

Croup

A plain-English guide for you and your family

WHAT IS HAPPENING

Your child's upper airway is like a straw that carries air from the nose and mouth down into the lungs. In croup, a virus infects the part of that tube just below the voice box—called the subglottic area—and the body's response to the virus makes that spot swell. Because a young child's airway is already narrow (think of a coffee stirrer, not a milkshake straw), even a little swelling takes up a lot of space and makes it hard for air to squeeze through. That narrow, swollen spot is what causes the seal-bark cough, the hoarse voice, and the high-pitched noisy sound when your child breathes in (called a high-pitched noise on breathing in (stridor)). These symptoms often get worse at night when your child is lying flat, and worse when your child cries or gets upset, because crying brings more blood flow to the swollen area and makes your child breathe harder. Most kids with croup have mild symptoms and get better at home with cool mist and comfort. Some need a dose of steroid medicine (usually dexamethasone) to shrink the swelling. Very few children—less than 5 out of 100—need hospital care, and needing a breathing tube is rare. The virus usually runs its course in three to seven days, and the medicine helps keep the airway open while the body fights off the infection.

What you might feel

- Barking cough (sounds like a seal)
- A high-pitched noise on breathing in (Stridor) (high-pitched breathing sound when breathing in)
- Hoarse voice or cry
- Runny nose and low fever (usually under 102°F)
- Chest wall retractions (skin pulls in between ribs or above collarbones when breathing)
- Restlessness or agitation
- A high-pitched noise on breathing in (Stridor) at rest (heard even when the child is calm and sitting still)
- Drooling or difficulty swallowing

Call the doctor right away if...

- A high-pitched noise on breathing in (Stridor) at rest (high-pitched sound even when the child is calm)
- Severe chest retractions or the child looks like they are working very hard to breathe
- Blue or pale lips or skin (sign of low oxygen)
- Drooling or unable to swallow (suggests a more dangerous throat blockage)
- The child is very sleepy, limp, or hard to wake up

What the care team will do

- Keep the child calm and sitting upright in the caregiver's lap; do not lay the child flat or do upsetting exams
- Watch for a high-pitched noise on breathing in (stridor) at rest, severe retractions, bluish skin (cyanosis), or altered mental status every 15 minutes and notify the provider immediately if any appear
- Administer dexamethasone 0.6 mg/kg by mouth or intramuscular injection as ordered (maximum 10 mg single dose)
- Give nebulized racemic epinephrine (0.5 mL of 2.25% solution in 3 mL saline) for moderate or severe a high-pitched noise on breathing in (stridor) and watch the child for at least 3 to 4 hours afterward
- Avoid placing anything in the child's mouth or throat, including tongue blades or thermometers
- Keep emergency airway equipment at the bedside, including bag-valve mask, oxygen, suction, and intubation supplies sized for the child
- Offer cool mist from a humidifier or let the caregiver sit with the child in a steamy bathroom for comfort
- Reassess the croup score (respiratory rate, retractions, a high-pitched noise on breathing in (stridor), air entry, and bluish skin (cyanosis)) and document every 1 to 2 hours after treatment

Medicines you may be given — and why

Dexamethasone

Dexamethasone shrinks the swelling in the voice box area by stopping certain immune cells from releasing chemicals that make tissue puff up. It works like turning down the volume on your body's alarm system so the airway opens up again.

Racemic epinephrine (nebulized)

Racemic epinephrine squeezes the tiny blood vessels in the swollen airway lining, pushing fluid back out of the tissue. It is like wringing water out of a sponge—the airway shrinks and opens up fast.

Where this information comes from

- AAP Clinical Practice Guideline (American Academy of Pediatrics)
- Cochrane systematic review on croup
- CDC (parainfluenza and viral croup)
- UpToDate clinical summary on croup

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