

Flexible endoscopic treatment of glottic insufficiency

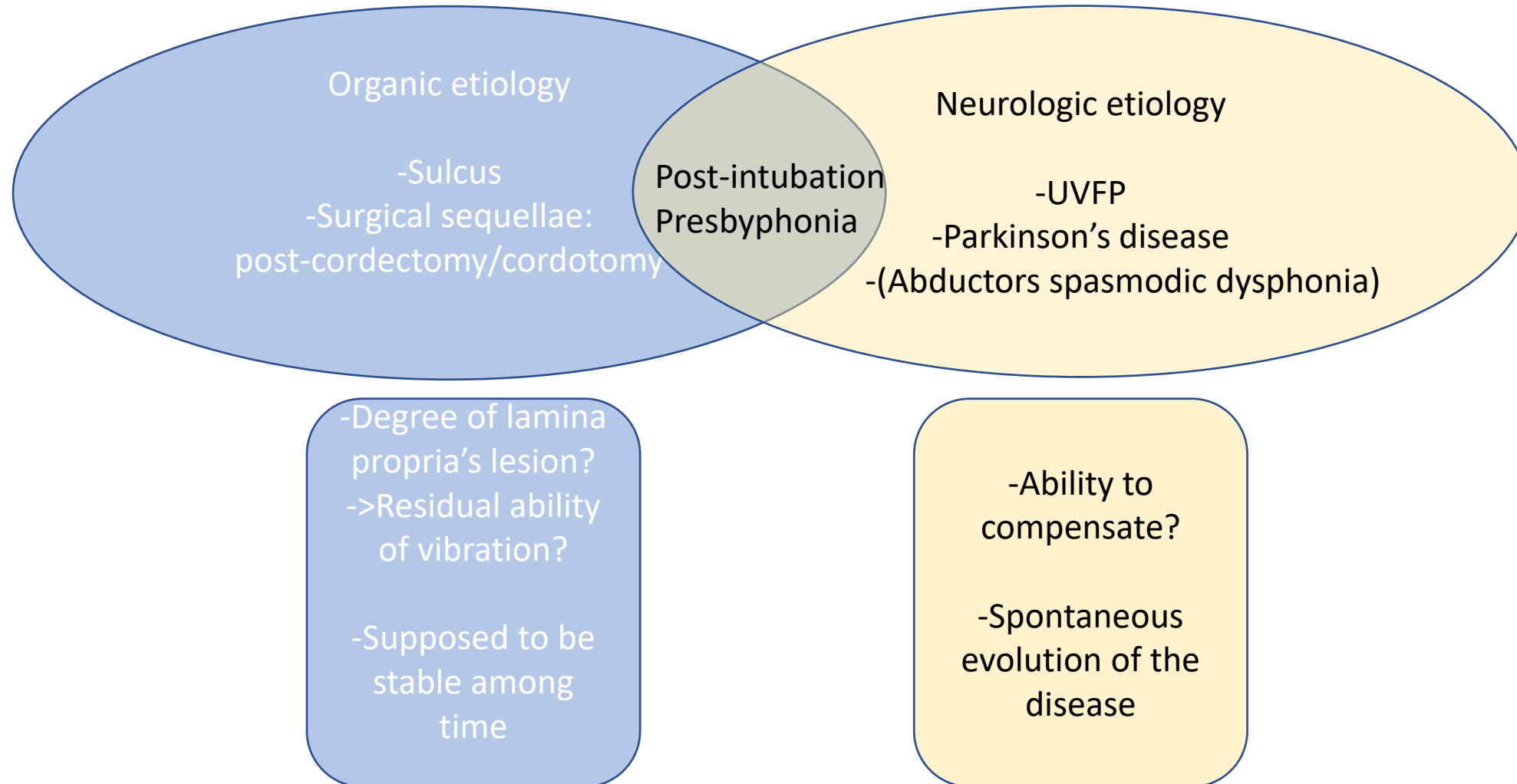
11th Winter Days of laryngology

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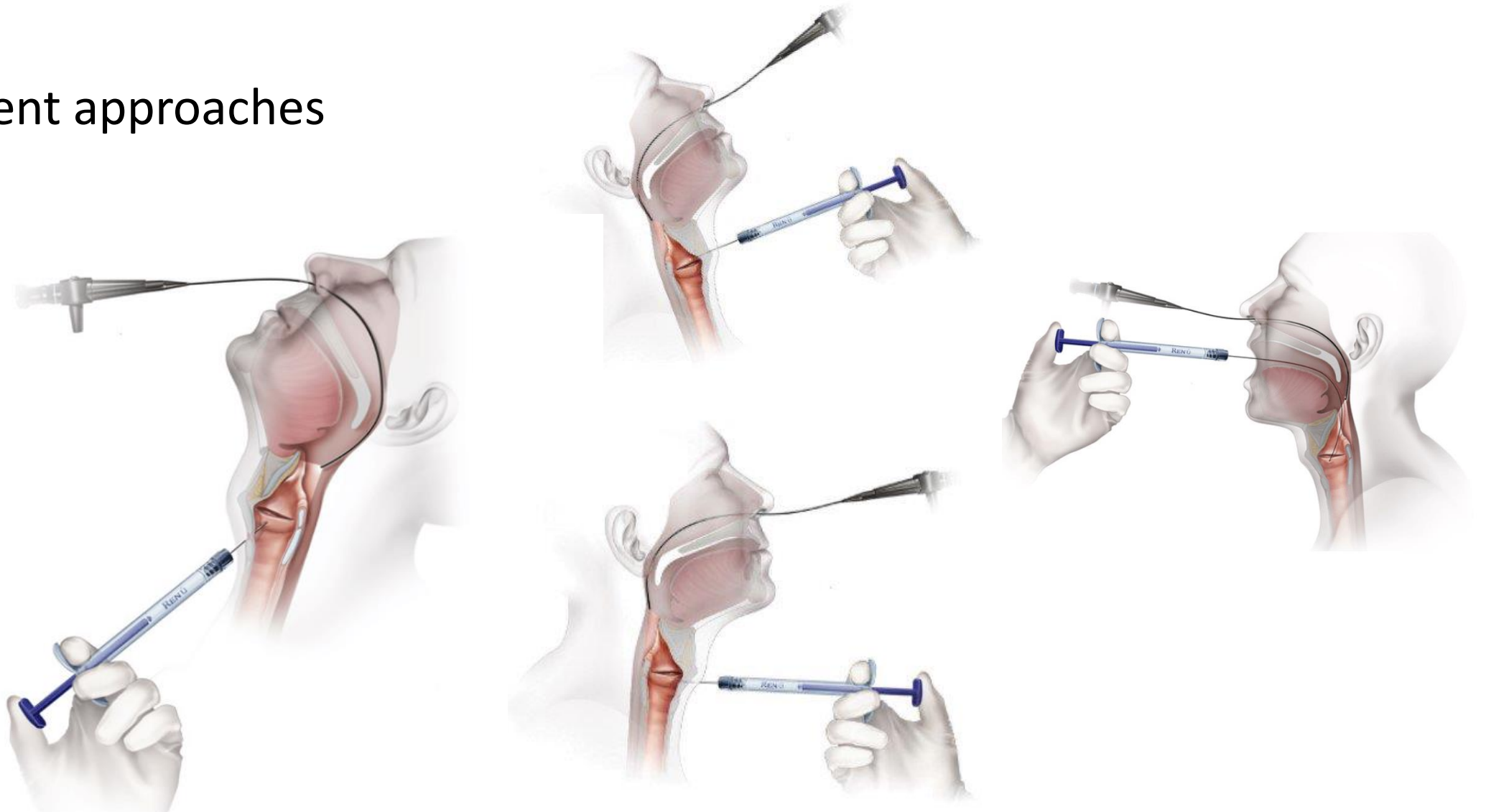


Glottic insufficiency?



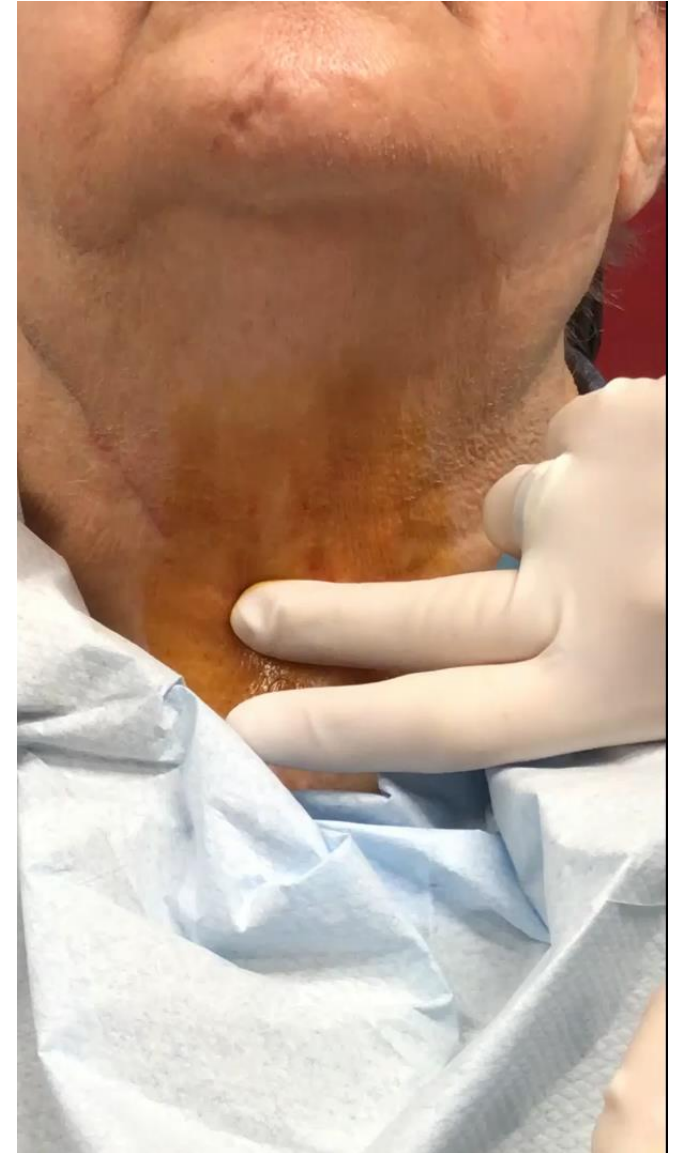
Flexible endoscopic injections in laryngology

- Different approaches



Flexible endoscopic injections in laryngology

- Local anesthesia
 - Nose: Tetracaïne 400mg/Otrivine
 - Subcutaneous: Lidocaïne 2%
 - Subglottic space:Lidocaïne 2%
- What do we inject?
 - Hyaluronic acid (Juvederm[®])
 - Calcium hydroxyapatite (Renu Voice[®], Radiesse[®])
 - (Local corticoids)



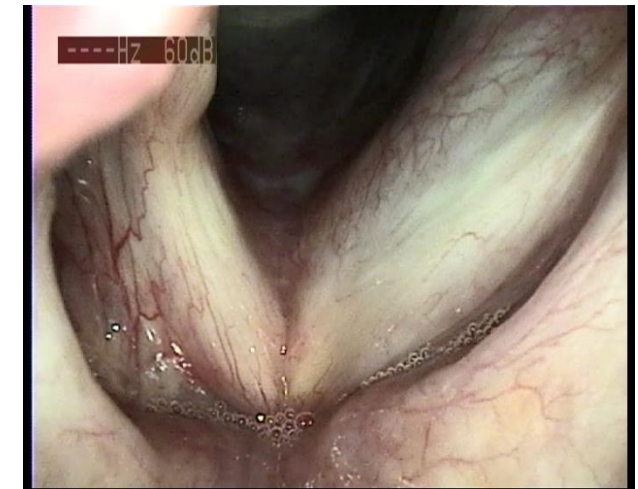
Flexible endoscopic injections in laryngology

Positive aspects

- Minimally invasive approach
 - No anesthesia
 - Short operative duration
 - Anticoagulation?
- Surgical independence
 - No anesthesiologist
 - No operating room
 - BUT a nice colleague !
- Low cost
 - Outpatient procedure
 - Cost of the injected substance

Negative aspects

- Patient's compliance
 - Patient's selection
 - Physician's empathy and patience
- Anatomic constraints
 - Patient's selection
 - Learning curve



Flexible endoscopic injections in laryngology

Positive aspects

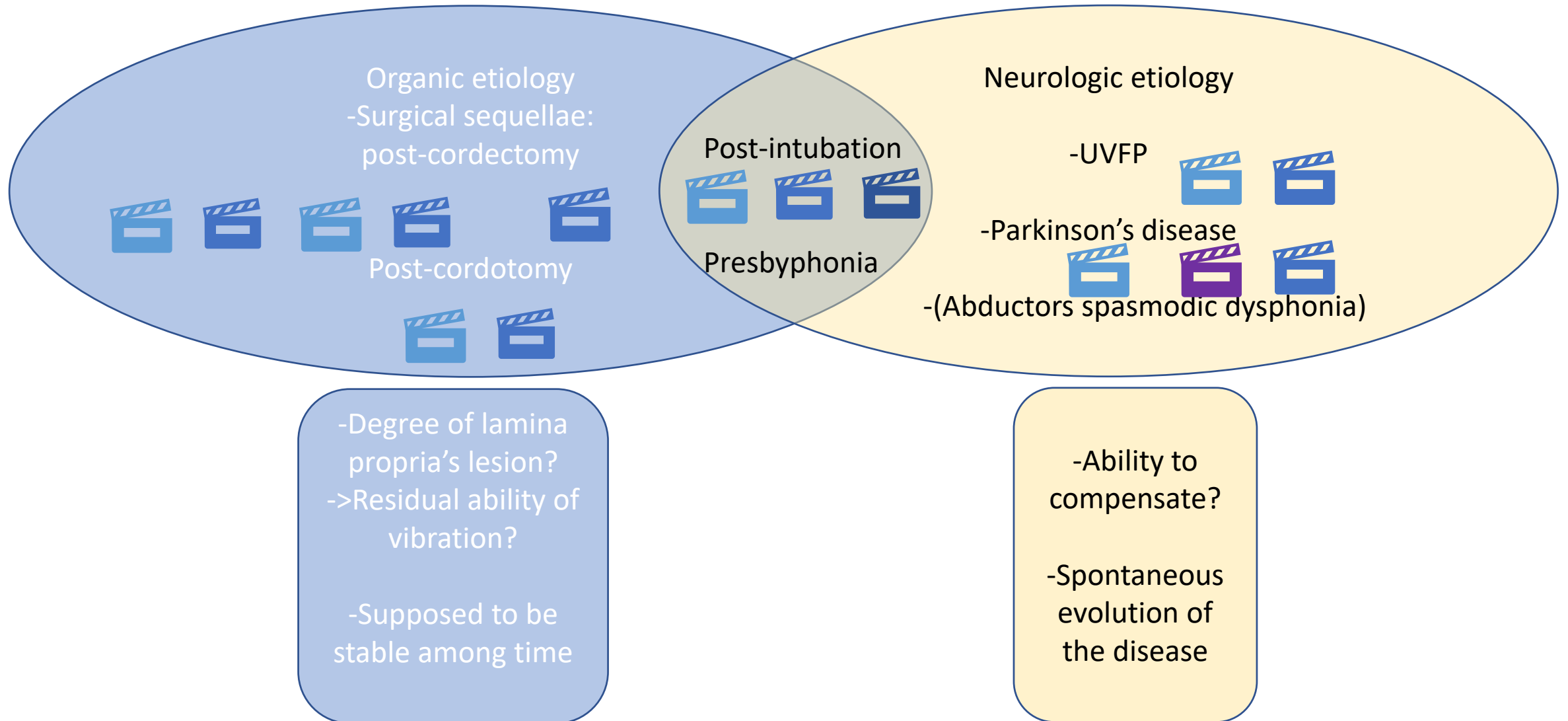
- Minimally invasive approach
 - No anesthesia
 - Short duration of fasting
 - Anticoagulation?
- Surgical independence
 - No anesthesiologist
 - No operating room
 - BUT a sympathetic helper
- Low cost
 - Outpatient procedure
 - Cost of the injected substance



Good therapeutic trial

Good iterative (or not)
treatment

Flexible endoscopic injections?



Discussion: trial injections

- Introduction of the technique by Carroll and Rosen

Carroll TL, Rosen CA. Trial vocal fold injection. *J Voice*. 2010 Jul;24(4):494-8. doi: 10.1016/j.jvoice.2008.11.001.

- When should we assess the response?
 - Most often 4 weeks after trial VFI
 - Seems to be shortened to 2 weeks

Carroll TL, Faudoa E, Van Doren M. Evaluation of a Shorter Follow-up Time to Capture Benefit of a Trial Vocal Fold Augmentation. *J Voice*. 2019 Mar;33(2):169-175. doi: 10.1016/j.jvoice.2017.10.017.

Discussion

- Comprehensive early management of UVFP
 - VFI in the 4-5 days after thoracic surgery reduces infectious complication and hospital stay
 - N Bhattacharyya, H Batirel and SJ. Swanson. Improved outcomes with early vocal fold medialization for vocal fold paralysis after thoracic surgery. *Auris Nasus Larynx*, 30 (2003), pp. 71-75, [10.1016/S0385-8146\(02\)00114-1](https://doi.org/10.1016/S0385-8146(02)00114-1)
 - Chen DW, Price MD, LeMaire SA, et al. Early versus late inpatient awake transcervical injection laryngoplasty after thoracic aortic repair: early vs. late injection laryngoplasty. *Laryngoscope*. 2018;128:144–147.
 - <https://doi.org/10.1002/lary.26747>.
- Lower need of long-term medialization?
 - PM Vila, NK Bhatt and RC. Paniello. Early-injection laryngoplasty may lower risk of thyroplasty: a systematic review and meta-analysis: early injection for unilateral vocal fold paralysis. *Laryngoscope*, 128 (2018), pp. 935-940, [10.1002/lary.26894](https://doi.org/10.1002/lary.26894)
 - Prendes BL, Yung KC, Likhterov I, et al. Long-term effects of injection laryngoplasty with a temporary agent on voice quality and vocal fold position. *Laryngoscope*. 2012;122:2227–2233. <https://doi.org/10.1002/lary.23473>

Discussion

- Comprehensive management of vocal fold atrophy
 - 42% to 57% good response to trial VFI, 62 to 75% out of them had a good response to long term VFI
 - 58% poor response to trial VFI, 45% out of them had a good response to long-term VFI.

Young VN, Gartner-Schmidt J, Rosen CA. Comparison of voice outcomes after trial and long-term vocal fold augmentation in vocal fold atrophy. *Laryngoscope*. 2015 Apr;125(4):934-40. doi: 10.1002/lary.25043.

van den Broek EMJM, Heijnen BJ, Hendriksma M, Langeveld APM, van Benthem PPG, Sjögren EV. Bilateral trial vocal fold injection with hyaluronic acid in patients with vocal fold atrophy with or without sulcus. *Eur Arch Otorhinolaryngol*. 2019 May;276(5):1413-1422. doi: 10.1007/s00405-019-05347-2.

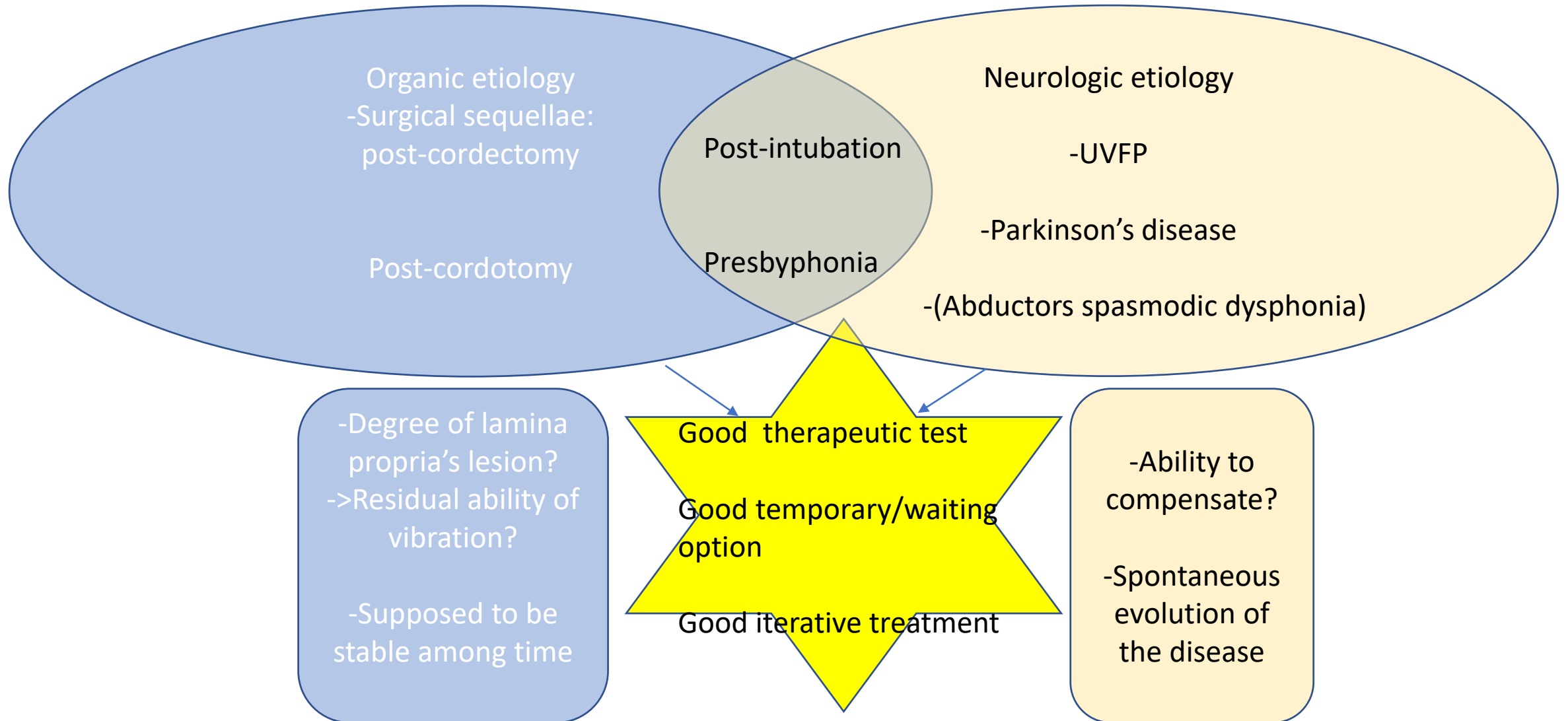
- Comprehensive management of vocal fold scars
 - 78% good response to trial VFI, with 68% among them with good response to long-term VFI

Carroll TL, Dezube A, Bauman LA, Mallur PS. Using Trial Vocal Fold Injection to Select Vocal Fold Scar Patients Who May Benefit From More Durable Augmentation. *Ann Otol Rhinol Laryngol*. 2018 Feb;127(2):105-112. doi: 10.1177/0003489417746188.

- Comprehensive management of vocal multiple pathologies

Van Doren M, Faudoa E, Carroll TL. Treatment of Patients with Vocal Fold Atrophy and Comorbid Essential Voice Tremor: Long-Term Injection Augmentation Outcomes After Successful Diagnostic Vocal Fold Injection Augmentation. *J Voice*. 2020 May;34(3):471-476. doi: 10.1016/j.jvoice.2018.11.004.

Flexible endoscopic injections?



Thank you!

