



## **Surgery for Bilateral Vocal Cord Paralysis**

### **Purpose, Indications, Contraindications**

Bilateral vocal cord paralysis leads to the inability of the true vocal cords to open and close appropriately and often occurs as a result of surgical injury or malignancy. This ultimately leads to voicing, swallowing, and breathing difficulty. Voicing can be negatively affected if the vocal cords cannot push together adequately to produce proper vibrations. Swallowing can become difficult as there is an increased risk for aspiration if the vocal cords cannot appropriately close and protect the airway. Finally, patients often develop significant difficulty breathing as the vocal cords can no longer open appropriately when breathing in or out. Surgery may be required to either bypass the voice box or widen the narrowed portion of the voice box in order to breathe safely. Contraindications for these different procedures depend on each individual's medical history and should be thoroughly discussed with the surgeon.

### **Pre-procedure Considerations**

As there are multiple surgical options available to treat airway compromise due to bilateral vocal cord paralysis, it is important that the patient have a thorough discussion with the surgeon regarding the side effects and reversibility of each procedure. Each procedure carries differing risks of negatively affecting the patient's quality of life, voice quality, swallowing ability, and aspiration risk. There are also procedures to improve voice quality by pushing the vocal cords together, but these can carry the risk of further narrowing the airway. Each patient should have a treatment plan tailored to their needs.

### **Summary of Procedures**

- Tracheostomy - A surgical opening into the trachea below the level of the vocal cords to bypass the narrowed portion.
- Posterior Cordotomy/Arytenoidectomy - Removal of the portion of the vocal cord/cartilage that is not responsible for vibration in voice production
- Lateralization procedures - The Lichtenberger technique for suture lateralization uses a suture or stitch to pull one of the vocal cords laterally to open the airway.
- Laryngeal Augmentation/Medialization procedures - Artificial bulking material can be injected near the vocal cords to push them closer together to improve voice.

### **Post-Procedure Guidelines**

Patients should be monitored for voice quality, swallowing function, and breathing. Patients may require speech and language therapy to maximize their quality of life, optimize their voice, improve swallowing, and decrease aspiration risk. If necessary, modifications and reversal of procedures may be required through thorough discussion with the surgeon, therapist, and the patient.