

Laryngoscopy Examinations

Laryngoscopy is a visual examination of the back of the throat where the voice box (larynx) and vocal cords are located. The procedure is done by using hand mirrors and a light source at the back of the throat, or by inserting a thin, fiber-optic instrument, called a laryngoscope, through the nose or directly into the throat. This scope lights and magnifies images within the throat.

Laryngoscopy is a safe and effective procedure for discovering the causes for voice and breathing problems, pain in the throat or ear, difficulty in swallowing, narrowing of the throat (strictures), and blockages in the airway. The procedure can also help diagnose problems with your child's vocal cords.

There are three kinds of laryngoscopy

- Indirect laryngoscopy
- Direct fiber-optic (flexible) laryngoscopy
- Direct fiber-optic (rigid) laryngoscopy

Indirect laryngoscopy is performed in a doctor's office using a small hand-held mirror and light source. It usually takes only a few minutes.

A direct fiber-optic laryngoscopy exam allows a doctor to see deeper into the throat by using a flexible or rigid fiber-optic scope. The flexible scopes show the throat better and are more comfortable than using the indirect method.

A direct rigid laryngoscopy is usually performed in a hospital or out-patient clinic and is generally recommended for children who

- Easily gag due to abnormalities in their throats
- May have symptoms of a disease in the larynx
- Have not responded to other treatments for the symptoms in their throats

The procedure is relatively painless, but having a scope inserted into the throat can cause anxiety, so it helps to understand how a laryngoscopy is done. The following basics will help you understand what is happening and help put your child at ease.

About Laryngoscopy

Laryngoscopy helps a doctor find the causes for a variety of conditions in the throat where the voice box (larynx) is located and on the vocal cords. The visual examination helps doctors discover the causes for:

- Voice problems, such as weak voice, hoarse voice, breathy voice, or no voice
- Pain in the throat or ear
- Difficulty in swallowing
- Weak crying
- Repeated breathing problems
- A lump in the throat
- Mucus with blood in it
- Narrowing of the throat (strictures)
- Blockages in the airway

There are three kinds of laryngoscopy procedures

- Indirect laryngoscopy
- Direct fiber-optic (flexible) laryngoscopy
- Direct fiber-optic (rigid) laryngoscopy

Indirect laryngoscopy

Indirect laryngoscopy is not done as much today because the new flexible laryngoscopes are more comfortable and now let you're your doctor see more. The procedure, when done, is performed in a doctor's office using a small hand mirror, which is held at the back of the throat. The doctor will aim a light at the back of the throat, usually by wearing headgear that has a mirror and bright light attached. This technique will help the doctor examine the larynx, vocal cords, and hypopharynx, which is a part of the passageway to the lungs and stomach.

Direct fiber-optic (flexible or rigid) laryngoscopy

Direct fiber-optic laryngoscopy examinations are usually performed by an ear, nose, and throat specialist (ENT), although other doctors do perform the procedure. The examination allows the

doctor to see deeper into the throat by using either a flexible or rigid fiber-optic scope. The flexible scopes show the throat better and are usually more comfortable.

Rigid scopes are more often used as a surgical procedure in removing foreign objects in the throat and polyps from the vocal cords. They are also used in collecting tissue samples, known as a biopsy. Direct rigid laryngoscopy can also be used to perform laser treatments and in locating cancer of the larynx (voice box).

Quick Facts

- Laryngoscopy is a visual examination of the back of the throat where the voice box (larynx) and vocal cords are located. The procedure is done by using a scope called a laryngoscope, which is a thin, fiber-optic instrument that lights and magnifies images in the throat.
- There are three kinds of laryngoscopy: indirect laryngoscopy and direct fiber-optic (flexible or rigid) laryngoscopy.
- The visual examination helps doctors discover the causes for voice and breathing problems, pain in the throat or ear, difficulty in swallowing, narrowing of the throat (strictures), and blockages in the airway
- An indirect laryngoscopy and direct flexible laryngoscopy is usually performed in the doctor's office using local anesthetic. The procedure usually only takes 5 to 10 minutes to complete.
- Direct rigid laryngoscopy is done in a surgical operating room. Your child will be put under general anesthesia and not feel the scope in his or her throat.

Why is Laryngoscopy Performed?

A laryngoscopy is performed to

- Diagnose a persistent cough, throat pain, bleeding, hoarseness, or bad breath
- Check for inflammation
- Discover a possible narrowing or blockages of the throat
- Visualize a mass or tumor in the throat or on the vocal cords
- Diagnose difficulty swallowing

- Diagnose suspected cancer
- Evaluate causes of persistent earache
- Diagnose voice problems, such as weak voice, hoarse voice, breathy voice, or no voice

A laryngoscopy is also performed to remove foreign objects stuck in the throat or to biopsy a growth in the throat or on the vocal cords.

Preparing for a Laryngoscopy

Before the surgery, talk to your child's doctor about the kind of test being performed, how it will be done, the risks, and the results. Having your questions answered beforehand will help reduce your stress and give you and your child a better understanding of how the procedure will go.

Before the Procedure

In many cases, prior to the procedure, your doctor may have your child undergo a physical exam, chest x-ray, or CT scan, which is a type of x-ray that uses a computer to take pictures of the inside of the body. Your child may also be asked to swallow a liquid called barium, while a series of x-rays of the larynx and esophagus are taken. Barium liquid is harmless, and your child will pass it through the body within day or two. These prior measures will help your doctor further understand the physical symptoms your child may be having.

If your child will be undergoing a general anesthetic, your doctor will give you instructions about your child not eating or drinking before the exam. This is to prevent vomiting. For an office laryngoscopy, in which your child may be given local anesthesia, your child will not need to avoid eating or drinking beforehand.

You may also be asked to have your child avoid taking aspirin or ibuprofen for a few weeks before the procedure.

Direct rigid laryngoscopy

If your child gags easily, your doctor may decide to do a direct rigid laryngoscopy. This is performed using general anesthetic, which is why it is important for your child to avoid eating or drinking 8 hours before the procedure. Also, before your child undergoes a rigid laryngoscopy, tell the doctor if your child

- Has heart problems
- Is taking any medications
- Has allergies to any medications, including anesthetics
- Has bleeding problems or is taking blood-thinning medicine, such as Coumadin
- Has had recent surgery or radiation treatments to the mouth or throat

What Happens During the Procedure?

An indirect laryngoscopy and direct flexible laryngoscopy is usually performed in the doctor's office using local anesthetic. This procedure usually only takes 5 to 10 minutes to complete.

Indirect laryngoscopy

Your child will be asked to sit up straight in a high-backed chair with a headrest. The chair will allow your child's head and jaw to move forward. Your child will open his mouth wide, and the doctor will spray the throat with an anesthetic or topical numbing spray. Your child will gargle and then spit out. The doctor will then cover the tongue with gauze and hold it down, while your child pants through the mouth. The procedure should not be uncomfortable.

The doctor will hold up a warm mirror to the back of the throat. With a light that is usually attached to headgear the doctor is wearing, the doctor will tilt the mirror to view various areas of the throat. Your child may be asked to make a high-pitched "eeeeee" sound or a low-pitched "aaaaa" sound so that the doctor can view the larynx and see the vocal cords move.

Direct flexible fiber-optic laryngoscopy

The direct laryngoscopy is usually performed if the indirect method, or your child's gag reflex, didn't allow the doctor to perform a thorough enough exam. If this is the case, the doctor will use a rigid, angled laryngoscope, which is a thin, fiber-optic instrument that lights and magnifies images, providing of better view of your child's larynx and vocal cords.

Your doctor will determine if this procedure is to be done in the operating room under general anesthesia or in the office under local anesthesia. The procedure can take between 5 and 45 minutes to complete and typically does not require a hospital stay.

The flexible scope will be inserted through the nostril, or the rigid, angled scope will be inserted into the throat. As the scope is passed down the throat, your child may receive additional medicine to keep the throat numb during the examination. The doctor may also swab or spray the inside of the nose that opens the nasal passages to get a better view of the airway.

The doctor will exam the throat area through the scope's eyepiece and can remove benign growths, collect samples, or retrieve foreign objects lodged in the throat area.

Direct rigid laryngoscopy

Since direct rigid laryngoscopy is done in a surgical operating room, your child will be put under general anesthesia and not feel the scope in his or her throat.

Before the direct rigid laryngoscopy procedure, have your child remove all jewelry and eyeglasses. Your child will be asked to empty his or her bladder and then be asked to change into a cloth or paper gown, which will be provided.

Your child will be placed on his or her back and the laryngoscope will be put down the throat, where the doctor will be able to see the larynx and vocal cords. IV fluids and medications, such as antibiotics or steroids, may be administered. If needed, the doctor will remove foreign objects in the throat, collect tissue samples, perform laser treatment, or remove polyps from the vocal cords at this time. The examination takes about 15 to 30 minutes.

For the removal of benign and malignant tumors and biopsies, direct laryngoscopy can be done under general anesthesia using a magnifying microscope and rigid laryngoscopy.

How It Feels

Indirect and direct flexible laryngoscopy

When the doctor places the mirror at the back of your child's throat, they may feel like gagging, and it may become uncomfortable when the doctor pulls on the tongue. If it becomes too painful, your child can signal to the doctor, since speaking will be difficult.

If a local anesthetic is used, it may taste bitter and make your child feel like his throat is swollen. Swallowing is hard. Ask your child to try and breathe normally and remind him or her that the exam will be over within a few minutes.

Direct rigid laryngoscopy

For a direct rigid laryngoscopy procedure, your child will be asleep under anesthesia and not feel anything.

Recovering from the Procedure

If a local anesthetic or topical numbing spray was used during the indirect or direct flexible examination, it will wear off in about 30 minutes. Your child should not eat or drink anything until the spray has worn off and the throat is no longer numb.

Instruct your child to try not to swallow until his or her gag reflex naturally returns, which takes about two hours after the procedure. Your child should spit out any saliva or secretions, rather than trying to swallow them. Throat lozenges or a liquid gargle will help decrease any throat irritation, soreness, or hoarseness. Encourage your child to drink plenty of water. And if a biopsy was taken, tell your child to avoid clearing the throat or coughing for several hours.

If your child's vocal cords were affected during the examination, ask your child to rest their voice completely for three days. If they must speak, have them do so in a normal tone of voice and to do so for short periods of time. Whispering or shouting can strain the vocal cords and should be avoided.

If tissue was removed during the procedure, your child may sound hoarse for about three weeks after the procedure. This is normal. If the hoarseness persists, check with your doctor.

Direct rigid laryngoscopy

After a direct rigid laryngoscopy procedure, your child will be watched by a nurse until your child is out of the anesthesia, fully awake, and able to swallow. This usually takes about 2 hours. In some cases, your child may stay overnight in the hospital. Your child may have some nausea, general muscle aches, and may feel tired for a day or two. Gargling and sucking on throat lozenges will help with the soreness, and pain medication will be given, if needed.

Your child may also have noisier breathing for a short time after this procedure and may need to be put on a soft diet for a few days. Avoid giving them citrus juices like orange or grapefruit juice. Ice cream, soups, scrambled eggs, and mashed potatoes are the best food choices for a soft diet for the first day or two.

Your child may have a slight fever after the procedure, which should return to normal within a day or two.

Call Your Doctor if any of the Following Occurs

- Difficulty breathing, shortness of breath, wheezing, persistent coughing, or trouble swallowing
- Hoarseness that does not go away
- Signs of infection, including a bad taste in the mouth, fever, persistent sore throat, and chills
- A color change in or around the mouth that may look blue or gray (cyanosis), or if your child's lips turn cherry red in color
- Coughing up, spitting up, or vomiting blood
- Chest pain, severe nausea, or constant vomiting
- Bleeding that lasts more than 24 hours or vomiting that last more than 6 hours
- Persistent dry mouth, sunken look around the eyes, decreased amount of urine (dehydration)

Results

A laboratory will examine the removed tissue biopsies and provide a written report to your doctor, who will discuss the results and treatment options with you. Usually, biopsy results take about 3 to 5 days. Depending on the results, your doctor may refer your child to a specialist.

Normal results for a laryngoscopy will show the throat (larynx) does not have swelling, foreign bodies, or a narrowing of the throat (strictures). The vocal cords will not have

- Tumors or growths
- Scar tissue

- Inflammation
- Signs of paralysis

Abnormal results of the laryngoscopy will show

- Growths or tumors
- Inflammation
- Narrowing of the throat or other strictures
- Foreign bodies
- Abnormal bleeding
- Your child's vocal cords could also have scar tissue or show signs of paralysis.

Depending on the outcome of the exam, a follow-up procedure with your child's doctor may be scheduled four to six weeks after the initial procedure. Your doctor will discuss this with you.

Benefits

Having your child undergo a laryngoscopy procedure is one of the best ways to find and treat the causes of your child's voice problems, difficulty in swallowing, persistent sore throats or hoarseness, or trouble with vocal cords. A laryngoscopy is also an excellent way to retrieve foreign objects from the throat or clear blockages in the airway.

Risks and Complications

A laryngoscopy procedure is a safe and effective way to discover potential problems with your child's breathing or vocal cords. But there are some risks associated with the exam. In some cases, the procedure may cause swelling or blocking the airway. If your child has a partially blocked airway, or has difficulty breathing because of polyps, tumors, or severe inflammation of the tissues at the back of the throat (epiglottitis), your child may have a greater chance of some problems during and after the procedure. Your doctor should discuss these with you.

If your child experiences a complete blockage of the airway during the procedure (which is rare), the doctor will make a small incision in your child's neck, called a tracheotomy. This procedure is safe and will allow your child to breathe easier.

If your child has a biopsy taken, there might also be a small chance of bleeding, infection, or tearing of the airway. Your doctor will monitor for signs of this and take appropriate action.

Hoarseness may be persistent, and your child's throat may bleed and be sore, but these should clear up within a few days.

Other Complications

- Anesthesia-related problems
- Vomiting or gagging
- Cuts on the bottom of the tongue from stretching it over the teeth
- Bleeding from the nose if the scope is inserted

Sources

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