

Community Developed VPI Screener

This screener was developed and kindly made available by Nadine Langman, Speech Pathologist, Lower Hunter Community Health. Generalist clinicians may find this a useful tool for screening of resonance and nasal airflow disorders, as an adjunct to regular speech and phonology assessment.

SCREENING OF VELOPHARYNGEAL COMPETENCE

Case History Information:

- ❖ In addition to standard case history information, need to obtain history of:
 - Feeding skills, particularly nasal regurgitation and/or sucking difficulties
 - Otitis media, including any grommets inserted
 - Adenoidectomy / Tonsillectomy
 - Other corrective operations for VPI / Cleft palate or lip
 - Congenital syndromes of the patient or any family history
 - Congenital abnormalities, (particularly cardiac problems)
 - Neurological diseases
 - Co-ordination difficulties
 - Dental structure and function (see attached OMA form)
 - Other professionals involved (such as dentist, oral surgeon, orthodontist, paediatrician, cleft palate team, speech pathologist)

Characteristics of VPI:

❖ Resonance Disorder:

- Hypernasality
- Mixed resonance
- Cul-de-sac resonance
- Nasal air emissions
- Nasal turbulence
- Nasal grimace

❖ Articulation:

- Compensatory articulation (such as use of glottal stop or velar fricative)
- Omission of fricatives and plosives
- Weak pressure consonants (especially voiceless plosives affected)
- Distortions (eg: nasal grimace on fricatives and plosives)

❖ Voice: Vocal compensation results in:

- Increased pharyngeal tension
- Reduced volume
- Increased effort in speaking
- Breathy quality
- Raised larynx
- High incidence of vocal nodules compared to other populations

ASSESSMENT:

ORAL EXAMINATION: Client will require comprehensive oral examination.

ARTICULATION: Administer normal articulation assessment and note any of the following:

SIGN OF VPI:	PRESENT:	COMMENTS
❖ Nasalised consonants:	Yes / No _____	
❖ Nasal emissions:	Yes / No _____	
❖ Reduced phonetic inventory:	Yes / No _____	
❖ Nasal grimace:	Yes / No _____	
❖ Weak plosives:	Yes / No _____	
❖ Compensatory articulations (eg: glottal stop)	Yes / No _____	

VOICE QUALITY:

- ❖ Normal: Yes / No
- ❖ Breathy: Yes / No

Comments: _____

HYPERNASALITY:

❖ **Nasal flutter test:** Ask client to say extended /hiiii/ sound. Rapidly hold and release nares. A change in sound quality or a 'flutter' indicates hypernasality. Repeat with /huuu/ to confirm.

- /hiiii/ _____
- /huuu/ _____

❖ **Hypernasality Test:** Ask client to say high oral pressure words alternatively with nares occluded and patent. Any tone change indicates hypernasality. Ask client to repeat the following words loudly, then to say again while nares are pinched:

WORD:	CHANGE IN TONE (circle):	COMMENTS:
○ Bat	Yes / No	_____
○ Bit	Yes / No	_____
○ Bait	Yes / No	_____
○ Boat	Yes / No	_____
○ Dig	Yes / No	_____
○ Dog	Yes / No	_____
○ Gate	Yes / No	_____
○ Zoo	Yes / No	_____
○ Vase	Yes / No	_____
○ Vet	Yes / No	_____

Try phrases loaded with oral sounds:

- Five fat fish _____
- Chocolates and chips _____
- Shoes and socks _____
- Puppy dog _____
- Paper bag _____
- The cat caught a bird _____
- Suzy sees the sun in the sky _____
- Put the baby in the buggy _____
- Go get the wagon for the girl _____
- The ship goes in the shallow water _____

❖ Try counting from 60 – 80:

- 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80. _____

HYPONASALITY:

❖ **Hyponasality Test:** Ask client to repeat words that contain nasals, alternatively with the nares occluded and patent. If they sound the **same**, then hyponasality is indicated.

WORD: SOUNDS THE SAME? (circle): COMMENTS:

- Meat Yes / No _____
- Mitt Yes / No _____
- Mate Yes / No _____
- Met Yes / No _____
- Mat Yes / No _____
- Night Yes / No _____
- Near Yes / No _____
- Net Yes / No _____
- Nought Yes / No _____
- Note Yes / No _____

❖ Try phrases loaded with nasal sounds:

- My name is May _____
- Muffin mix _____
- Mamma makes lemon jam _____
- My mum makes jam _____
- Many men need money _____

NASAL EMISSION:

- ❖ **“s” Mirror Test:** Ask the client to produce a long /s/ sound. Place a small mirror under the nose (a cold mirror works best). Fogging of the mirror indicates nasal emission. (Ensure that the mirror is placed after /s/ begins and removed prior to /s/ ceasing, to avoid fogging up with exhalation).

Trial 1: Mirror fogs up: Yes / No

Trial 2: Mirror fogs up: Yes / No

Comments: _____

- ❖ **Nasal Emission Test:** Check both nostrils are patent (open). Place a Sea Scape, Nasal Listening Tube or Stethoscope under nostrils. Ask the client to repeat the words below and note any air escape and if possible, which nostril it came from:

WORD:	NASAL EMISSION (circle):	NOSTRIL (circle):
<input type="radio"/> Paddle	Yes / No	L / R / Both / Unsure
<input type="radio"/> Bubble	Yes / No	L / R / Both / Unsure
<input type="radio"/> People	Yes / No	L / R / Both / Unsure
<input type="radio"/> Paper	Yes / No	L / R / Both / Unsure
<input type="radio"/> Puppy	Yes / No	L / R / Both / Unsure
<input type="radio"/> Six	Yes / No	L / R / Both / Unsure
<input type="radio"/> Socks	Yes / No	L / R / Both / Unsure
<input type="radio"/> Fish	Yes / No	L / R / Both / Unsure
<input type="radio"/> Float	Yes / No	L / R / Both / Unsure
<input type="radio"/> Zoo	Yes / No	L / R / Both / Unsure
<input type="radio"/> Ship	Yes / No	L / R / Both / Unsure
<input type="radio"/> Shop	Yes / No	L / R / Both / Unsure

- ❖ Try phrases loaded with oral sounds:

- Five fat fish _____
- Chocolates and chips _____
- Shoes and socks _____
- Puppy dog _____
- Paper bag _____
- The cat caught a bird _____
- Suzy sees the sun in the sky _____
- Put the baby in the buggy _____
- Go get the wagon for the girl _____
- The ship goes in the shallow water _____

ORAL-NASAL FISTULA: (Generally a fistula that is smaller than a small pea – 4mm diameter - will not cause nasality problems)

- ❖ Using a Nasal Listening Tube, Sea Scape or Stethoscope, compare plosives with the fistula open and then occluded (eg: with chewing gum)

PHONEME	ANY DIFFERENCE? (circle)	COMMENTS
<input type="radio"/> /p/	Yes / No	_____
<input type="radio"/> /b/	Yes / No	_____
<input type="radio"/> /t/	Yes / No	_____
<input type="radio"/> /d/	Yes / No	_____
<input type="radio"/> /k/	Yes / No	_____
<input type="radio"/> /g/	Yes / No	_____

- ❖ **Anterior fistula:** For fistulas that are anterior in the mouth, compare production of anterior plosives with production of posterior plosives. If anterior plosives produce a greater air leak than posterior plosives, then fistula is contributing. If there is no difference in air leak, then VPI is suspected.

PHONEME	ANY LEAKAGE? (circle)	COMMENTS
<input type="radio"/> /p/	None / little / lots	_____
<input type="radio"/> /b/	None / little / lots	_____
<input type="radio"/> /k/	None / little / lots	_____
<input type="radio"/> /g/	None / little / lots	_____

- ❖ Try word level:

Anterior to fistula:

PHONEME	ANY LEAKAGE? (circle)	COMMENTS
<input type="radio"/> /ma-ma-ma/	None / little / lots	_____
<input type="radio"/> /pi-pi-pi/	None / little / lots	_____
<input type="radio"/> /si-si-si/	None / little / lots	_____
<input type="radio"/> Suzy sees Sally	None / little / lots	_____
<input type="radio"/> Stop the bus	None / little / lots	_____
<input type="radio"/> Peter has a puppy	None / little / lots	_____

Posterior to fistula:

PHONEME	ANY LEAKAGE? (circle)	COMMENTS
<input type="radio"/> /ki-ki-ki/	None / little / lots	_____
<input type="radio"/> /ka-ka-ka/	None / little / lots	_____
<input type="radio"/> /gu-gu-gu/	None / little / lots	_____
<input type="radio"/> Give Garry a cookie	None / little / lots	_____
<input type="radio"/> Call Guy quick!	None / little / lots	_____