

# Flexible bronchoscopy in children

## Information for parents and carers

**This leaflet explains what bronchoscopy is, why it may 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 you.**

### What is a bronchoscopy?

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.

### Why should my child have a bronchoscopy?

There are a number of reasons why we might have recommended that your child has a bronchoscopy. These are listed below.

#### **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 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**

Bronchoscopy may help determine where bleeding is coming from within the lungs or airways.

#### **Suctioning of the airway**

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

#### **Tracheostomy related problems**

The bronchoscope can be used to view the position of tracheostomy tubes, and check that they are unobstructed.

## **Airway stent insertion**

Bronchoscopy is required when airway stents need to be positioned or reviewed. Airway stents are used to keep the airway open when it is narrowed by weakness or external compression.

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

## **Are there any risks?**

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

### **Discomfort and coughing**

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

### **Transient fever**

Some children may develop a temperature. This does not necessarily indicate an infection and antibiotics are not routinely given, but your child will be monitored closely.

### **Reduced oxygen**

The level of oxygen in the blood may briefly fall during bronchoscopy. This may be because the bronchoscope is partly blocking the flow of air into the airway. More rarely, it is because small amounts of liquid saline (which is sometimes injected into the lung to "wash" out the lung and/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 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 or fragile. It can also occur following a biopsy, if this is needed. Any bleeding usually stops on its own but can be stopped by medication 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 may be damaged by the bronchoscope, particularly if the lung is already very inflamed or diseased. If the lung is punctured, it may cause an air leak (called a pneumothorax), which can cause the lung to collapse. This complication is not common, but it is more likely if a biopsy is taken during bronchoscopy. A pneumothorax needs to be diagnosed and treated quickly by placing a needle or tube through the chest wall between the ribs to drain air from around the punctured lung.

## **Is there an alternative test?**

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 may also help us to make decisions about which other tests may be needed, for example, a CT scan or an X-ray. These tests give additional information but are not alternatives to a bronchoscopy.

## Giving my consent (permission)

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

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

## How can I prepare my child for a bronchoscopy?

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

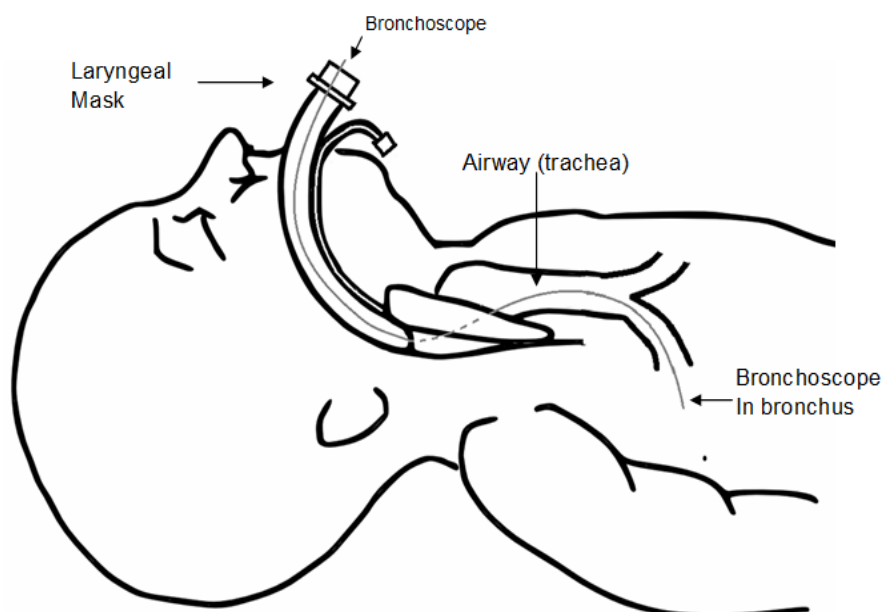
A nurse will be with your child throughout the procedure and will help your child recover from the anaesthetic.

## What happens during a bronchoscopy?

Your child will be sedated or given a general anaesthetic and will be monitored closely. This includes measuring your child's oxygen levels using a probe placed on the child's finger and attaching ECG leads to record his/her heart rate continuously. 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 below) which sits above the voice box. The tube and mask will enable us to deliver a local anaesthetic to the back of your child's throat to make it numb. 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 perform the bronchoscopy.

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.



## What happens after the bronchoscopy?

The doctor who performed the procedure will explain the findings of the bronchoscopy. The procedure is video recorded, so you will be able to watch this as part of the explanation.

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 require further investigation and/or treatment, we may keep your child asleep to make this easier.

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

Once awake your child may complain of a sore throat, have a hoarse voice and continue to cough for a short time. These will pass and we will prescribe pain relief to assist your child's recovery.

### Contact us

If you have any questions or concerns about bronchoscopy, please contact Dr Griffiths, Dr Nyman or Dr James on **t:** 020 7188 7188 ext. 50130 (Monday to Friday, 9am to 5pm).

Out of hours, please contact the PICU fellow on call on **t:** 020 7188 4500.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit **w:** [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.

**t:** 020 7188 3003, Monday to Friday, 10am-5pm      **e:** [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). To make a complaint, contact the complaints department.

**t:** 020 7188 8801 (PALS)      **e:** [pals@gstt.nhs.uk](mailto:pals@gstt.nhs.uk)  
**t:** 020 7188 3514 (complaints)      **e:** [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 get in touch.

**t:** 020 7188 8815      **e:** [languagesupport@gstt.nhs.uk](mailto:languagesupport@gstt.nhs.uk)

### NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

**t:** 111

### NHS website

Online information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing.

**w:** [www.nhs.uk](http://www.nhs.uk)

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