Velopharyngeal Insufficiency (VPI)

VPI occurs when the palate can’t make contact with the back of the throat during speech. This allows air to escape through the nose during speech.

What is VPI?

VPI occurs when there is not enough ("insufficient") tissue in the palate or throat to let the palate contact the back of the throat during speech.

Signs and symptoms

The two main signs of VPI are nasal speech (called “hypernasality”) and nasal air escape.

**Nasal speech**

In English, the sounds “m”, “n” and “ng” are the only sounds that should sound nasal. Nasal speech happens when other sounds resonate through the nose. This is called “hypernasality” or “hypernasal resonance.” You can hear nasal speech when your child is saying vowels or “w”, “y”, “l” or “r.”

**Nasal air escape**

When air escapes through the nose as your child makes pressure consonants, this is called nasal air emission. In English, the pressure consonants are p, b, t, d, k, g, s, z, f, v, sh, zh, ch, dj, and th. These sounds are called pressure consonants because pressure is built up in the mouth when the palate closes and seals the mouth from the nose. When a child has VPI, the pressure consonants may sound weak or muffled. As air escapes through the nose, it may sound like puffs, squeaks or snorts.

How is VPI treated?

Treatment may include surgery or a speech appliance. The kind of treatment recommended will depend on your child’s diagnosis and your preferences.

**Surgery**

We will talk with you about the type of surgery your child may need and when it should be done. The most common speech surgeries for VPI done at Seattle Children’s are Furlow palatoplasty and sphincter pharyngoplasty.

**Furlow palatoplasty** brings the muscles of the palate into a more normal position. This helps lengthen the palate.

**Sphincter pharyngoplasty** involves moving tissue from the side of the throat to the back of the throat. This creates a “speed bump” in the back of the throat that allows the palate to touch the back of the throat when your child talks.

To Learn More

- Speech and Language Services 206-987-2104
- Ask your child’s healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.
Speech appliance

Sometimes, a speech appliance called an obturator is used to treat VPI. An obturator is like a dental retainer with a “speech bulb” attached to the back. It can help your child sound less nasal and keep air from escaping out of their nose when they talk. It is worn during the day and taken out at night while sleeping. It can be left in place when your child is eating.

An obturator can be a short- or long-term option. It can be used before or instead of surgery. Your child may start with an obturator and have surgery when they are older, or they may continue to use one as an adult.

Can speech therapy decrease VPI?

When there is something structural that prevents your child’s palate from contacting the back of throat, speech therapy is generally not recommended. Sometimes, speech therapy can help your child learn to recognize when air is coming out of their nose, but it won’t stop the air from coming out.

The importance of early treatment

As your child’s speech develops, they will form speech habits. It is hard to develop normal speech habits if air escapes through the nose. If your child develops atypical speech patterns, they are often hard to change. The longer a habit or pattern goes on, the harder it may be to change. Our goal is to treat VPI as early as possible to allow your child to develop normal speech.