

Supplementary Table 2: Overview about the four facial grading systems

Effect of an intensified combined electromyography and visual feedback training on facial grading in patients with postparalytic facial synkinesis

G.F. Volk^{1,2}, B. Roediger¹, K. Geißler^{1,2}, A.-M. Kутtenreich^{1,2}, C.M. Klingner^{2,3}, C. Dobel^{1,2}, O. Guntinas-Lichius^{1,2}

¹Department of Otorhinolaryngology, Jena University Hospital, Jena, Germany

²Facial Nerve Center, Jena University Hospital, Jena, Germany

³Department of Neurology, Jena University Hospital, Jena, Germany

Correspondence to: Orlando Guntinas-Lichius
Department of Otorhinolaryngology
Jena University Hospital
Am Klinikum 1
D-07747 Jena, Germany
Tel. +49-3641-9329301
Fax. +49-3641-9329302
Email: orlando.guntinas@med.uni-jena.de

| Supplementary Table 2. Overview about the four facial grading systems* | | |
|---|---|--|
| Grading system | Categories | Comment |
| House-Brackmann (HB) facial nerve grading system | <p>I - Normal</p> <p>II - Mild dysfunction (slight weakness, normal symmetry at rest)</p> <p>III - Moderate dysfunction (obvious but not disfiguring weakness with synkinesis, normal symmetry at rest) Complete eye closure w/ maximal effort, good forehead movement</p> <p>IV - Moderately severe dysfunction (obvious and disfiguring asymmetry, significant synkinesis) Incomplete eye closure, moderate forehead movement</p> <p>V - Severe dysfunction (barely perceptible motion)</p> <p>VI - Total paralysis (no movement)</p> | Gross system, no category for synkinesis |
| Stennert Index (SI) | <p>Resting score</p> <p>Bilateral palpebral fissure difference $\geq 3\text{mm}$</p> <p>Lower eyelid ectropion Yes</p> <p>Nasolabial fold loss Yes</p> <p>Ptosis of labial angle $\geq 3\text{mm}$</p> <p>Movement score</p> <p>Palpebral fissure could not close</p> <p>While sleeping Yes</p> <p>Maximum activation Yes</p> | <p>One point per item, i.e. maximal ten points, higher score = more dysfunction;</p> <p>Synkinesis is not addressed in the Stennert Index. Stennert developed an extra score for synkinesis that is seldom used.</p> |

| | | |
|--|---|-------------|
| | Showing teeth | |
| | Upper and lower canines | Not visible |
| | Upper lateral incisors | Not visible |
| | Whistle | |
| | distance between philtrum and corner of the mouth on diseased side compared to healthy side | |
| | >50% | |

Facial Nerve Grading
System 2.0 (FNGS 2.0)

| Score | Region | | | |
|--|--|---|--|--|
| | Brow | Eye | NLF | Oral |
| 1 | Normal | Normal | Normal | Normal |
| 2 | Slight weakness >75% of normal | Slight weakness >75% of normal Complete closure with mild effort | Slight weakness >75% of normal | Slight weakness >75% of normal |
| 3 | Obvious weakness >50% of normal Resting symmetry | Obvious weakness >50% of normal Complete closure with maximal effort | Obvious weakness >50% of normal Resting symmetry | Obvious weakness >50% of normal Resting symmetry |
| 4 | Asymmetry at rest <50% of normal Cannot close completely | Asymmetry at rest <50% of normal | Asymmetry at rest <50% of normal | Asymmetry at rest <50% of normal |
| 5 | Trace movement | Trace movement | Trace movement | Trace movement |
| 6 | No movement | No movement | No movement | No movement |
| Secondary movement (global assessment) | | | | |
| Score | Degree of movement | | | |
| 0 | None | | | |
| 1 | Slight synkinesis; minimal contracture | | | |
| 2 | Obvious synkinesis; mild to moderate contracture | | | |
| 3 | Disfiguring synkinesis; severe contracture | | | |
| Reporting: sum scores for each region and secondary movement | | | | |
| Grade | Total score | | | |
| I | 4 | | | |
| II | 5-9 | | | |
| III | 10-14 | | | |
| IV | 15-19 | | | |
| V | 20-23 | | | |
| VI | 24 | | | |
| NLF, nasolabial fold. | | | | |

FNGS 2.0 includes an subcategory on “secondary movements”, classifying the severity of synkinetic activity; higher synkinesis score = more synkinetic dysfunction;

Higher total score = higher facial dysfunction

Sunnybrook Facial Grading System (SFGS)

| Sunnybrook Facial Grading System | | | | | | | | | |
|---|--|--|--|--|--|--|---|--|--|
| Resting Symmetry Compared to normal side | | Symmetry of Voluntary Movement Degree of muscle EXCURSION compared to normal side | | | | | Synkinesis Rate the degree of INVOLUNTARY MUSCLE CONTRACTION associated with each expression | | |
| Eye (choose one only) normal 0 narrow 1 wide 1 eyelid surgery 1 | | Standard Expressions: Unable to initiate movement, Initiates slight movement, Initiates movement with mid excursion, Movement almost complete, Movement complete | | | | | NONE: no synkinesis or mass movement MILD: slight synkinesis of one or more muscles MODERATE: obvious synkinesis of one or more muscles SEVERE: disfiguring synkinesis; gross mass movement of several muscles | | |
| Cheek (nasolabial fold) normal 0 absent 2 less pronounced 1 more pronounced 1 | | Brow lift (FRD) 1 2 3 4 5 <input type="checkbox"/> Gentle eye closure (OCS) 1 2 3 4 5 <input type="checkbox"/> Open mouth smile (ZYG/RIS) 1 2 3 4 5 <input type="checkbox"/> Snarl (LLA/LLS) 1 2 3 4 5 <input type="checkbox"/> Lip Pucker (OOS/OOI) 1 2 3 4 5 <input type="checkbox"/> | | | | | 0 1 2 3 <input type="checkbox"/> 0 1 2 3 <input type="checkbox"/> 0 1 2 3 <input type="checkbox"/> 0 1 2 3 <input type="checkbox"/> 0 1 2 3 <input type="checkbox"/> | | |
| Mouth normal 0 corner drooped 1 corner pulled up/out 1 | | Gross Asymmetry, Severe Asymmetry, Moderate Asymmetry, Mild Asymmetry, Normal Symmetry | | | | | 0 1 2 3 <input type="checkbox"/> 0 1 2 3 <input type="checkbox"/> | | |
| Total <input type="checkbox"/> Resting symmetry score Total × 5 <input type="checkbox"/> | | Total <input type="checkbox"/> Voluntary movement score: Total × 4 <input type="checkbox"/> | | | | | Synkinesis score: Total <input type="checkbox"/> | | |
| Patient's name _____ Dx _____ Date _____ | | Vol mov't score <input type="checkbox"/> - Resting symmetry score <input type="checkbox"/> = Synk score <input type="checkbox"/> = Composite score <input type="checkbox"/> | | | | | | | |

© 1992 Ross BG, Fradet G, Nedreiskal JM
Sunnybrook Health Science Centre

SFGS 2.0 includes an subcategory on "synkinesis," classifying the severity of synkinetic activity; higher synkinesis score = more synkinetic dysfunction;

BUT: Higher total score = less facial dysfunction

*References: See main article.