

## Voice Disorders

**Dysphonia** is a condition in which the voice sounds abnormal for the person's age or sex, such as soft voice, hoarseness, breathiness, tension, strain, and abnormal pitch.

This information sheet will cover the most common causes of dysphonia in individuals with this syndrome.

### Vocal Nodules [\[Images\]](#)

- Small callouses on the inner edge of the vocal cords
- Caused by:
  - Frequent and loud talking, singing, and noise-making
  - Health conditions: allergies, colds, laryngitis, stomach acid reflux
  - Smoking and alcohol use
- Affect the way the vocal cords contact each other and vibrate
  - Too much air escapes → voice sounds hoarse and breathy
  - More effort is needed to talk → voice sounds rough or strained
  - Extra mass on the vocal cords → voice sounds lower
  - Voice can also cut off or change pitch
- Diagnosed using a tiny camera on a scope that shows vocal cord anatomy and function
- Nodules usually resolve after voice therapy (shaping healthy vocal behavior, and making behavioral changes), and resolution of any relevant health conditions

### Vocal Cord Paralysis [\[Images\]](#)

- Inability of one or both vocal cords to move because the nerves that control them are damaged
- Feels like fatigue and mucus collection in the throat rather than pain
- Caused by:
  - Trauma to the vocal cords: surgery, injury
  - Health conditions: autoimmune conditions, viral infections, neurological diseases, cancer
  - Toxins: lead, mercury, arsenic
- Affects the vibration and position of the vocal cords. Symptoms vary depending on whether the cord(s) is paralyzed in an open or closed position.
  - Voice can be any or all of the following: hoarse, breathy, soft
  - Breathing is noisy, and the affected person may feel winded
  - Swallowing can be difficult with choking if the paralyzed vocal cords do not close the windpipe when the person swallows, allowing food/liquids to go into the trachea (windpipe) or lungs
- Diagnosed using a tiny camera on a scope
- May recover over time or by surgical intervention (e.g. implants, reposition of vocal cord or nerves)
- Tracheotomy may be needed in rare cases of respiratory distress

### How the voice works

- [How does your voice work?](#)  
– video from the Mayo Clinic
- [How the voice works \(Kids\)](#)  
(simple animation)

For videos with more details, see the References / Resources section.

### Velopharyngeal dysfunction (VPD) and hoarseness

Children with VPD may demonstrate hoarseness. This occurs because more pressure is exerted on the vocal cords as a compensation for the lack of velopharyngeal closure.

Hoarseness can sometimes make evaluation of VPD difficult and may benefit from voice therapy.

### Importance of getting an accurate diagnosis

Hoarseness is a voice disorder and, in rare cases, can be a clue to more serious health conditions. It is important to visualize the vocal cords and to rule out serious medical diagnoses – such as tumors or neurologic disorders.

## Voice Disorders (continued)

### Laryngeal Web [Images]

- A rare congenital malformation of membrane-like tissue in the larynx that partially blocks the space between the two vocal folds
- Makes it hard to breathe and changes the quality of the voice
- May be misdiagnosed as asthma or other conditions, delaying needed treatment
- Requires visualization of the larynx for an accurate diagnosis
- May be treated via dilation (using a balloon to widen the airway) or surgery (removal or lysis of the web)

### Functional Voice Disorder

- Irregular vocal muscle contractions that are an attempt to compensate for another abnormality
- No known structural or neurologic cause
- Can result from vocal misuse, respiratory infections, inflammation, and even psychological issues
- Can be treated only if the underlying cause is addressed

### Decreasing the Risks of Dysphonia

While we cannot control all the factors that lead to voice problems, here are some things we can do:

- Avoid shouting or straining the voice
- Avoid prolonged use of the voice – need to take breaks
- Drink enough water every day
- Use a humidifier in dry climates
- Minimize coughing and throat clearing – treat underlying causes
- Stay away from spicy food, cigarette smoke (including second-hand smoke), alcohol, and caffeine

### References / Resources

#### Clinical practice recommendations

- [Updated clinical practice recommendations for managing children with 22q11.2 deletion syndrome](#) – 2023
- [Speech-Language Disorders in 22q11.2 Deletion Syndrome: Best Practices for Diagnosis and Management](#) – 2019

#### Research reports and reviews

- [Laryngeal Web in the Pediatric Population: Evaluation and Management](#) – 2019
- [Hoarseness in Children](#) – 2016

#### Websites of medical institutions and societies

- How the Voice works (videos) – [Mayo Clinic](#) | [National Institute on Deafness & Other Communication Disorders](#) | [Dr. Geoff Lindsey](#) (Director of Psychology and Language Sciences, University College London)
- Vocal Nodules – [Children's Hospital of Philadelphia](#) | [Cleveland Clinic](#)
- Voice and Resonance – [My Health Alberta](#)
- Vocal Cord Paralysis – [Cleveland Clinic](#) | [Mayo Clinic](#)
- Laryngeal Web – [Cincinnati Children's Hospital](#)
- Voice Disorders – [The Royal Children's Hospital Melbourne](#)
- Hoarseness / Dysphonia – [Nationwide Children's Hospital](#) | [Cleveland Clinic](#)
- [Canadian Society of Otolaryngology - Head & Neck Surgery](#)
- [American Speech-Language-Hearing Association](#)

### Healthcare professionals who help us with our voices

A medical doctor who specializes in the head and neck region (which includes the voice box) is called an **otolaryngologist** or an **ear-nose-throat specialist (ENT)**. [More info from the [Canadian Society of Otolaryngology - Head & Neck Surgery](#)]

A **speech-language pathologist** is a healthcare professional who helps us with communication and swallowing problems. [More info from the [American Speech-Language-Hearing Association](#)]

### Recommended Evaluations

It is recommended that individuals affected by 22q11.2DS be evaluated by a **speech-language pathologist** at each of these time points:

- At Diagnosis
- Between 0-1
- Between 1-5
- Between 6-11
- Between 12-18
- Every 1-2 years in adulthood

Individuals should also be evaluated by an audiology specialist:

- Routine hearing screening

Please see [Speech-Language Disorders in 22q11.2 Deletion Syndrome: Best Practices for Diagnosis and Management](#) for details.