CLINICAL DECISION MAKING IN DYSPHAGIA MANAGEMENT FOR CRITICALLY ILL PATIENTS
After this presentation we hope that you will be able to:

- Differentiate the needs of patients requiring ICU admission.
  
  *What medically defines critical illness?*

- Identify and interpret equipment used for pt monitoring in an ICU setting.

- Describe abnormal physiologic parameters that may complicate or preclude the BSSE or resumption of oral intake.
Prevalence of dysphagia in ICU

- There is no comprehensive, clear data related to prevalence of dysphagia in ICU

- Limited data exist for:
  - Cervical spinal cord injury (Wolf, Meiners 2003)
    - 80% (N = 51) patients had dysphagia
  - Trauma (Leder, Cohn, Moller 1998)
    - Incidence of aspiration 45% following extubation in critically ill trauma patients
      - 44% of these had SILENT aspiration
  - Stroke (Mann & Hankey 2001)
    - 42-60% of stroke patients (median 3 days post stroke)

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ICU Landscape

Equipment
- Monitor
- Vent-mask
- Non-Rebreather Mask (NRB)
- Bi-PAP, C-PAP
- Ventilator
- LVAD/Heartmate
- Dialysis machine
- Apheresis machine

Line and tubes
- PICC
- Cordis catheter
- Chest tube
- Balloon pump
- Dialysis port/catheter
- Hickman line
- Triple lumen
- Jackson-Pratt drain
ICU: Acute vs. Chronic

- Acute – new condition affecting homeostasis
  - Trauma, recent surgery, acute infection, etc.
  - More often SICU

- Chronic – decompensation of existing illness requiring ICU care
  - COPD exacerbation with intubation
  - CHF with fluid overload
  - More often MICU
  - More often aged, with other comorbidity
Co-morbidities

- As difference between acute and chronic reveals, *pre-ICU functional status of the patient is critically important*

- Dysphagia in the ICU involves 2 things:
  - Changes in swallowing created by ICU setting
    - Patient factors – why the patient is in the ICU
    - ICU factors – impact of tubes, etc
  - Ability of the patient to compensate for those changes
Feeding Tubes – The Good

- ICU patients have high metabolic needs
- Require nutrition for proper healing

Can be meet with **Enteral** or **Parenteral** nutrition

- Enteral – via GI tract – PO, NGT, PEG
- Parenteral – via circulation – TPN, PPN
Feeding Tubes – The Bad

- “Aspiration is the most feared complication of enteral tube feeds”
- Do nasogastric tubes cause aspiration?
- Do nasogastric tubes cause dysphagia? How NGT cause aspiration:
- PEG as alternative to NGT
Feeding Tubes – The Ugly

- Nasogastric tube syndrome

  - Post-cricoid tube leads to mechanical irritation of the posterior cricoarytenoid muscles → bilateral TVC paralysis
  - Paralytic dysphonia
  - Inability to close glottis → aspiration
  - Treatment is PEG tube
  - Rare but real condition
Tracheal Tubes – The Good

- Breathing is good
  - Assisted ventilation for respiratory failure (most common reason, especially in MICU)
  - Stabilize pulmonary situation if patient might have cardiopulmonary instability (e.g., remaining intubated after lengthy surgery)
  - Bypass upper airway obstruction
  - Hyperventilation to diminish cerebral edema

- Pulmonary toilette
  - Easier with tracheotomy than ETT
Tracheal Tubes – The Bad

- Endotrachal tubes can impair swallowing
- Aspiration – difficult to estimate incidence
- Ventilator associated pneumonia
- Decreased sensation cont. post-extubation
- Muscle atrophy: larynx, pharynx, tongue, BOT
- Respiratory fatigue, decreased cough
- Direct trauma to larynx with decreased closure
- Disrupts swallowing coordination
- Role of subglottic pressure
Tracheal Tubes – The Ugly

- “The Ugly” = permanent damage

- Permanent damage from prolonged intubation occurs as a pressure-induced injury

- Injuries vary in severity and manifest differently

- Changes may be acute or chronic
Special Populations

- Information regarding other populations will assist in one’s confidence in varied ICU settings
  - Bone Marrow Transplant/Oncology
  - Burn
  - Lung Transplant
  - Cardiovascular surgery
  - Elderly

- Associated conditions
  - Pulmonary Immunosuppression
  - Mucositis
    - Oral care issues
  - Mucosal injury
  - Vocal fold paralysis and aspiration
  - Pneumonia risk factors
How do we make dysphagia management decisions regarding critically ill patients?

- **Consider**
  - Pt readiness for evaluation
    - Know your patient
  - Evaluation type
    - Have a paradigm for work-up
  - Risk factors

- **Suggestions**
  - Delay oral feeding in pts with prior hx of aspiration
  - Reduce risk of pulmonary complications
  - Consider co-morbidities
  - Implement dysphagia exercises: “strength training”

- **Teamwork** – Multidisciplinary Approach

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