Stridor

Stridor is an abnormal, usually high-pitched sound made while breathing. It is the result of an airway that is partly blocked. Stridor occurs more often in children than in adults because children have smaller airways. Many different things can cause stridor. It might be an infection, a tumor, something stuck in the breathing passage, or part of a developmental problem of the airways. It is important that the symptoms be checked out promptly, especially in young children.

CAUSES

Stridor can develop from an acute problem and come on quickly in children. This is often because:

- Something gets stuck in the child's throat, nose or airways. The stuck item could be anything, but might be a piece of food or a coin.
- The child develops *croup*. This is a breathing problem with a cough that sounds like a dog's bark. It results from swelling around the vocal cords. Croup is usually caused by a virus.
- The child develops swollen tonsils or adenoids (*tonsillitis*).
- The child develops a swollen area filled with pus on the tonsils (*abscess*).
- The child has an allergic reaction. This could be to something that was breathed in, swallowed or injected.
- The child had their airway evaluated by instruments or had a tube in their airway.
- The child develops *epiglottitis*. This is an emergency condition. This occurs when the epiglottis (a small piece of tissue that covers the windpipe when you swallow and keeps food from going into the lungs) becomes *inflamed* (the body's way or reacting to injury or infection). Different things can cause the inflammation, including:
  - Infection (this is the usual cause).
  - Injury (swallowing chemicals for example).

Stridor also can develop from a longtime (*chronic*) problem. Possibilities include:

- *Laryngomalacia*. This occurs when floppy tissue above the vocal cords collapses into the airway when the child breathes in.
- *Subglottic stenosis*. This is a narrowing of the airway just below the vocal cords.
- *Tracheomalacia*. This occurs when the cartilage that keeps the airway open is weak. The cartilage is weak and floppy causing the airway to collapse in. This can also occur when there is something compressing the airway or something damages the cartilage causing it to become weak.
- Vocal cord paralysis. This may result from trauma or brain abnormality. For instance, the vocal cords might have been injured during earlier surgery.
- An injury to the voice box.
- A tumor.

DIAGNOSIS

In an emergency:

- If something is stuck in a child's airway, the Heimlich maneuver might be used to force the item out of the windpipe.
- If something is blocking the airway, an artificial airway may need to be placed for relief of the obstruction.
- An operation may needed.

If the child is not in immediate danger:

- The child will be given a thorough exam. Usually, the child's temperature, pulse, breathing rate and oxygen levels will be checked. The healthcare provider will listen to the child's lungs through a stethoscope. The child's throat will be checked.
- The healthcare provider will check for swelling in the child's neck or face area.
- The healthcare provider will ask about the child's medical history. This will include questions about the

abnormal breathing sound. They may ask when the abnormal breathing started and what did it sound like.

- The healthcare provider may also order some tests. These could include:
  - Blood tests. The blood can give clues to the child's overall health. It also can show signs of infection. And, a blood test can show how much oxygen the child is getting.
  - *Pulse oximetry*. A device is put on the child's fingertip to measure oxygen levels in the blood.
  - *Bronchoscopy*. A flexible tube with a camera and a light is used to evaluate the airways. The child probably will be given medication to numb pain and help the child relax for the test. If given general anesthesia, the child will be asleep for the procedure. A local anesthetic would numb the area of the body, but the child would be awake. A sedative will help the child relax.
  - CT (*computed tomography*) scan. This scan provides a detailed picture inside the body.
  - *Laryngoscopy*. A small, lighted tube is used to check the area around voice box. This is usually done without sedation while the patient is awake
  - X-ray of the chest or neck. This can sometimes locate something stuck in the airway or show swelling in the airway.

TREATMENT

In the short term:

- If something is stuck in a child's airway, the Heimlich maneuver might be used to force the item out of the windpipe.
- If nothing is stuck but the child has serious trouble breathing, an artificial airway or an operation to create an airway may be needed

In the longer term, stridor is treated by treating whatever is causing it:

- If a growth or tumor is causing the obstruction, surgery may be recommended to remove it.
- Antibiotics may be prescribed to treat an infection.

HOME CARE INSTRUCTIONS

What care the child will need at home will depend on what caused the stridor and how it was treated. In general:

- Ask the child's healthcare provider if there is anything the child should or should not do while recovering.
- Make sure the child takes any medications that were prescribed. Follow the directions carefully. The child should take all of the medicine, unless the healthcare provider has given different instructions.
- Encourage the child to eat slowly. Careful eating can help prevent food from being inhaled accidentally.

SEEK MEDICAL CARE IF:

- The child develops a fever above 100.5°F (38.1 ° C).

SEEK IMMEDIATE MEDICAL CARE IF:

- The child has trouble breathing again.
- Other symptoms return.
- The child develops a fever above 102.0°F (38.9 ° C).

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