

## ABSTRACT

Title: VLS (videolaryngostroboscopy) Parameters Form

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Videolaryngostroboscopy is a basic investigation for the assessment of artistic voice problems as for common dysphonia. In 2001 the European Laryngological Society (ELS) published a Basic Protocol for the assessment of dysphonia, which considered Videolaryngostroboscopy as an indispensable exam for a correct diagnosis. In 2002 the Italian Society of Phoniatics and Logopedics (SIFEL) proposed a Protocol that follows the ELS guidelines, containing a form for the collection of the basic findings of videolaryngostroboscopy. It considered several parameters, as those codified by Hirano and Bless (the “Mucosal Wave” and the “Glottic Closure”) and other parameters proposed by Bergamini and Ricci-Maccarini, as the “Vocal Fold Motility” and the “Seat of Voice Source”, providing a comprehensive evaluation tool for the videolaryngostroboscopic examination. In 2018 this form was published as proposal on the European Archives of Otorhinolaryngology, with drawings that help voice clinicians in the evaluation of videolaryngostroboscopic findings. This form, called “VLS (videolaryngostroboscopy) Parameters Form” includes the evaluation of 12 parameters: 1 Supraglottic Framework Behaviour, 2 Seat of Voice Source, 3 Vocal Fold Morphology, 4 Vocal Fold Motility, 5 Level of the Vocal Fold, 6 Symmetry of Glottic Vibration, 7 Periodicity of Glottic Vibration, 8 Glottic Closure, 9 Profile of Vocal Fold Edge, 10 Amplitude of Vocal Fold Vibration, 11 Mucosal Wave, 12 Stops of Vocal Fold Mucosa Vibration. Before completing the form, the voice clinician has to annotate the type of endoscope used for the examination, as well as pitch, loudness and vocal register of the voice sample. These aspects give basic information for the correct evaluation of videolaryngostroboscopy.

In 2016 Poburka, Patel and Bless published a form for the collection of basic findings of the videolaryngostroboscopy and a form for the High-Speed Videoendoscopy on the Journal of Voice. The first one, called “VALI (voice vibratory assessment with laryngeal imaging) Form for Stroboscopy”, provides for the evaluation of 11 parameters, similar to the ones contained in the VLS Parameters Form, but

with an evaluation in percent and without the parameter “Vocal Fold Motility”, which is useful i.e. for the evaluation of the vocal fold paralysis, with the possibility to rate the medialization of an immobile vocal fold from an abducted or an intermediate position to a paramedian or a median position after phonosurgery, evaluating the degree of the Glottic Closure, the Periodicity, the Amplitude and the Mucosal Wave of the immobile vocal fold; also, the parameter “Seat of Voice Source” is useful i.e. for the ventricular bands voice, with the possibility to rate the Seat of Voice Source, the Periodicity, the Amplitude and the Mucosal Wave of the supraglottic vibration. The 8<sup>th</sup> parameter of the VALI Form for Stroboscopy “Phase Closure” provides for the evaluation of the duration of the closed phase of the vibratory glottic cycle in comparison with the open phase and it is correctly evaluated with the High-Speed Videoendoscopy. The evaluation in percent of the parameters of the VALI Form suggested us to improve the rating of four parameters of the VLS Parameters Form: the parameter 1 “Supraglottic Framework Behaviour” now has the possibility to rate a “Slight” ( $\leq 50\%$ ) or a “Marked” ( $> 50\%$ ) contraction; the parameter 4 “Glottic Closure” is more easily rated since “Slightly Incomplete” is when the glottic gap is  $\leq 50\%$  and “Very Incomplete” is the glottic gap  $> 50\%$ ; the parameters 10 “Amplitude of Vocal Fold Vibration” and 12 “Mucosal Wave” are more easily rated since the Normal value is now 40-60%, Small is  $< 40\%$  and Large is  $> 60\%$ , as in VALI Form.

We recommend the use of the VLS Parameters Form or the VALI Form for Stroboscopy in the evaluation of videolaryngostroboscopy examinations.