Vocal cord paralysis

This information sheet from Great Ormond Street Hospital (GOSH) explains the causes, symptoms and treatment of vocal cord paralysis and where to get help.

The vocal cords, also known as vocal folds, sit at the top of the windpipe (trachea). They are two folds of tissue stretched across the voice box (larynx). They vibrate, adjusting the flow of air from the lungs, to produce speech sounds.

Movement of the vocal cords are controlled by a series of coordinated movements of the muscles surrounding them. The muscles themselves respond to electrical signals sent by the brain to the nerves. The most important nerve controlling movement of the vocal cords is called the Recurrent Laryngeal Nerve (RLN).

Vocal cord paralysis is the term used when there is weakness in one or both vocal folds stopping them moving as they should.

What causes vocal cord paralysis?

There are a number of causes, which may be present at birth (congenital) or acquired at later in childhood. The Recurrent Laryngeal Nerve (RLN) may be damaged during childbirth. The RLN can also be damaged during surgery, particularly to the heart and lungs or to repair problems with the oesophagus.
(foodpipe). Neurological (brain and nerve) conditions may also affect the RLN, as can infection. Rarely, the nerve may be squashed by a mass in the neck area. In some children, no cause for the vocal cord paralysis can be identified, so doctors refer to this as ‘idiopathic’.

**What are the signs and symptoms of vocal cord paralysis?**

The signs and symptoms depend on whether one side is affected (unilateral) or both sides (bilateral).

Children with one-sided vocal cord paralysis may breathe noisily (stridor) occasionally rather than all the time, have a weak breathy cry or swallowing problems. They may also breathe food and drink into the windpipe instead of the food pipe (aspiration).

Children with two-sided vocal cord paralysis may breathe noisily with a high pitched sound more often and become short of breath, particularly when they are active. They may also suffer from aspiration.

**How is vocal cord paralysis diagnosed?**

Vocal cord paralysis is usually diagnosed following two examinations: a voice assessment carried out by a Speech and Language Therapist (SALT) and a clinical examination by an Ear, Nose and Throat (ENT) specialist doctor. You will also be asked about your child’s symptoms and their past medical history.

There are two procedures that might be carried out to confirm or rule out the diagnosis.

Nasendoscopy is a procedure where a tube containing a light and a telescope is passed into one nostril and down the back of the throat to look at vocal cord movement. Alternatively, it may be diagnosed using a procedure called a microlaryngoscopy and bronchoscopy (MLB). An MLB is a test that allows the doctor to look into your child’s airway (larynx and bronchi) using a small telescope and light. This is contained in a piece of equipment called an endoscope.

If one or both vocal cords do not move much or at all during these examinations, the doctors will confirm that your child has vocal cord paralysis. They may also suggest that your child has a scan to work out what is causing the paralysis, whether the nerve is affected or trauma has happened.

**How is vocal cord paralysis treated?**

Children with one-sided vocal cord paralysis do not usually require any immediate treatment. In some cases, the noisy breathing, swallowing problems and aspiration get better over time without treatment. Voice therapy may be suggested by the Speech and Language Therapist to reduce the symptoms of vocal cord paralysis. This is a set of exercises, like physiotherapy for the voice box.

If your child’s symptoms are more troublesome and voice therapy has not improved them enough, the doctors may suggest an operation. This is a short
procedure under anaesthetic to reposition or reshape the vocal cords. Following the operation, your child will probably need to have more voice therapy to strengthen the vocal cords and voice box.

Two-sided vocal cord paralysis may need more immediate treatment, depending on the severity of your child’s symptoms. If their breathing is severely affected, a tracheostomy (opening through the skin into the windpipe) may be needed.

**What happens next?**

Your child will need regular appointments with their Speech and Language Therapist. This will usually include voice therapy exercises, which your child should practice in between appointments. They will also have regular reviews with the ENT specialist doctor to monitor their symptoms and decide whether any further treatment is needed.

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**Notes**

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Compiled by the Ear, Nose and Throat Department in collaboration with the Child and Family Information Group

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