Dysphagia Management in the Frail Elder

Joseph Murray, PhD, CCC-SLP, BCS-S
VA Ann Arbor Healthcare System
Current Expectations Upon Consultation

- Determine need for assessment
- Choose the appropriate tool for the assessment
- Observe events and infer disordered physiology of swallow.
- Design appropriate treatment plan to address the disorder
Speech Pathology
Most Frequent Solicitation

- Determine presence of aspiration
  - Determine if PO intake of food and/or medications is possible
    - Based on assumption
      - Nothing enters the mouth
      - Nothing can enter the lungs

- There is no pass/fail!
Alternate Questions

What is the:
- Risk for poor outcome?
- Ability to maintain nutrition/hydration via oral feeding?
- Plan for management of safety and vitality?
- Means for improving physiology?
Alternate Questions

- How can we:
  - Plan/manage decline and compensation?
  - Determine means for ensuring quality of life?
- Literature Is Not Sufficiently Developed to Answer These Questions!
Aging and Frailty
Frailty

- A clinical state of vulnerability to stressors
- results from
  - aging-associated declines in resiliency and physiologic reserves
  - a progressive decline in the ability to maintain a stable homeostasis
Failure to Thrive

- Pediatric
  - Patient has not attained functional status.

- Geriatric
  - Patient has not maintained functional status.
Failure to Thrive in Children

- Failure to thrive (FTT) describes children who exhibit growth deficiency
  - indexed by faltering or stunted growth.
- FTT is associated with:
  - poorer cognitive development
  - learning disabilities
  - long-term behavioral problems.
Failure to Thrive in Children

- Often blamed on maternal factors
  - young age
  - low income
  - Stress
  - cognitive impairment
  - emotional problems
- Findings have not been supported in most controlled studies
Failure to Thrive in Children

- Non-organic causes
  - Poverty
    - Protein energy malnutrition
      - Kwashiorkor
      - Marasmus
  - Fear of obesity/health problems
    - Voluntary restriction of calories
    - Parental control of calories
      - Factitious food allergy
Failure to Thrive in Children

- Organic Causes
  - Cerebral palsy
  - Bronchopulmonary dysplasia
  - Congenital heart disease
  - Enzyme deficiency
  - Secondary symptoms of disease
    - Esophageal Reflux
    - Dysphagia
Frailty Incidence in the Elderly

- 10% to 20% of persons older than 65 years of age are frail
- 46% of community-dwelling persons older than 85 are frail
- 985 patients admitted to the Palo Alto VA older than 65
  - 27% were judged to be frail
  - 45% 1-year mortality rate
- Incidence of frailty increased
  - 4.8% of 65-year-olds
  - 56.3% for 90-year-olds
Genesis of Frailty

- Failure of communication between multiple physiologic systems
  - Neuromuscular
  - Organs
  - Cellular
  - Molecular
- Leads to physical dysregulation
Nutrition and Muscle

- Energy expended at a rate of approximately 1,800 kilocalories/day.
- Nutrients for energy expenditure supplied in glucose
  - Maintains basic function of:
    - brain
    - blood
    - muscle
  - The brain alone metabolizes 100 to 150g of glucose (Ferrendelli, 1974)
Catabolism and Anabolism

- Catabolism describes the breaking down of cells into smaller units
  - Creation of amino acids from proteins
    - Conversion of glucose from amino acids
- Anabolism describes the construction of complex cells from smaller units
  - Building up of muscle, tissue and organs
- Anabolism is powered by catabolism
Catabolism
Glucose from Carbohydrates

- Carbohydrates
  - Rapid release of simple glucose in the lumen of the duodenum and small intestine
- Glucose
  - transported via the bloodstream to the organs
Glycogenolysis

- Unused glucose makes its way to the liver and muscles
  - Stored as glycogen
    - Fat Cells

- Glycogen is the body's auxiliary energy source
  - Tapped and converted back into glucose when there is need for energy.
Catabolism
Glucose Production from Protein

- Enters through the enteral tract
  - Creation of amino acids
  - Absorbed by the gastrointestinal tract
    - Carried to the liver
    - Amino acids synthesized in the liver to create glucose
  - Delivered to organs for energy
Aging and Muscle

- Sarcopenia
  - From the Greek sarx for flesh and penia for loss
  - Age-associated loss of muscle mass and function (Rosenberg, 1989).
Sarcopenia

- Generalized withdrawal of the neurotransmitters (Roubenoff, 2003)
  - Failure to stimulate anabolic reactions that result in muscle regeneration
  - Stimulation of catabolic reactions
    - Increased gluconeogenesis
Sarcopenia

- A degree of muscle loss is expected with age
- Frail elder with sarcopenia
  - Muscle loss beyond the volume expected in peers
  - Dramatically less muscle than younger normals.
- Prevalence of sarcopenia in <65 yrs
  - 6% to 15% (Melton, Khosla & Riggs, 2000).
Sarcopenia in Aging (Iannuzzi-Sucich, Prestwood & Kenny, 2002).

- >80 years of age
  - >30% of women
  - >50% of men
- Independent predictor of
  - Poor gait
  - Poor balance
  - Falls
  - Fractures.
Gender and Sarcopenia

- Janssen, Baumgartner and Ross (2004)
  - Women with sarcopenia 3.3 times more likely to have physical disability
  - Men 4.7 times more likely to have physical disability.
Sacopenic Obesity

- Increase in catabolism
  - Greater than increase in protein synthesis from feeding
  - Weight maintained or gained
    - Leads almost solely to fat accumulation.

- Baumgartner et al. (2004)
  - Combination of sarcopenia and obesity
    - More strongly associated with disability than either body composition type (sarcopenia or obesity) alone.
Sarcopenic obesity with aging

- Muscle mass
- Fat mass

Risk Falls ↔ Physical disability

Fractures

Insulin resistance
Inflammation

Metabolic disorders
Cardiovascular disease
Symmorphismosis

- Size and strength of physiologic components
  - Must match overall functional demand
- Must cope with the highest expected functional demands
- Must include some safety margin to prevent the system from failing when it is overloaded
Functional Reserve

- Most body systems
  - 30% of normal function represents a threshold for adequate function
  - OR
    - 70% margin of loss before evidence of failure presents.
Functional Reserve

Example:

- Lower Extremity Strength
- Young subjects
  - 5 W/kg muscle power in the legs
  - To walk, 1.2 W/kg is required (24% of baseline)
  - Below 0.5 W/kg (10% of baseline)
    - movement becomes impossible
Functional Reserve in the Elderly

- Reduction in functional reserve expected in the elderly
  - Maximum isometric and minimum required closer together
  - Narrowing progresses throughout late life
  - Less room to accommodate stressors that require reserve
    - (i.e. Falls, Sickness)
- Frailty observable when functional reserve cannot accommodate the “stressor”
Considerations for the Frail Elder with Dysphagia

- What makes the elderly different?
- Swallowing physiology changes with increasing age
- Video examples

- Increased oral and pharyngeal transit times
- Longer duration of pharyngeal pressures
- Higher incidence of pharyngeal residue after swallowing
Differentiated age-related alterations in swallowing physiology from disease-related changes.

Focused on tongue physiology

Derived data from three-bulb tongue manometrics and simultaneous fluoroscopy.
Nicosia et al. 2000

- Age Effects
  - decreased maximum isometric pressure
  - unchanged maximum swallowing pressure
  - increased time to reach peak isometric pressure
  - increased time to reach peak swallowing pressure
  - change in pattern of lingual pressure generation with increased age
Considerations for the Frail Elder

- Medical Diagnoses
- Physical Function
- Social Support
- Environment
Medical Components of Frailty

- Cancer
- Diabetes
- Heart Disease
- Infections
- Hyperthyroidism
- Polypharmacy
- Alcoholism
- Organ Failure
- COPD
- Stroke
Functional Components

- Functional Causes
  - Immobility
  - Sensory Impairments
  - Dental problems
Predictors of Aspiration Pneumonia: How Important Is Dysphagia?*

Susan E. Langmore, PhD,1,2 Margaret S. Terpenning, MD,1,3 Anthony Schork, PhD,4 Yinmiao Chen, MS,4 Joseph T. Murray, MA,1 Dennis Lopatin, PhD,5 and Walter J. Loesche, DMD, PhD5

1Veterans Affairs Medical Center, Ann Arbor, Michigan, 2School of Dentistry, Department of Oral Medicine, Pathology, and Surgery, 3School of Medicine, Department of Internal Medicine, Division of Geriatric Medicine, 4School of Public Health, and 5School of Dentistry, Department of Biologic and Materials Science, University of Michigan, Ann Arbor, Michigan, USA
Langmore et al. 1998

- Odds Ratios for Aspiration Pneumonia
  - Dependent for feeding
  - Dependent for oral care
  - Number of decayed teeth
  - Tube feeding

- Dysphagia was an important risk for aspiration pneumonia
  - but generally not sufficient to cause pneumonia unless other risk factors were present
Dental Plaque

- One cubic millimeter of dental plaque contains about 100 million bacteria
- Oral bacterial load increases during intubation
- Higher dental plaque scores predict risk of pneumonia

Full diversity of oral flora is unknown

- Maybe unknowable
Defining the Normal Bacterial Flora of the Oral Cavity

Jørn A. Aas, Bruce J. Paster, Lauren N. Stokes, Ingar Olsen, and Floyd E. Dewhirst

Department of Molecular Genetics, The Forsyth Institute, and Faculty of Dentistry, University of Oslo, Oslo, Norway, and Department of Oral and Developmental Biology, Harvard School of Dental Medicine, Boston, Massachusetts
TABLE 1.
Number of predominant bacterial species per site and subject

<table>
<thead>
<tr>
<th>Subject no.</th>
<th>Buccal</th>
<th>Maxillary vestibule</th>
<th>Tongue dorsum</th>
<th>Tongue lateral</th>
<th>Hard palate</th>
<th>Soft palate</th>
<th>Tonsils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>5</td>
<td>23</td>
<td>14</td>
<td>21</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>6</td>
<td>13</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>15</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>8</td>
<td>4</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>17</td>
<td>20</td>
<td>6</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>15</td>
<td>40</td>
<td>34</td>
<td>42</td>
<td>38</td>
<td>59</td>
</tr>
</tbody>
</table>
Site Specificity
Secretory Immunoglobulins

- Heavy plasma proteins
  - Recognize pathogens
  - Bind with proteins in the pathogen
  - Kill it directly
  - Block and bundle toxins
Mucins

- “Slimy” stuff in mouth
  - Proteins
  - coats many epithelial surfaces
  - Secreted into saliva
  - Serves as a diffusion barrier against contact with noxious substances
  - Lubricates to minimize shear stresses
    - Super lubricant!
Biological mechanisms involved between oral conditions and respiratory diseases

Four possible mechanisms

- Oral pathogens directly aspirated into the lungs
- Salivary enzymes associated with periodontal disease modify respiratory tract mucosal surfaces
- Enzymes from periodontopathic bacteria destroy salivary film that protects against pathogenic bacteria
- Cytokines
Oral pathogens directly aspirated into the lungs

- *Pseudomonas aeruginosa*
  - Opportunistic pathogen with ability to develop resistance to antibiotics
- Ventilator acquired pneumonia with *P. aeruginosa*
  - higher mortality compared with other pathogens
- Increased colonization of the oropharynx of patients with nasogastric tubes
El-Solh, A et al. Colonization of Dental Plaques*: A Reservoir of Respiratory Pathogens for Hospital-Acquired Pneumonia in Institutionalized Elders
Chest; November 2004 Vol 126(5) pp 1575-1582

- Association between dental plaque colonization and lower respiratory infection in elderly using molecular genotyping
- 49 Critically ill LTC residents requiring ICU
  - Plaque index scores
  - Quantitative cultures
  - BAL on 14 patients who developed pneumonia
    - Respiratory pathogens compared genetically to plaques by pulse gel electrophoresis
El-Sohl et al. cont

- 28/49 (57%) had colonization of plaque with aerobic pathogens
  - Staphylococcus aureus (45%)
  - Gram-negative bacilli (42%)
  - Pseudomonas aeruginosa (13%)

- Isolates from BAL fluid
  - 9/13 matched genetically those recovered from corresponding dental plaques of 8 patients
417 patients randomly assigned to one of two groups
- Oral care group
- No oral care group
Yoneyama et al. (2003)

- Oral Care Group
  - Nurses or caregivers cleaned the patients' teeth by toothbrush after each meal.
  - Swabbing with iodine was additionally used in some cases.
  - Dentists or dental hygienists provided professional care once a week.

- Significant decrease in:
  - Pneumonia
  - febrile days
  - death from pneumonia
Review of periodontal disease and nosocomial pneumonia
- 21 case control and cohort studies
- 9 RTCs

Oral colonization is associated with nosocomial pneumonia

Oral interventions improving hygiene reduced incidence of nosocomial pneumonia by an average of 40%

- 134 Geriatric patients
  - Dentate patients with pneumonia
    - 27% of inpatients
    - 19% of LTC
  - Edentulous patients with pneumonia
    - 5%
Hand Dexterity and Oral Hygiene

- 49 institutionalized participants
  - 29 dentate
  - 36 one complete denture
- Poor hand function (Purdue Test of Dominant Hand Function)
  - Dentate
    - Correlated with significantly more dental plaque
  - Complete denture wearers
    - Correlated with significantly more denture plaque
Who Should Do It?


- Costs are also high for:
  - Bathing
  - Toileting
  - Feeding
What About Aggressive Oral Hygiene?

  - Health-care providers in residential homes give little assistance with tooth and denture cleaning
  - Even if training and education are provided!
Social Causes

- Isolation
- Loss of spouse
- Exhaustion of care giver
- Low-socioeconomic status
Social Support and Poor Nutrition

- Associated Difficulties
  - Difficulty shopping
  - Difficulty with meal preparation
  - Poor appetite

- Additional stressors
  - Weight loss
  - Dehydration
  - Severe constipation
Vigilant Observation

- Ongoing assessment/observation of the whole patient
  - Mental Status
  - Cognition
  - Voice
  - Speech/Articulation
  - Gross motor function/mobility
Instrumental Signs

- Generalized weakness
- Retained bolus
  - No specific pattern to retention
- Reduced frequency of swallowing
  - With retained bolus
- Silent aspiration
3 Stages of Swallowing

- Should include “readiness to eat”
  - Circadian cues
  - Neurotransmitter stimulus
  - Social cues
    - Discussion of “what to eat”
  - Auditory cues
    - Pre-food preparation
  - Gustatory cues
    - Olfaction
    - Tasting
  - Synergy of the stimuli
- Missing in institutionalized elders
PEG Tube Placement

- Introduced in 1980 as a safe and effective alternative to open surgical gastrostomy (Gauderer et al., 1980)
- Less than 2% intra-operative complication rate
- Allowed TF in almost all cases
- Cost-effective for multiple providers and was presumed to be beneficial since poor nutrition was a known risk factor for worse outcomes
- PEGs quickly became the procedure of choice
PEG Tube Placement

- Disturbing trends
- By 1999
  - 34% of severely cognitively impaired in US NHs had PEGs (Mitchell et al., 2003)
- High 6-month mortality rates associated with cancer, dementia, and neurodegenerative disease as well as racial disparities, with blacks receiving tubes at nearly twice the rate of whites (Grant et al., 1998; Verhoef & Van Rosendaal, 2001)
Cultural Differences at End of Life

Phipps et al. 2003

- White patients more likely:
  - Have durable power of attorney (34% v 8%, \( P = .01 \)) and
  - Have a living will (LW; 41% v 11%, \( P = .004 \))

- African-American more likely:
  - To use of life-sustaining measures (cardiopulmonary resuscitation [CPR], mechanical ventilation, tube feeding) in their current condition (all \( P > .12 \))
Phipps et al. 2003

- Near-death condition
  - African-Americans more likely
    - To desire life-sustaining measures (all $P < .004$)

- Patient Caregiver agreement
  - For those without living wills:
    - CPR 46%
    - Mechanical ventilation 50%
    - Tube feeding 43%
# Desired Life Support Measures  Phipps et al. 2003

<table>
<thead>
<tr>
<th></th>
<th>Cardiopulmonary Resuscitation</th>
<th>Enteral Tube Feeding</th>
<th>Mechanical Ventilation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>AA</td>
<td>White</td>
</tr>
<tr>
<td><strong>Patient</strong></td>
<td>31%</td>
<td>73%**</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Care Giver</strong></td>
<td>45%</td>
<td>71% *</td>
<td>55%</td>
</tr>
</tbody>
</table>

** P<.01
*  P<.05
Reasons for not having completed any formal documentation:

- Concerns about the emotional distress for either self or family
- Feeling that they did not need to engage in advance care planning
- View that the initiative for advance care planning needed to come from someone else

Highlights the importance of clinicians bringing up advance care planning with their patients:

- Patients and families may be fearful of discussing the topic
- May be waiting for someone else to initiate discussion
  - May be relieved when someone does
Survey of physicians

981 Caucasian, African-American Asian

Given hypothetical case scenario involving an elderly female patient with advanced dementia and weight loss presenting to the office for routine follow-up with her daughter

- Two versions of survey with patient as AA or Caucasian

Recommendations for PEG tube placement

- Caucasian physician 13.0%
- Asian physician 54.3%
- African American physician 40.0%
  - \( p \leq 0.001 \)

African American physicians recommended PEG

- for African American patient 51.4%
- for Caucasian patient 24.0%
Paper suggests that African American physicians more likely:

- To believe that length of life is more important than quality of life
- To desire tube feeding and other aggressive measures for themselves
- are less likely to view tube-feeding as a "heroic" measure
One interpretation:
- Results may indicate that physicians provide care to their patients that they themselves would want, especially to patients who appear similar to themselves

Another interpretation:
- AA physicians are more in tune with the variation in ethnic orientation to end-of-life care
- More likely to predict patient and family wishes
Burdens and Complications Associated with PEG

- Wound dehiscence
- Skin excoriation
- Tube migration
- Pain at tube site
- Diarrhea
- Nausea
- Loss of gustatory pleasure
- Restraint use
- Aspiration
- GER

- Abdominal abscess
- GI bleeding
- Loss of social interaction
- Peritonitis
- Tube malfunction
- Necrotizing fasciitis
- Bowel obstruction
- Vomiting
- Pneumonia
- Gastric perforation
The Clinical Evidence

- PEG has been associated with benefit in only a handful of conditions.
- PEG has been shown to improve QOL but not mortality in head and neck cancer (Santori et al., 1996).
- In ALS, PEG use has been shown to improve QOL scores and weight but nor mortality (Mitsumoto et al., 2003).
- Pts with bulbar ALS with improved survival and QOL (Mazzini et al., 1995; Miller, 2001).
The Clinical Evidence

- May improve survival among pts in a permanent vegetative state (NEJM, 1994)

- Prolongs lives of pts with extreme short-bowel syndrome (Scolapio et al., 1999)
The Clinical Evidence

- Early Evidence:
  - PEG placement after stroke decreased mortality, treatment failures and malnutrition (Norton et al., 1996; Duncan et al., 1992)
Clinical Evidence

- More recent
- Cochrane review (2005)
  - “too few studies have been performed, and those have involved too few patients.”
- 2005 FOOD trial
  - No benefit to early vs. delayed PEG feeding
    - Increased risk of death
    - Poor neurologic outcome with PEG compared to NG use
FT in Advanced Dementia
(Ficune et al., JAMA 1999)

- Does not improve nutritional status
- Does not prevent aspiration
- Does not reduce occurrence of pneumonia
- Does not increase life expectancy
Enteral tube feeding in older people with advanced dementia: Findings from a Cochrane systematic review (Candy et al., 2009)

- Full literature review completed in April 2008
  - No RCTs were identified
  - 7 observational studies:
    - 6 assessed mortality (no evidence of increased survival with enteral feeding)
- 0 studies examined effect on QOL and
  - No evidence of benefit
    - Nutritional status
    - Prevalence of pressure ulcers

**Conclusions:** Insufficient evidence to suggest that enteral TF is beneficial in people with advanced dementia

**Data is lacking on the adverse effects of this intervention**
SLP Misconceptions About PEG in Advanced Dementia (Sharp & Shega, 2009)

- Survey of 1,050 medical SLPs
- Describe beliefs and practices about use of PEG in pts with advanced dementia
  - Response rate of 57%
  - 56% of SLPs recommend PEG
    - Many believe that PEG improves nutritional status and increases survival
    - Relatively few believed that PEG improves nutritional status and increases survival
  - 40% believed that PEG was standard of care
  - 15% believed it should be standard of care
  - Only 11% of SLPs would want a PEG themselves
Is Dysphagia a Terminal Symptom?
(Regnard, Leslie, et al., 2010)

● In Alzheimer’s dementia
  ● Dysphagia can occur early in the disease process
  ● Is not always a terminal symptom as commonly believed (Preifer et al., 1997; Royal College of Physicians and the British Society of Gastroenterologist, 2010)

● Can be missed
  ● Poor screening
  ● Atypical presentations
  ● Care provider adjustments to its presence
Are PEGs Inserted Too Late?

- Delayed identification increases risk of malnutrition
- Patients with low albumin do worse than those with normal albumin following PEG (Nair et al., 2000)
SLP Goals of Intervention
(Eckman & Roe, 2005; Pollens, 2004)

- Assist in the minimization of risks and symptoms of aspiration
- Maximize the pts comfort and satisfaction when eating and drinking
Traditional Goals/Outcomes of Tube Feeding

1. Improve nutritional status
2. Decrease risk of disease
3. Increase length of survival
4. Improve comfort/quality of life
Medical Management of Symptoms that Affect Swallowing and Nutrition

- Pain: 80-90%
- Fatigue/Asthenia: 75-90%
- Constipation: 70%
- Dyspnea: 60%
- Nausea: 50-60%
- Vomiting: 30%
- Delirium: 30-90%
- Depression/suffering: 40-60%
- **DYSPHAGIA**: ?????
Communication in Decision Making

- Vital skill
  - Enteral feeding decision are often a “crisis” for families
    - Stress
    - Fear
    - Intimidation
      - Unfamiliarity with the setting
Professional Roles in Communication

- Professionals are responsible
  - Minimum
    - Attempting to communicate
  - Ensuring that effective communication takes place
    - Stressful for physicians and allied health
Professional Roles in Communication

- Requires time
  - Often in short supply.
  - Factual *knowledge* of what is to be communicated
  - *Ethical choice* about how such information is
    - Selected
    - Ordered
    - Expressed
Professional Roles in Communication

- Esoteric vocabulary may intimidate
- Inappropriate tone or gestures can offend
  - Establishment of empathy may demand a profound cultural understanding
Communication of verbal and written information

- Many patients with oral feeding difficulties have communication or cognitive disabilities which affect understanding, retention and processing of verbal and written information and communication of needs
- Ensure that appropriate measures have been taken to enable participation in discussions and decision making
Practical Communication

- Be aware of any communication and cognitive impairments
- Familiarity with how the patient communicates
  - Communication aids
    - Spelling/picture boards
    - Hearing aids
  - Strategies
    - Drawing
    - Gesture
Practical Communication

- Use trained interpreters to speak to patients where English is not understood
- Accessible written and pictorial information left to be read at leisure
  - Leaflets
    - Oral feeding
    - Alternative nutrition
    - Videofluoroscopy/FEES
    - Meal selection
Practical Communication

- Allocation of sufficient time for explaining information
- Limitation of information given in one session;
  - Several short conversations are better than one lengthy session
- Information to be repeated to aid comprehension
  - Opportunity to ask questions
  - Quiet, private environment free from distractions
  - Choice of an appropriate time of day
    - If the patient is too tired by the afternoon, wait till the morning
    - Find out whether the patient wants anyone to join them, eg a family member
Non-verbal communication

● Communication is not always about factual information
● May need to express solidarity with a fellow human being
● Frequent attendance at the bedside
  ● may prevent perception patient is being abandoned
Nature/mode of death if nutrition is withheld

- The consequences of malnutrition
  - Lethargy/apathy
  - Impaired muscle function leading to immobility
  - Hypostatic edema
  - Respiratory muscle failure
  - Pneumonia
  - Myocardial muscle dysfunction
  - Thromboembolism
  - Impaired temperature control
  - Falls
  - Pressure sores
Nature of death if nutrition and hydration withheld

- Death occurs rapidly
  - Renal failure
  - Pneumonia.

- It is commonly believed that death from absent nutrition or hydration is distressing or painful for the patient.
  - This may be true with better cognitive function
  - Appetite is often severely reduced in terminal disease
    - sensations of hunger and thirst are suppressed
  - Severely cognitively impaired
    - little evidence that hunger or thirst are perceived significantly
    - may resist the efforts by care givers to offer food or fluids
    - Rejections may be no more than reflex responses
Alternatives to ANH:

- Social feeding – oral feeding techniques
  - Rigidity of mealtimes and other issues have been identified as problems.
  - Malnutrition in hospitals may result from poor timing and delivery of nutrition
  - Restlessness that may increase metabolic need in patients with dementia
    - Patients forget about meals
    - Forget what food is
    - How to eat it
Responses to Problem Feeders:

- Allowing the person more time to feed him/herself
- Quiet mealtimes with opportunity to eat supported by adequate staff time
- More flexible mealtimes so the patient can feed when they want to
- Feeding the patient either some of the time or all of the time
Responses to Problem Feeders

- Special training for staff in administering food and fluids
- Structuring staff duties to deliver proper nutritional support
- Care planning of feeding and nutritional support
- Prioritization of weighing and other nutritional monitoring support
- Increasing meal frequency
- Concentrating on the midday meal in dementia, which has been shown to provide the greatest calorie intake
Examples of Criteria for Success of Enteral Feeding:

- Decrease in discomfort/symptoms as medication can be given more readily
- Increase in weight if the patient is underweight
- Improvement of healing of pressure ulcers
- Increased capacity for rehabilitation
- Reversal of confusion
Negative Aspects of PEG Placement

- Invasive
- Medical risks of placement
  - Reflux
- Even in the best units
  - 30-day mortality is 6%
    - 10% morbidity
Negative Aspects of PEG Placement

- **Social**
  - Individual is attached to a pump for up to 20 hours per day
  - May require repeated bolus administration
  - Less social interaction
  - Significant alteration in body image

- **Legal risks:**
  - against wishes
  - Deprived of pleasure of eating
Meok-Bang Television

- Hugely popular Korean internet phenomenon
- Name is mash-up of two Korean words
  - Eating (meok-guh)
  - Broadcast (bang song)
- Enhances eating experience
  - Emulates communal eating
  - Audience
    - Singles
    - Elders
  - People eat more when watching others “eat deliciously”
Community Model Dining

Increase Accessibility to Food

- Real foods should be available 24 hours/day - snack carts or kitchenettes with snacks residents enjoy such as animal crackers, suckers, raisins, granola bars, crackers, popcorn, etc.

- Include a bread machine and/or crock pot of soup in the veteran’s dining rooms/kitchenettes for the aroma/sensory stimulation and to serve at the beginning of meals.

- Counter tops wheel chair accessible so residents could participate in cooking if they desire.

- Having 2 breakfasts, an early am and a brunch time.

Involve everyone at meal times, like home.

- All disciplines assist in serving the meal and feeding the residents, including, nursing, social work, recreation therapy, etc.

- Food eaten on place mate or table cloth, with centerpiece.