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# Guidance notes for the SToPS (Hurren, Miller and Carding 2018)

## 1. Overall Severity Scale

Voice quality is **not** compared to normal voice for a laryngeal speaker. Rate the voice in comparison to your internal reference point of voice potential for SVR speakers.

0. **Excellent** - The best voice achievable for a SVR speaker; the voice quality you would judge to be the optimal outcome after laryngectomy.
1. **Good** - Some aspect(s) observed prevents you judging the voice as falling into the optimal outcome group.
2. **Adequate** - Some aspect(s) mean the voice cannot be rated as good
3. **Poor** - The worst outcome for a SVR speaker.

## Section A - Voice Quality Parameters

### 2. Perceptual Tonicity

#### **Tonic**

0. Neutral tone; neither lax nor tight.

#### **Hypotonic (tone laxer than tonic)**

1. Mildly laxer compared to tonic (Lee Marvin voice, like creak)
2. Moderately lax compared to tonic; voice may have 'echoing' sound of resonance of voice in the inflated hypotonic area. Creaky, lax feature and low pitch.

3. Severe hypotonicity for laryngectomy, but would be classed as good outcome for a jejunum or stomach graft. Obvious echoing resonance. Whisper quality is evident in the lax, inflated area. Low pitched.
4. Usually only jejunum/stomach pull-up patients display this degree of hypotonicity. The voice is severely whispery and has reduced volume compared to hypotonic 3. Echoing Resonance in the ballooning, inflated hypotonic area is severe.
5. Aphonic whisper. This differs from the aphonia in a stenosed neopharynx as air is passing through larger, laxer, ballooning area with less turbulence than a tight stenosed area. Tight stenosed voice sounds more like tense aphonia in a patient with a larynx. The volume is severely reduced. Intermittent gurgly phonation may occur due to vibration of secretions.

### **Hypertonic (tone tighter than tonic)**

1. Mildly tenser than tonic. Quality sounds more like a dysphonic voice (in patient with a larynx). No strain.
2. Moderately tenser than tonic, but not to the degree that would be considered sufficient for botulinum toxin. Strain is evident but only mild. Volume may be reduced or louder than normal. No major effect on fluency.
3. Definitely hypertonic, moderately strained or whisper quality. Mild effect on fluency.
4. Marked hypertonic quality that is unpleasant to listen to. Voice is still functional but with marked strain and markedly reduced fluency.

5. Severe hypertonicity, fluency is severely affected and intermittent total spasm may occur. The voice is normally non-functional or cannot be used for all communication needs due to the strain required for phonation.

## **Stenosis**

Stenosis is **not** rated 1-5; it could only be rated as a separate parameter from tonicity in its most marked form in the pilot study. Stenosis +5 should be used if no tonicity is judged to be present due to extensive neopharyngeal fibrosis. Marked stenosis causes a rigid, immobile neopharynx. Stenosis (+5) is characterized as an aphonic whisper that gives the impression of a scarred, tight neopharynx with resonance of the whisper in a rigid tube with no vibrating neoglottis. Strain may be a feature if the diameter of the rigid area is narrow. The voice often sounds similar to that of a laryngeal speaker with aphonia; N.B. hypotonic -5 has a lower resonance and is a lax aphonia. Stenotic voice quality is always associated with dysphagia for solids.

## **3. Strain**

The amount of audible effort you perceive the patient requires to produce voice.

0. No perceived effort.
1. Mild
2. Moderate
3. Severe, usually associated with marked hypo/hypertonicity.

#### **4. Wetness/Gurgliness**

The perceptual feature of secretions bubbling in the neopharynx on voicing. If an intermittent feature, rate at its most severe.

0. No audible vibration of secretions
1. Mild
2. Moderate
3. Severe - usually associated with jejunal grafts and hypotonicity +3 → +5. May occur with dysphagia if pooling of secretions or liquid bolus in stenosis or pouch/pseudoepiglottis.

#### **5. Impairment of Volume**

0. Conversational volume of voice judged to be within the same limits as expected for normal conversational volume for a laryngeal speaker.
1. Mildly impaired volume
2. Moderately impaired volume
3. Severely impaired volume reserved for voice that is whisper only  
Aphonia +5/-5/Stenosis.

#### **6. Social Acceptability**

If you are judging social acceptability to be impaired because of regional accent, please mark this on the rating form.

0. Social acceptability is the optimal level possible for a SVR speaker.

1. Mild impairment , e.g. mildly gurgly quality, strain etc
2. Moderate impairment; obviously qualitatively different to a laryngeal speaker and not aesthetically pleasant.
3. Severe impairment of acceptability. “General public” would tend to turn or stare if they heard this voice e.g. marked stoma blast, echoing deep jejunal voice, severe hypertonic strain. The type of voice outcome you would dread if this subject were your relative. This parameter has the potential to link with one or more of the other parameters on the scale.

## **7. Whisper**

The perceptual impression of whisperiness in the voice quality.

0. No whisper quality audible
1. Mild whisper quality
2. Moderate
3. Severe. Total aphonia.

## **8. Intelligibility**

0. Ease of understanding the speaker that would be expected for a normal laryngeal speaker, in a one to one speaking situation with no background noise.
1. Mild impairment of intelligibility
2. Moderate impairment of intelligibility
3. Severe impairment of intelligibility

## **9. Stoma Noise**

0. Stoma noise is judged to be absent
1. Intermittent mild stoma noise; rate in this category even if a brief instance of mild stoma noise is audible in the sample
2. Constant stoma noise even if you judge it as being relatively quiet or mild.
3. Constantly audible stoma noise that is marked and may compete with oral speech.

## **10. Fluency**

0. Fluency within normal limits for a typical laryngeal speaker.
1. Mildly impaired fluency compared to a typical laryngeal speaker.
2. Moderate impaired fluency - 5 – 10 syllable phrasing per breath group
3. Severely impaired fluency - phrasing of 5 syllables or less.