

BOTULINIUM TOXIN IN PHONiatrIcs AND LARYNGOLOGY (EXCEPT SPAMODIC DYSPHONIA)

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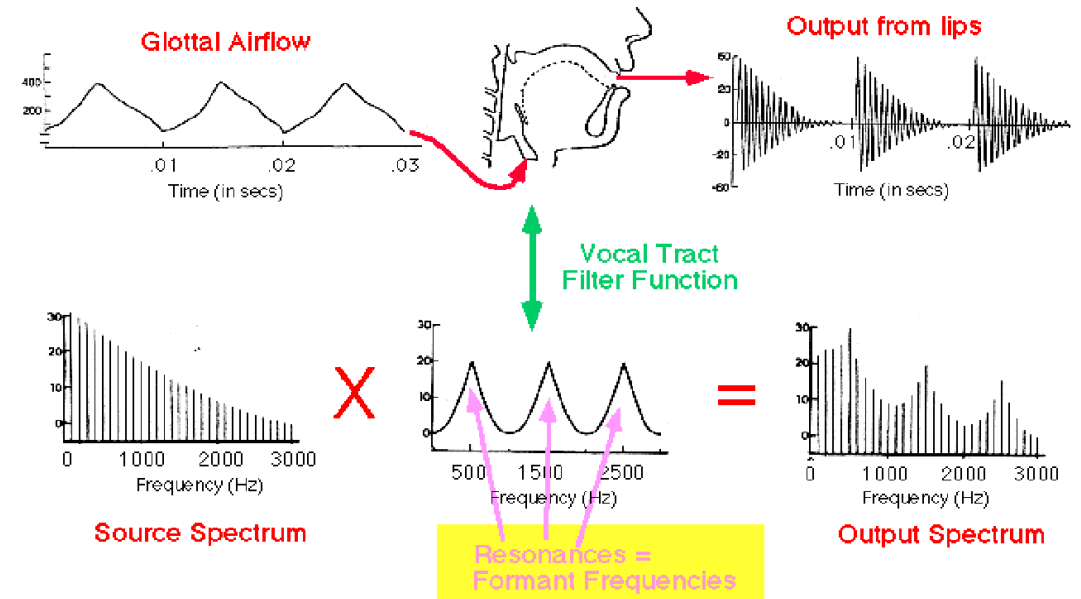
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NEURO-LARYNGOLOGY



VOCAL TREMOR

- WHAT IS SHAKING?
 - SOURCE
 - INTRINSIC LARYNGEAL MUSCLES
 - FILTER
 - EXTRINSIC LARYNGEAL MUSCLES
 - PHARYNX
 - VELUM
 - MANDIBLE
 - TONGUE
 - ORAL FLOOR



Vocal Tremor Scoring System.

Anatomic Site	Tremor Severity (0-3)*			
Palate†	0	1	2	3
Base of tongue‡	0	1	2	3
Pharyngeal wall†	0	1	2	3
Larynx (global)†	0	1	2	3
Supraglottis†	0	1	2	3
True vocal folds†	0	1	2	3

*0 = absent; 1 = mild/intermittent; 2 = moderate tremor; 3 = severe tremor.

†Activation task for assessment of tremor is sustained /i/ phonation.

‡Activation task for assessment of tremor activity is sustained tongue protrusion.

STRIDOR

- BILATERAL VOCAL FOLD PARALYSIS
- DEFAVORABLE SYNKINESIS WITH RESPIRATORY SYMPTOMS
 - POST-PARALYSIS LARYNGOSPASM
 - WHEN LARYNGEAL REINNERVATION IS NOT POSSIBLE
- PARADOXICAL VOCAL FOLDS DYSFUNCTION
 - LARYNGEAL RESPIRATORY DYSKINESIS
 - INSPIRATORY ADDUCTION OF THE VOCAL FOLDS
- SEVERE LARYNGEAL DYSTONIA
 - MOVING FROM SPASMODIC DYSPHONIA TO DYSPNEA

The background features a light gray gradient with several realistic water droplets of various sizes scattered across the surface. In the center, there is a faint, circular anatomical diagram of the human mouth and throat, showing the tongue, pharynx, and larynx in a light gray tone.

ORO-MANDIBULAR DYSTONIA

SYMPTOMS & TARGETS

- TONGUE MOVEMENTS

- SEMIOTIC ANALYSIS +++
- RISK OF DYSPHAGIA +++
- SMALL DOSES:
- EMG LOCATION

- HOGWEED:

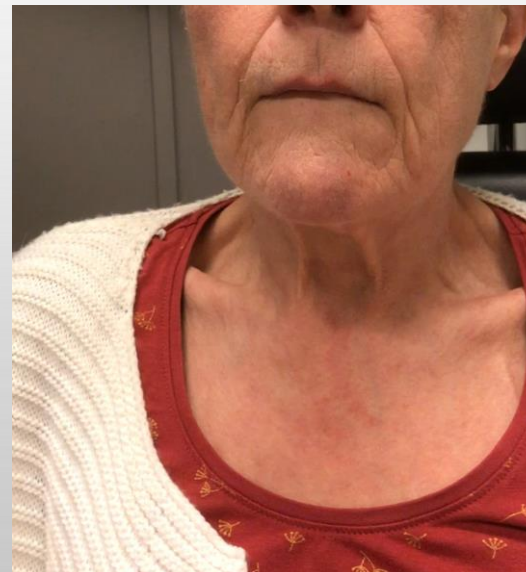
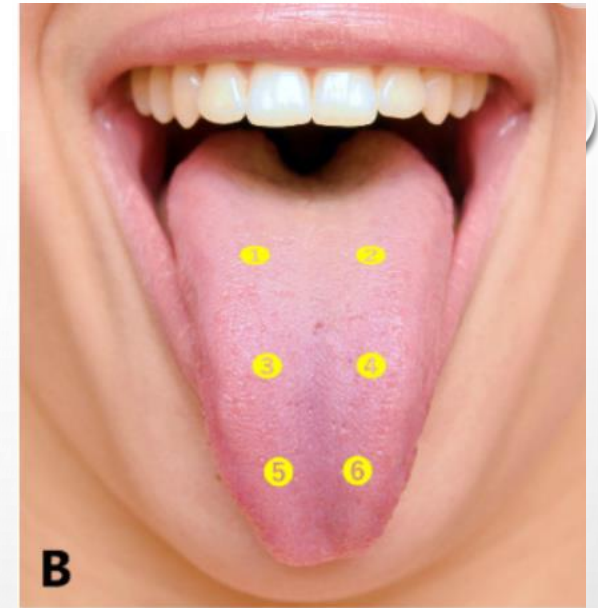
 - POSTERIOR INJECTIONS FOR LINGUAL PROTRACTION

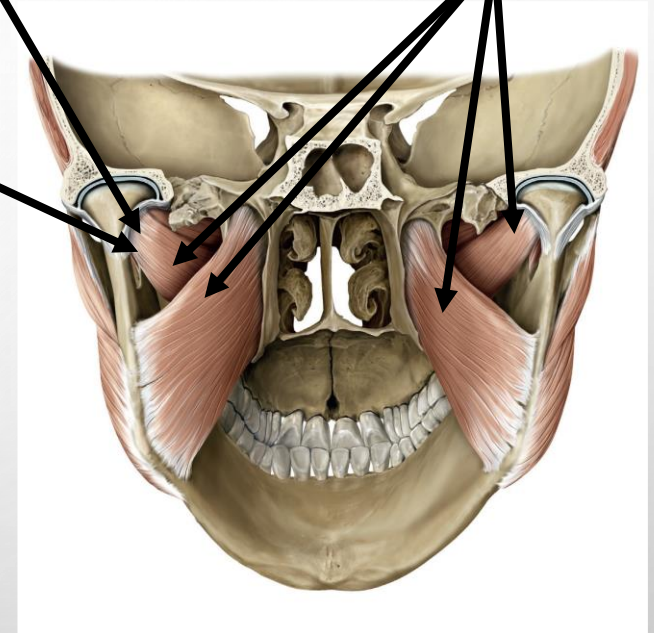
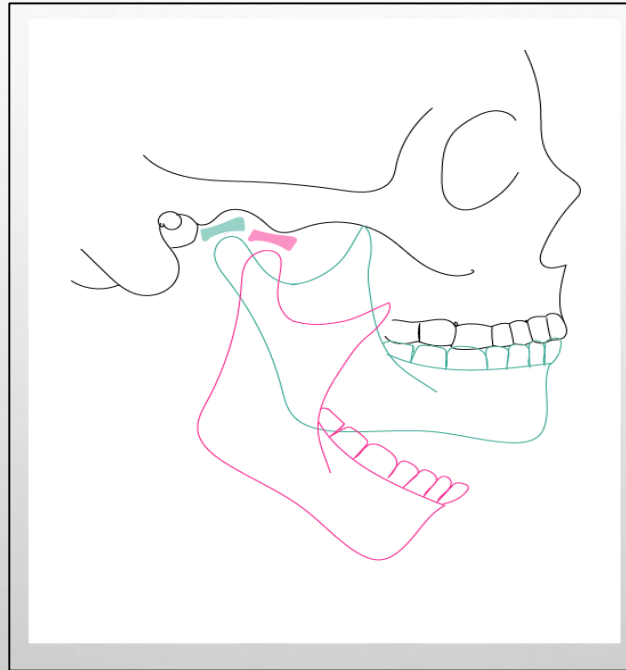
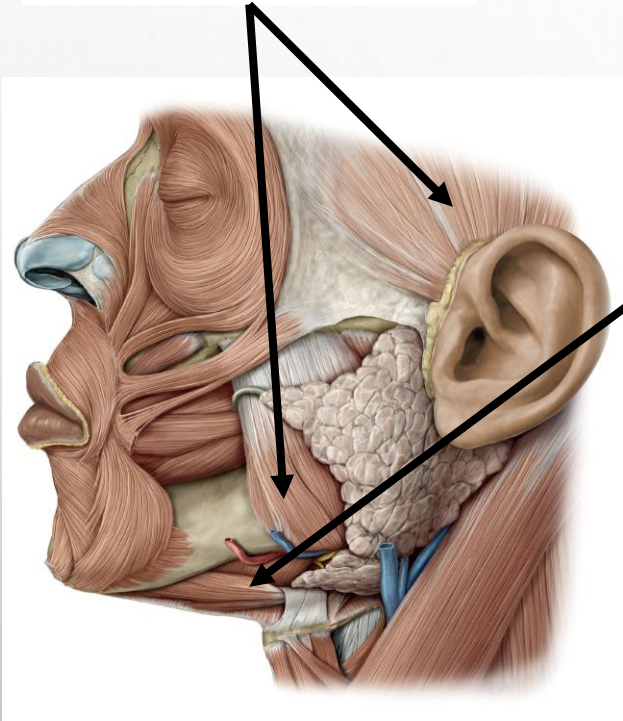
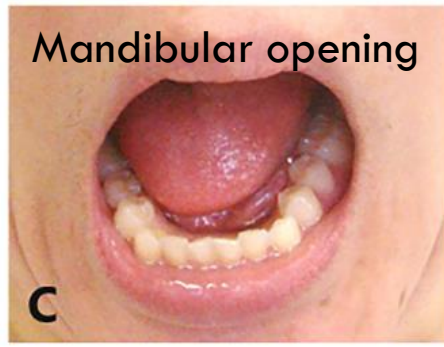
- HYOGLOSSA:

 - FOR IPSILATERAL ROTATIONS

- LIP MOVEMENTS

- SEMIOTIC ANALYSIS
- RISK OF DROOLING/ASYMMETRY OF THE FACE
- VERY LOW DOSES





SYMPTOMS & TARGETS

OMD AND DYSPHAGIA

- DYSPHAGIA PRESENT IN 15.6% OF PATIENTS
 - WEIGHT LOSS IN HALF OF THEM, 5-6 KG
- MECHANISMS
 - DIFFICULTIES GETTING INTO THE MOUTH
 - ORAL INCONTINENCE
 - FOOD EXPULSION
 - POOR CHEWING
 - LINGUAL PROPULSION DEFECT
 - SLIGHTLY ALTERED PHARYNGEAL PHASE
 - TRAUMATIC LESIONS OF THE MUCOSA (BITES)
- IMPROVEMENT IN DYSPHAGIA WITH TREATMENT
 - TETRABENAZINE AND/OR BOTULINUM TOXIN



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ABNORMAL MOVEMENTS OF THE SOFT PALATE

BENIGN MYOCLONUS OF THE SOFT PALATE

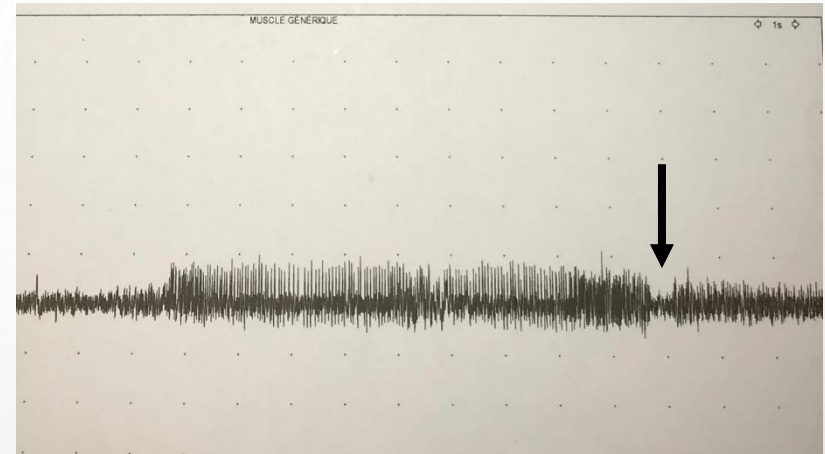


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DYSPHAGIA AND UES DYSFUNCTIONS

UES INJECTION TECHNIQUES

- DOSES:
 - EXTREMELY VARIABLE IN THE LITERATURE
 - 15-100 U BOTOX EQ.
- PERCUTANEOUS APPROACH
 - MOST OFTEN ON THE LEFT
 - ANTEROLATERAL WALL OF THE SSO
 - THERE ARE SEVERAL POINTS TO CONSIDER.
 - GUIDANCE: CT < ENDOSCOPY < US +/- BALLOON CATHETER < EMG
- BY ENDOSCOPY
 - UNDER GA AND DIVERTICULOSCOPE
 - UNDER LA AND FLEXIBLE FIBERSCOPE
 - INTEREST AFTER TOTAL LARYNGECTOMY



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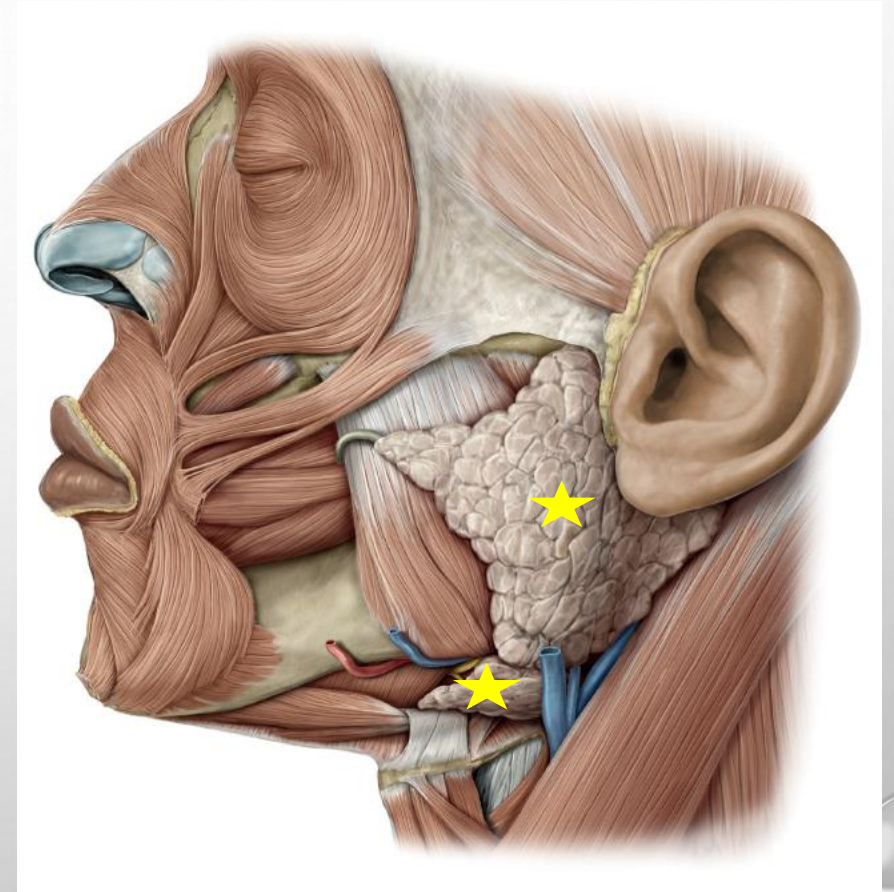
SALIVARY PROBLEMS

HYPERALORRHOEA/DROOLING

- Two complaints:
 - Drooling
 - Pharyngeal saliva +/- salivary aspirations
 - +/- need for tracheostomy with cuff
- Mechanisms
 - Increased salivary flow
 - Dental condition?
 - Parkinson's disease
 - Dysphagia
 - Failure to swallow automatically
 - Lack of lip continence
 - Impaired swallowing efficiency with salivary stasis

TREATMENTS

- SPEECH THERAPY
- ANTI-SECRETORY, ATROPINE-LIKE DRUGS
- SURGERY
- INJECTION OF BOTULINUM TOXIN
 - IN THE MAJOR SALIVARY GLANDS
 - PAROTID GLANDS X2,
 - SUBMANDIBULAR GLANDS X2
 - DIAGRAM TO BE ADAPTED ACCORDING TO THE CHARACTERISTICS OF THE SALIVARY MANAGEMENT DISORDER
 - UNDER ULTRASOUND DETECTION
 - BETTER OUTCOUMES AND SAFETY



Weaning the cuff of a tracheostomy tube

Deflate cuff (max 1/2h D1) **with physiotherapist**
(**physiotherapist objective**: expectorate supraglottic salivary stasis >> deflate with forced exhalation + buccal suction)
and observe

! Protocol to be started as soon as invasive ventilation is weaned

Rapid salivary congestion

No salivary congestion

! When the balloon is deflated, leave the back of the bed inclined at >30°.

Prescribe antisialagogue:

- Atropine Sublingual
- 1% eye drops, 1 to 2 drops 3x/day (effective within 24-48 hours)

* **Glycopyronium**

Oral syrup 0.5mg/ml
2.5 ml 3x/d

Provide a progressive deflation diagram (with physiotherapist)

Ex: D2: 1 to 2h, 1-2x/d (night: swollen)
D3: 2 to 3h, 1-2x/d (night: swollen)
D4: 3 to 4h, 2x/d (night: swollen)
>D5: increase duration including night

! Regular check for bronchial congestion (physiotherapy and nursing)

Phonatory valve

! Shiley 6 cannula or equivalent external diameter

Effective

Ineffective

! Breathing (expi) difficult / impossible

! Breathing ok

ENT opinion

for botulinum toxin salivary glands (effective within 5-7 days)

Mask O₂ for trach without valve

+ ENT opinion (obstacle?)

Speech therapist assessment

for assessment/rehabilitation/resumption of PO

NB: Speech therapy rehabilitation is better phonation ability

TAKE HOME MESSAGE

- BOTULINUM TOXINE IS USEFUL FOR MANY PATHOLOGIES
 - WITH VERY DIFFERENT TARGETS
- NICE ASSESSMENT LEADS TO OPTIMAL TREATMENT
 - SEMIOTIC AND FUNCTIONAL ANALYSIS
 - MULTI-DISCIPLINARY APPROACH



THANK YOU FOR YOUR ATTENTION

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A nighttime photograph of Prague, Czech Republic, showing the illuminated Prague Castle on a hill overlooking the city. The city lights and the Vltava River are visible in the foreground. The image is framed by a white semi-circle on the left and blue and red diagonal stripes on the right.

31st CONGRESS
of the Union of the European
PHONiatricians
PRAGUE, CZECH REPUBLIC
CUBEX CENTRE PRAGUE
4th – 7th JUNE 2025