

Cincinnati Children's Hospital Medical Center  
Craniofacial Center and VPI Clinic

## Posterior Pharyngeal Wall Augmentation

### What is Velopharyngeal Insufficiency (VPI)?

During normal speech, the soft palate (also called *velum*) raises and closes against the back wall of the throat (also called *pharynx* or *pharyngeal wall*). This closes off the nose from the mouth for speech. If the soft palate is not long enough to firmly close against the back of the throat during speech, sound and air can leak into the nose through the gap. This condition is called velopharyngeal insufficiency (VPI).

VPI can affect *resonance*, which is the quality of the voice. The voice may sound *hypernasal* because there is too much sound in the nose during speech. (*Hyponasality* is the opposite problem. It is due to blockage in the nose and occurs when the person has a bad cold.) VPI can also affect speech sound production. The child may not have enough air pressure in the mouth to make certain speech sounds. Also, a leak of air through the nose may be heard during speech.

To correct VPI for normal speech, the opening between the nose and mouth must be closed. The Furlow Z-plasty can correct VPI, particularly for children with a history of cleft palate or submucous cleft (where the muscles under the skin of the soft palate have not come together properly).

**Procedure:** The posterior pharyngeal wall augmentation is done by injecting filler material such as a portion of rib cartilage, collagen or even the child's own fat) into the opening area.

**What to expect after surgery:** The posterior pharyngeal wall augmentation procedure takes about one hour. This is usually done as an outpatient surgery so the child does not need to stay in the hospital. In the first few days after the surgery, the child may complain of a sore throat or mild stiff neck.

**Possible complications:** Complications are infrequent, but can include infection, gradual movement or shrinkage of the filler, and the need to repeat the procedure several times to get the desired results.

**Speech therapy:** Surgery makes it possible for the child to close off the nose from the mouth during speech, giving him or her the potential for normal speech. However, speech therapy is usually needed to help the child learn how to use the new structure, and to fix speech errors that were learned before the surgery.

**Outcomes:** Normal speech can be expected following surgery and speech therapy in 60% to 70% of patients. Sometimes, this procedure needs to be done several times to obtain the desired result. It may also need to be repeated after a period of time.

For more information, visit our websites:  
[www.cincinnatichildrens.org/vpi](http://www.cincinnatichildrens.org/vpi)  
[www.cincinnatichildrens.org/craniofacial](http://www.cincinnatichildrens.org/craniofacial)

## Pharyngeal Augmentation

