

Case Presentation #2

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Patient demographics

- ▶ 64 yo male
- ▶ PMhx:
 - ▶ HTN
 - ▶ GERD
 - ▶ DJD s/p lumbar laminectomy with intrathecal dilaudid pump
 - ▶ peripheral neuropathy
 - ▶ B12 deficiency
 - ▶ bulbar onset ALS

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Social History

- ▶ Vietnam Era
 - ▶ Navy veteran
 - ▶ Air Force Veteran
- ▶ Employed for chemical company that manufactured BPA
- ▶ Smoked ~42 yrs, 1 ppd

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Initial Diagnostic Factors

- ▶ Initially noticed changes in voice
 - ▶ Quit smoking
- ▶ Began choking on liquids and solids
- ▶ Referred to ENT and dx with bilateral TVC paralysis
- ▶ Admitted to local hospital where trach and peg were placed
 - ▶ PEG removed 3 months later as it was not being used

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Dx of ALS made 10/2017

- ▶ Presented to Cincinnati VA Medical Center 1/2018
 - ▶ Pt with 60 lb weight loss
 - ▶ Started on glycopyrrolate and Riluzole
 - ▶ Unable to cap trach to complete spirometry
 - ▶ Pt reports severe SOB

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Elective admission

- ▶ PEG placement
- ▶ Chronic hypoxic respiratory failure
 - ▶ Nocturnal desaturations 2/2 ALS
 - ▶ Unable to use NIVV 2/2 abducted bilateral VF paralysis
 - ▶ Attempted ventilator trial

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MICU plan of care

- ▶ Attempt ventilator trial with current (uncuffed) trach
- ▶ If this failed, a cuffed trach would be placed
- ▶ Low pressure, slow ramped ventilation recommended



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SLP evaluation

- ▶ Pt with primarily flaccid dysarthria
 - ▶ Lingual fasciculations
- ▶ Pt with own iPad
 - ▶ used text in a document format to communicate
- ▶ Pt presented with #5 fenestrated Trache Twist
 - ▶ Unable to tolerate cap
 - ▶ Desaturated on O2 monitor
 - ▶ Able to phonate with manual occlusion/PMV



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FEES

- ▶ TVF's fixed in a paramedian position near midline
 - ▶ Able to adduct TVF's
 - ▶ Unable to abduct beyond fixed point between midline and paramedian position
- ▶ Moderate oropharyngeal dysphagia
 - ▶ Reduced hyolaryngeal excursion (t/t trach tethering)
 - ▶ Generalized pharyngeal weakness
 - ▶ Consistent penetration of all consistencies trialed
 - ▶ Moderate to severe post-swallow residue
 - ▶ Penetration of post-swallow residue after the initial swallow



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SLP Recommendations

- ▶ ENT to upsize trach
- ▶ Evaluation for dedicated AAC device/app
- ▶ Pureed diet with thin liquids
 - ▶ Aspiration precautions

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Ventilator trial

- ▶ Trach not upsized
- ▶ Ventilator autocycling due to excessive leak
- ▶ Pt unable to tolerate
- ▶ Ativan administered

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Following day of admission

- ▶ ENT upsized to #6 Shiley, cuffed
 - ▶ Pt tolerated ventilation 5 hours overnight
 - ▶ RR 15 PS 10-20 PEEP 5-10 Vt: 440
- ▶ Trilogy ventilator ordered for home use
 - ▶ Difficulty locating pulmonologist 2/2 rural location

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Subsequent day of admission

- ▶ Worsening hypercarbia
- ▶ Continued supplemental O₂ during day
- ▶ Refused ventilator in evening
 - ▶ Reports feeling "smothered"
 - ▶ Elevated CO₂

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Inpatient SLP follow-up

- ▶ Patient/wife educated re: care of newly placed trach
 - ▶ Reviewed need to deflate cuff prior to placement of PMV
- ▶ Discussed use of HME/manual occlusion instead of PMV for voicing
 - ▶ Concern that PMV contributing to hypercarbia
- ▶ Veteran in agreement to try HME/manual occlusion
 - ▶ Provox HME Cassette Adaptor
 - ▶ Provox Xtra Flow HME's

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Outpatient SLP evaluation

- ▶ Performed in conjunction with Interdisciplinary ALS clinic
 - ▶ Motor speech evaluation
 - ▶ Moderate to severe flaccid dysarthria remarkable for consonant imprecision, monopitch, hypophonia, and hypernasality
 - ▶ Verbal communication impacted by respiratory status
 - ▶ Poor phrasing
 - ▶ Increased work of breathing
 - ▶ Increased fatigue with verbal communication
- ▶ PT reports all nutrition, hydration, and medication via PEG
 - ▶ Educated re: oral care
- ▶ ALS Cognitive Behavioral Screen
 - ▶ Scores indicated suspected cognitive and possible behavioral impairment

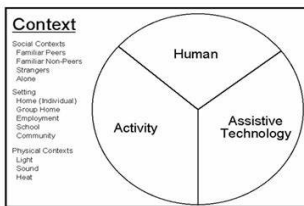
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Speech-Language Pathology and Dysarthria evaluation/treatment

- ▶ As many as 80% of people with ALS demonstrate dysarthria (Borasio, GD, J Neurol 1997) which can significantly impact communication rendering Veterans with limited means to verbal output and thus require the use of alternative or augmentative communication (AAC).

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HAAT Model



Cook and Hussey's Assistive Technologies: Principles and Practice

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Device considerations

- ▶ Upper extremity function
- ▶ Mobility
 - ▶ Ambulatory
 - ▶ Power wheelchair user
- ▶ Alternative access
 - ▶ Eye gaze
 - ▶ Switch
 - ▶ Head mouse
 - ▶ EMG
 - ▶ Sip and puff

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AAC Device Trials

- ▶ Pt able to use direct selection via both touch and eye gaze
- ▶ Tried EyeSpeak 12 (Talk to Me Technologies) and EyeMobile Plus (Tobii Dynavox)
- ▶ Veteran preferred EyeSpeak 12 due to environmental controls
 - ▶ GRID 3 Software selected

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Follow-up AAC training

- ▶ Initial set-up in person with TMT representative
 - ▶ Follow up sessions via remote access
 - ▶ Device settings
 - ▶ Access methods
 - ▶ Vocabulary sets
 - ▶ Environmental controls

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Questions?

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