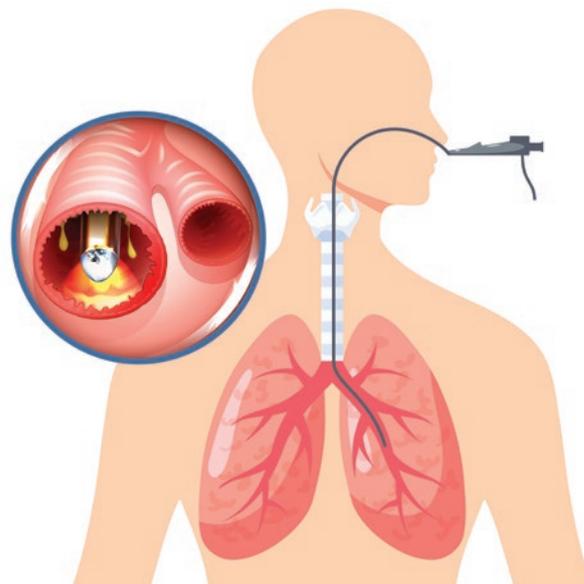


# Fibreoptic Bronchoscopy



# What is fiberoptic bronchoscopy?

A bronchoscopy is an examination of the breathing passages and tubes (airways) of the lungs. It is carried out with a thin tube-like instrument with a mini camera at its tip, called a bronchoscope, usually after your child has had sedation medicine to make him or her sleepy. The camera allows the doctors to see the inside of the breathing passages in your child's lungs. There is also a small suction channel which allows the doctors to take samples of secretions or tissue for further testing.



## When and why is a bronchoscopy done?

A bronchoscopy is done for the following reasons:

- **Noisy breathing**

A bronchoscopy allows doctors to look directly at the throat, vocal cord area and major airways to identify the problem. Noisy breathing is usually caused by narrowed airways which may be due to the collection of material within the airway, external compression of the airway or weak airway walls.

- **Infections**

Samples collected from your child's lung can help doctors to find the cause of infection and provide the appropriate treatment.

- **Ongoing lung collapse**

A bronchoscopy allows the doctor to see the cause of blockage, sample and remove the substance responsible.

- **Bleeding**

If your child is coughing up blood, the doctor can look inside your child's breathing passage to find out where blood may be coming from.

- **Abnormal Chest X-Ray or CT scan**



# How is a bronchoscopy done?

## **Before the procedure**

Our doctors and nurses will explain the procedure to you and you will have the opportunity to ask any questions you might have. You will be asked to sign a consent form to confirm you are agreeable to proceed with this procedure for your child.

We will inform you of any specific instructions on fasting and intake of any regular medications your child may be on. Fasting is very important before a procedure with sedation. The procedure will be cancelled if these instructions are not followed.

The procedure will usually be done in the Paediatric Intensive Care Unit (PICU). Your child will be admitted to our general ward first before being moved to the PICU. If the procedure is to be done elsewhere, you will be advised of the location beforehand.

## **During the procedure**

Our nurse or doctor will insert a cannula, which is a tiny plastic tube, into your child's hand or arm. This will be used to give your child the sedation medication into his or her vein. The medication will make your child drowsy and helps him/her to relax and remain comfortable and still during the procedure. A local anaesthetic will also be sprayed into the breathing passages to reduce any discomfort.

Once your child has been sedated, a doctor specialised in performing bronchoscopy will pass the bronchoscope through the nose and examine the airways. If your child has an endotracheal tube in his or her mouth because he or she is ventilated in the Intensive Care Unit (ICU), the bronchoscope will be passed through the tube. The procedure usually takes about 5 minutes but may take up to 15 minutes if broncho-alveolar lavage is involved, where sterile saline solution is flushed and sucked back out to obtain samples of the airway fluid for testing.

Our medical team will remain with your child while he or she is sedated. A doctor will monitor the condition and administer the right amount of medications to maintain the correct level of sedation during the procedure. We will monitor your child's blood pressure, oxygen levels and heart rate regularly by using a cuff on your child's arm or leg, a sensor on your child's finger and ECG stickers attached to his or her chest. Your child will be given some oxygen to keep the oxygen in his/her blood at a safe level.

## **After the procedure**

Most children will need to stay in the hospital on the day of the procedure. The doctor may advise staying longer if your child needs to be hospitalised for other reasons.

Your child will be kept in the PICU post-procedure, where our doctors and nurses will monitor your child closely until the effects of the sedative medications have adequately worn off and he or she is conscious, before transferring your child back to general ward. Your child will usually fully awaken about 1 to 2 hours after the procedure. He or she is then allowed to drink and eat.

Normally, your child will remember very little of the procedure.



## Are there any risks?

Bronchoscopy is a generally safe procedure. Serious complications are rare.

About a quarter of children may experience complications that are generally mild. They may experience short periods of oxygen desaturation (low oxygen levels) during the procedure and usually recover quickly.

Discomfort and coughing are common symptoms due to irritation of the airways. These are usually temporary and will pass in a couple of hours. Up to 1 in 5 may develop a brief and mild fever after the procedure. This usually only requires treatment with paracetamol.

Rare problems may include minor bleeding which usually stops by itself (about 1 in 100 children). Less than 1 in 1000 develop a lung leak (pneumothorax) that may require a chest tube to remove the air around the lung and a hospital stay of about 1 to 3 days.

There are also risks from consuming sedative medications. Children can usually breathe without any help throughout the procedure but may require additional oxygen delivered through a mask or breathing assistance if the breathing is slow or stops. Serious allergy to sedation drugs are rare but may occur.

## How will I know the results of the bronchoscopy?

Our doctor will communicate the immediate findings of the bronchoscopy to you after the procedure. Samples may have been taken from the airways which will be tested over the next few days.

We will arrange a further appointment at our clinic to discuss the results with you before your child leaves the hospital. If your child is staying in hospital for other reasons, we will inform you of the results when they are ready and discuss with you if any further treatment is required.



# About the Khoo Teck Puat – National University Children’s Medical Institute (KTP-NUCMI)

The KTP-NUCMI is the paediatric arm of the National University Hospital and comprises the Departments of Paediatrics, Paediatric Surgery and Neonatology. We provide comprehensive and specialised medical and surgical services for newborns, children and adolescents, and are the only public hospital in Singapore that offers paediatric kidney and liver transplant programmes. Through a generous gift from the Estate of Khoo Teck Puat, we have set up an integrated outpatient facility with medical, diagnostic and rehabilitation services.

For more information about us, visit [www.nuh.com.sg/ktp-nucmi](http://www.nuh.com.sg/ktp-nucmi).

## Contact Us

### 24-hour Children’s Emergency

Location: NUH Main Building, Zone F, Level 1  
General Enquiry: +65 6772 5000

### KTP-NUCMI

Location: NUH Main Building, Zone E, Level 2  
(Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)  
Operating Hours: 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)  
General Enquiry: +65 6772 5736 Appointment Line: +65 6772 2002  
Fax: +65 6776 2102 Email: [ktpnucmi\\_appt@nuhs.edu.sg](mailto:ktpnucmi_appt@nuhs.edu.sg)

### 9a Viva-University Children’s Cancer Centre

Location: NUH Medical Centre, Zone B, Level 9  
Operating Hours: 8am – 5.30pm (Mon to Fri) Appointment Line: +65 6772 5030  
Fax: +65 6872 4314 Email: [cbccappt@nuhs.edu.sg](mailto:cbccappt@nuhs.edu.sg)

### NUH Children’s Urgent Care Clinic @ Bukit Panjang

Location: Junction 10, 1 Woodlands Road, #01-22, Singapore 677899  
Operating Hours: 9am – 11pm daily (including public holidays)  
General Enquiry: +65 6219 1538 Email: [childreucc@nuhs.edu.sg](mailto:childreucc@nuhs.edu.sg)  
Website: [www.nuh.com.sg/ucc](http://www.nuh.com.sg/ucc)

### NUH Child Development Unit @ JMC

Location: Jurong Medical Centre, 60 Jurong West Central 3, Level 2, Singapore 648346  
Operating Hours: 8.30am – 5.30pm (Mon to Fri) Appointment Line: +65 6665 2530/2531  
Fax: +65 6665 0158 Email: [cdu@nuhs.edu.sg](mailto:cdu@nuhs.edu.sg)  
Website: [www.nuh.com.sg/cdu](http://www.nuh.com.sg/cdu)

### NUH Child Development Unit @ Keat Hong

Location: Keat Hong Community Club, 2 Choa Chu Kang Loop, #03-01, Singapore 689687  
Operating Hours: 8.30am – 5.30pm (Mon to Fri) Appointment Line: +65 6769 4537/4637  
Fax: +65 6665 0158 Email: [cdu@nuhs.edu.sg](mailto:cdu@nuhs.edu.sg)  
Website: [www.nuh.com.sg/cdu](http://www.nuh.com.sg/cdu)

### National University Hospital

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Website: [www.nuh.com.sg](http://www.nuh.com.sg)



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