

# Flexible bronchoscopy

**This leaflet gives more information about what bronchoscopy is, why it might be necessary, and what you can expect if your child has this procedure. If you have any questions or concerns, please speak to a doctor or nurse caring for your child.**

## What is a bronchoscopy?

A bronchoscopy is an examination of the breathing passages and tubes (airways) of the lungs. A bronchoscope is a thin, flexible tube with a camera at its tip. This camera allows us to see inside the breathing passages of your child's lungs. There is also a small suction channel, which allows us take samples of secretions or tissue, and deliver medicine directly to the airway or lung.

## Benefits of a bronchoscopy

There are different reasons why we might recommend that your child has a bronchoscopy.

### Investigation of noisy breathing

The bronchoscope can help us to see if your child's noisy breathing is caused by narrowing of the breathing passages, or abnormal movement of the vocal cords (voice box). Narrowing may be a result of external compression, a weak airway wall, or a collection of material within the airway.

### Diagnosing lung infection

Samples of fluid from the lungs can help to find the causes of infections and guide treatment.

### Diagnosing the site of bleeding

A bronchoscopy might help us find out where bleeding is coming from in the lungs or airways.

### Suctioning of the airway

Using a bronchoscope allows secretions and blood to be suctioned under direct vision. It also allows us to deliver a mucus-dissolving enzyme called dornase alfa (DNAse), which makes it easier to clear mucus. It can be useful in conditions such as bronchiolitis, asthma, and plastic bronchitis.

### Problems with a tracheostomy

The bronchoscope can be used to view the position of tracheostomy tubes, and check that they are not obstructed.

### Inserting an airway stent

A bronchoscopy is required when airway stents need to be positioned or reviewed. Airway stents are used to keep an airway open when it is narrowed.

The doctor doing the bronchoscopy will explain why your child needs the procedure, and can answer any questions you may have.

## Risks of a bronchoscopy

This is a safe procedure with minimal risk. Elective (scheduled in advance) procedures are usually done as a day case, which means your child will not need to stay in hospital overnight. Complications are rare, but the following might occur.

### Discomfort and coughing

While the bronchoscope is passed through the nose, throat or breathing tubes, it might cause some discomfort. It may also tickle the airways, causing your child to cough. Your child might be given a local anaesthetic to reduce any discomfort or coughing.

### Transient fever

Some children get a fever (high temperature). This does not necessarily mean there is an infection, and antibiotics are not routinely given, but we will monitor your child closely.

### Reduced oxygen

The level of oxygen in the blood may briefly fall during a bronchoscopy. This might be because the bronchoscope is partly blocking the flow of air into the airway. More rarely, it is because small amounts of saline solution (which is sometimes used to 'wash out' the lung, or to make it easier to see through the bronchoscope), can cause the level of oxygen in the blood to briefly fall.

The anaesthetist or intensive care unit (ICU) staff will continuously monitor your child's oxygen levels throughout the bronchoscopy. If the levels drop, extra oxygen can be given, or the procedure can be briefly stopped to allow for recovery.

### Bleeding

Minor bleeding can occur if the airways are very inflamed (swollen) or fragile. It can also happen after a biopsy. Any bleeding usually stops on its own but can be stopped using medicine given through the bronchoscope if necessary.

Rarely, severe bleeding can occur, which can be life threatening and is usually seen in aggressive airway disease or tumours. Bleeding can also occur if there is an underlying medical bleeding problem. These risks will be explained to you by the doctors before the procedure.

### Air leak from the lungs

Rarely, the airway is damaged by the bronchoscope, particularly if the lung is already very inflamed or diseased. If the lung is punctured, it can cause an air leak (pneumothorax), which might cause the lung to collapse. This complication is not common, but it is more likely if a biopsy is being taken during the bronchoscopy. A pneumothorax needs to be diagnosed and treated quickly, but we will monitor for this.

## Other options

A bronchoscopy gives very specific information about what the breathing passages look like from the inside, and allows specific areas of the lungs to be sampled. It can also help us to make decisions about which other tests are needed, for example, a CT scan or an X-ray. These tests give more information but are not alternatives to a bronchoscopy.

## Giving your permission (consent)

We want to involve you in decisions about your care and treatment. If you decide your child can have the procedure, you will be asked to sign a consent form. This states that you understand what the treatment and you agree for your child to have it.

If you would like more information about our consent process, please speak to a member of staff caring for your child.

## How to prepare your child for a bronchoscopy

The procedure may be elective or urgent, and is usually done in the ICU, an operating theatre, or the MRI suite. The doctor will review your child's medical history and explain why a bronchoscopy is being recommended. The procedure will be done under deep sedation or general anaesthetic, so your child will have to fast (not eat or drink) before the bronchoscopy. For full details of when your child should stop eating and drinking, please see our leaflet, **Your child's general anaesthetic**. If you do not have a copy, please ask us for one.

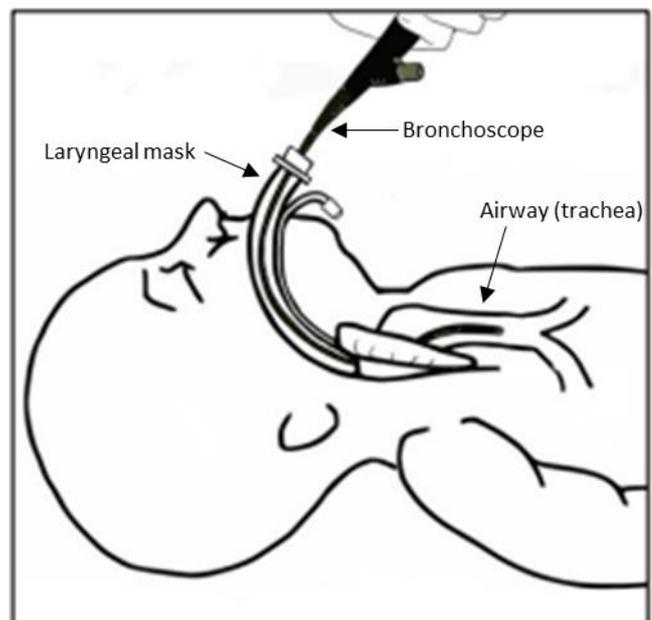
A nurse will be with your child throughout the procedure and will help your child recover from the anaesthetic.

## During a bronchoscopy

Your child will be sedated or given a general anaesthetic and will be monitored closely. This includes measuring their oxygen levels using a probe placed on their finger, and attaching ECG leads to continually record their heart rate. Your child's blood pressure will also be measured regularly.

If there is not already one in place, we will insert a special tube called an endotracheal tube into the airway. We may also use a laryngeal mask (see picture) which sits above the voice box. The tube and mask allow us to deliver local anaesthetic to the back of your child's throat. This may make your child cough at first, but any coughing will settle once the local anaesthetic takes effect. Once the airway is numb, the doctor will do the bronchoscopy by inserting the bronchoscope into the airway, through the tube and mask.

If your child shows any signs of distress or discomfort during the procedure, more sedation or anaesthetic will be given. The procedure usually takes less than half an hour.



## After a bronchoscopy

The doctor who did the procedure will explain what they've found out from the bronchoscopy. The procedure is video recorded, so it can be reviewed by our multidisciplinary team (MDT) to discuss your child's case and any need for more tests and management.

If possible, the breathing tube or mask will be removed and your child will be allowed to wake up and recover from the procedure. If the findings need more investigation or treatment, we might keep your child asleep to make this easier.

Your child will not be allowed to eat or drink for at least 2 hours after the procedure. This is to allow time for the numbness in the back of their throat to fade.

When your child is awake, they might have a sore throat, a hoarse voice, or continue to cough for a short time. These will improve, and we will prescribe pain relief to help their recovery if needed.

### Contact us

If you have any questions or concerns about your child's bronchoscopy, please contact their clinical team.

For more information on conditions, procedures, treatments and services offered at our hospitals, please visit [web](http://www.evelinalondon.nhs.uk/leaflets) [www.evelinalondon.nhs.uk/leaflets](http://www.evelinalondon.nhs.uk/leaflets)

### Evelina London Medicines Helpline

If you have any questions or concerns about your child's medicines, please speak to the staff caring for them or contact our helpline, [phone](tel:02071883003) 020 7188 3003, Monday to Friday, 10am to 5pm [email](mailto:letstalkmedicines@gstt.nhs.uk) [letstalkmedicines@gstt.nhs.uk](mailto:letstalkmedicines@gstt.nhs.uk)

### Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS), [phone](tel:02071888801) 020 7188 8801 [email](mailto:pals@gstt.nhs.uk) [pals@gstt.nhs.uk](mailto:pals@gstt.nhs.uk). To make a complaint contact the resolution department [phone](tel:02071883514) 020 7188 3514 [email](mailto:complaints2@gstt.nhs.uk) [complaints2@gstt.nhs.uk](mailto:complaints2@gstt.nhs.uk)

### Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please contact the department your appointment is with.

### NHS 111

This service offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day, [phone](tel:111) 111 [web](http://www.111.nhs.uk) [www.111.nhs.uk](http://www.111.nhs.uk)

### NHS website

This website gives information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing, [web](http://www.nhs.uk) [www.nhs.uk](http://www.nhs.uk)

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