

## Bronchiolitis

Bronchiolitis is a viral chest infection. It affects the small airways of the lung (the bronchioles). It is a common condition in babies. Most affected babies are not seriously ill and make a full recovery. Sometimes it becomes more serious and hospital care may be needed.

### What is bronchiolitis?

Bronchiolitis means inflammation of the bronchioles – tiny airways in the lung. Bronchiolitis is a type of chest infection. It is usually caused by a viral infection called respiratory syncytial virus (RSV). Other viruses are sometimes the cause. RSV is a common cause of [colds](#). In some babies RSV can also infect lower down the airways to cause bronchiolitis. RSV is spread in tiny water droplets coughed and sneezed into the air. Infected bronchioles become swollen and full of mucus.

### Who gets bronchiolitis?

Around 1 in 3 babies in the UK under the age of 12 months develop bronchiolitis at some point. It most commonly occurs in babies aged 3–6 months. For most it is not a serious illness. However, about 3 in every 100 babies with bronchiolitis need hospital treatment. Risk factors for developing a more serious illness with bronchiolitis include:

- Premature babies.
- Babies with heart conditions.
- Babies who already have a lung condition.

### Can adults get bronchiolitis?

Adults can get bronchiolitis, but it's rare. Chest infections in adults are more likely to affect big airways (bronchi – causing [bronchitis](#)), or the tiny air spaces in the lung (alveoli – causing [pneumonia](#)).

## Is bronchiolitis contagious?

The viruses that cause bronchiolitis are very contagious. When a person with bronchiolitis-causing viruses coughs or sneezes, they spread tiny droplets that contain the viruses into the surrounding air, and onto nearby surfaces. If other people breathe in those droplets, or touch them and then touch their face, mouth, or nose, they can become infected.

Bronchiolitis usually comes in 'seasons', when the viruses are spreading very quickly. This usually happens in winter.

## Bronchiolitis symptoms

Bronchiolitis in the UK usually occurs in the winter months (November to March). The timing can differ in other countries; for example, in Australia, bronchiolitis often occurs in June-August, during their winter.

Bronchiolitis symptoms include:

- Cold symptoms: a runny nose, cough and mild [high temperature \(fever\)](#) are usual for the first 2-3 days.
- Fast breathing, trouble breathing and [wheezing](#) may develop as the infection travels down to the bronchioles. The number of breaths per minute may go as high as 60-80.
- The nostrils may open out (flare) and the cough becomes worse.
- You can often see the muscles between the ribs moving inwards during each breath. This is because the baby needs more effort than normal to breathe.
- The baby may have difficulty feeding and taking drinks. This is because the baby is ill and becomes tired easily. The baby may struggle to breathe and to feed at the same time.

## How long does bronchiolitis last?

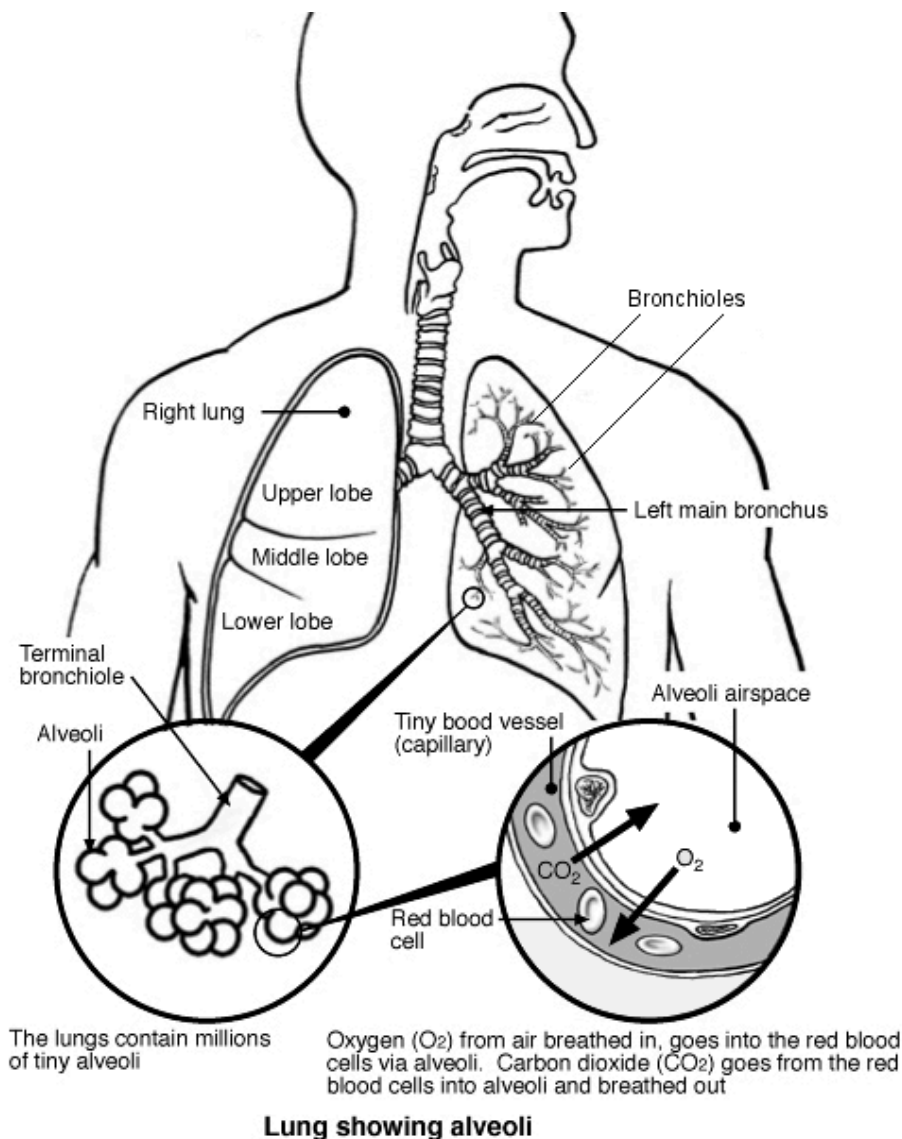
Typically, symptoms are worst 2-3 days after starting. The severity of the illness can vary from mild (being a bit worse than a heavy cold) to severe with serious breathing difficulties. After peaking, symptoms then usually gradually ease and go within 1-2 weeks. An irritating cough can linger a bit longer. In some cases the irritating cough may grumble on for several weeks after the other symptoms have gone - up to 4 weeks.

Some children develop wheezy chests and coughs more easily after a bout of bronchiolitis, especially when they have a cough or a cold. This is called post-bronchiolitic syndrome and usually goes away in time. In a minority of cases the wheezy symptoms may develop on and off for several years, particularly with coughs and colds.

## Understanding the lungs

Air travels into the lungs via the windpipe (trachea), down larger branching airways (bronchi) and into the smaller airways (bronchioles). The bronchioles are the smallest airways before the air enters the millions of tiny air sacs (alveoli) of the lung. Oxygen from the air passes into the bloodstream through the thin walls of the alveoli.

Bronchiolitis occurs when a viral infection attacks the bronchioles, causing them to become swollen and filled with mucus.



# Bronchiolitis treatment

Bronchiolitis is a self-limiting illness. This means it will normally go as the immune system clears the virus. We don't have any medicines that will kill the virus. Antibiotic medicines do not kill viruses and don't help bronchiolitis – although might be given in seriously ill children, if it's thought that they have a bacterial infection as well. Treatment for bronchiolitis aims to:

- Make sure the baby does not become low in body fluids (dehydrated). This may occur if the baby does not feed or drink well.
- Help with breathing if this becomes difficult.
- Spot any possible complications.

## When to get help

For most babies, bronchiolitis doesn't cause serious problems, and can safely be managed at home.

Speak to your GP, or call 111, if:

- You're worried about your child.
- Your child seems to be getting worse.
- Your child seems very tired or irritable.
- Your child has fed less than half their usual amount during the last 2 or 3 feeds.
- Your child hasn't had a wet nappy for 12 hours or more.

Get emergency help (call 999, or attend the nearest A&E) if:

- Your child is under 3 months old, and has a fever of 38°C or more.
- Your child is having difficulty breathing; for example, if they're too breathless to feed.
- Your child's tongue, lips, or skin are blue.
- Your child has long pauses in their breathing, is breathing in an irregular pattern, or is grunting.
- Your child is very pale, mottled, and feels cool to touch.

## Home treatment

Most babies with bronchiolitis can be treated at home.

Things that help include:

- Giving smaller amounts of feed regularly, if your baby is not feeding normally. This can help to get them to take enough to avoid dehydration.
- Giving [paracetamol](#) or [ibuprofen](#), if they seem distressed or uncomfortable. Paracetamol can be used from 2 months of age, and ibuprofen from 3 months of age.
- Raising the head of the cot slightly, when they sleep.
- Saline nasal drops, if their nose is congested and this is distressing them.
- Avoiding second-hand smoking. Cigarette smoke makes lung problems like bronchiolitis worse. Don't smoke or vape near your child. If you smoke or vape outside, change your outer clothes and wash your hands before picking up your baby; smoke particles remain on clothes and can affect the child.
- Watching for signs that your child is getting worse - see "When to get help", above.

## Hospital treatment

About 3 in 100 babies with bronchiolitis are admitted to hospital. For most, it is a short stay until they are over the worst of it. Most babies are admitted because they are not feeding enough, or because their blood oxygen levels are low. In hospital a baby can be fed by a tube passed into the stomach if necessary. Oxygen therapy may be given if their oxygen levels are low. About 2 in 100 babies admitted to hospital with bronchiolitis need help with breathing for a while (assisted ventilation) until the infection goes.

Sometimes, a sample of mucus is tested to see which virus is causing bronchiolitis. This generally doesn't make much difference to the child's treatment, but is sometimes used to make sure children who are contagious are kept in an isolated part of a ward, to reduce the risk of it spreading to other children.

Some babies become seriously ill, or develop [pneumonia](#) as a complication. Intensive care is needed in a small number of cases.

Many types of treatments have been tried over the years. Unfortunately, research has shown that none of them makes a big difference to the course of the illness. That is why treatment is supportive, whilst the child's immune system kills the virus.

## Can bronchiolitis be prevented?

### Not usually

RSV infection, commonly responsible for bronchiolitis, causes many coughs and colds in adults and children. It is impossible to avoid it totally. It may be sensible to keep young babies away from people with coughs and colds. However, this is often not possible.

### Breastfeeding and not smoking may be protective

Babies with bronchiolitis who have been breastfed and those who live in a smoke-free home, tend to get a less severe bout of the illness. This is compared to non-breastfed babies and those who live with smokers. This is because 'passive smoking' by a baby affects the lining of the airways, causing less resistance to infection. Also, [breastfed babies receive antibodies](#) that are transferred from their mother which may be protective.

### Vaccines and antibody injections

At present, there is an antibody injection (palivizumab/Synagis®), which can be given monthly during the RSV season to help prevent severe bronchiolitis. In the UK, this is only given to babies who are at high risk of severe bronchiolitis, such as babies with severe lung or heart conditions, or severe immune system problems.

Newer treatments have been developed. One, nirsevimab (Beyfortus®) is a long-acting antibody that can be given to babies to protect them from severe bronchiolitis. Another, currently called RSVpreF, is a vaccine given to pregnant women. It causes their immune system to produce anti-RSV antibodies, which get transferred to the baby and provide protection against bronchiolitis until their immune system is strong enough on its own.

These are very new and haven't yet been adopted in the UK, but it's possible that one or both of them might be offered in the near future.

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## Further reading

- [Bronchiolitis in children](#); NICE Guideline (May 2015, last updated August 2021)
- [Amir Kirolos et al](#); A Systematic Review of Clinical Practice Guidelines for the Diagnosis and Management of Bronchiolitis, The Journal of Infectious Diseases, jiz240, <https://doi.org/10.1093/infdis/jiz240>

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