-existing lung disease such as bronchiectasis, COPD (Chronic Obstructive Pulmonary Disease) and asthma are at higher risk of developing pneumonia. In these patients early antibiotic therapy and vaccinations (flu and pneumococcal) are required.

## You may have heard Sepsis mentioned

## What is sepsis?

It occurs when the body's normal reaction to inflammation or infection goes into overdrive. Sepsis may affect one part of the body only such as in pneumonia or spread through the blood to other parts of the body and become more widespread. Sometimes this reaction can cause more problems as widespread inflammation cause damage to tissues and interferes with the flow of blood.

## What are the signs and symptoms of sepsis?

You may have symptoms of the original infection, for example cough if you have pneumonia. Symptoms may not improve despite taking antibiotics.

Signs of sepsis include a high or low temperature, fast heart and breathing rate and low blood pressure.

## How is sepsis treated?

- Intravenous antibiotics.
- Specific treatment, for example draining fluid in the chest due to pneumonia or surgery if there is an abscess.
- Intravenous fluids and oxygen.
- If sepsis is very severe ventilation and treatment may be required on the intensive care unit.

## Sources of advice and support

The British lung foundation www.blf.org.uk NHS choices www.nhs.uk The UK Sepsis Trust www.sepsistrust.org

#### References

- 1. Pneumonia in adults: diagnosis and management NICE guidelines December 2014
- 2. UK sepsis trust

## If you have any comments about this leaflet please contact:

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# If you would like this information in another format or language contact the above.

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