Dysphagia Review

- Defined: difficulty moving food, liquid, saliva or medication from the mouth to the stomach

Dysphagia Review

- Incidence crosses lifespan
  - Infant/child/adolescent:
    - Congenital, acute infection, injury, neurodevelopmental delay
  - Adults:
    - Gastro-esophageal and immunologic
  - Elderly
    - Neurologic and cancer

Dysphagia Review

- Affects 8% of population globally
  - ~20+ million in USA

Dysphagia Review

- Prevalence
  - ~30% with stroke; varies by stroke location
    - 0% in the cerebellum
    - 3% in the midbrain
    - 43% in the pons
    - 40% in the medullar medulla
    - 57% in the lateral medulla
  - 60-80% with neurodegenerative disorders
    - 13-57% with dementia
    - 13-20% with Alzheimer’s
    - 35-82% with Parkinson’s
  - Neurologic disorders
    - 24-54% with MS
    - 80% with ALS
    - 2-36% with cervical dystonia
    - 0% adults and 99% pediatric with CP
  - Other causes: immunologic, gastro-esophageal, congenital, oncologic
  - Estimates of >50% of institutionalized elderly
  - 10-30% >65 years

Chichero, Roden
Nutrition Consequences

- Dehydration
  - Cerebral edema, seizures, hypovolemic shock, kidney failure
  - Impacts ~30%
- Malnutrition
  - Unintended weight loss, inability to heal, increased morbidity / mortality
  - ~46% malnourished
- Aspiration
  - 25-30% “silent aspirators”
  - Pneumonia
  - Asphyxiation

Cornerstone of Treatment

Modification of food texture

Modification of liquid thickness

Objectives

- Understand the importance of identifying swallowing difficulties.
- Gain ideas for fostering team work to deliver high quality dysphagia diets.
- Identify steps to take that facilitate serving a high quality dysphagia diets

Survey Question #1

- Do you have a “dysphagia care team” in your facility?
  .....this would be a team separate from care planning....

It takes a TEAM

- Home
- Day Care (child & adult)
- School
- Hospitals
- Nursing Homes
- Long Term Care Settings
- Prisons

- Dentist
- Caregiver/Family
- Physician
- Gastroenterologist
- Neurologist
- Otolaryngologist
- Pediatrician
- Pulmonologist
- Radiation Oncologist
- Radiologist
- Nursing
- Nutrition
- OT
- Patient
- PT
- Psychologist/psychiatrist
- Social Worker
- SLP
- Teacher(s)

Screening
Screening

• Dysphagia Screening Considerations:
  • Policy & Procedure? Written and approved?
  • Screening tool selected?
  • Staff Training:
    • Purpose of policy
    • How to use screening tool
    • Who gets the results
    • When to re-screen
  • Quality Improvement?
    • Track findings and results

Clinical Exam & Diagnosis

• Confirmation by speech, physician, radiologist.... Specific problem and prognosis correlates to the treatment approach

Clinical Exam & Diagnosis

Normal Swallow

Oral Phase
• Drooling
• Pocking food
• Food sticking
• Facial droop
• Excessive secretions

Pharyngeal Phase
• Coughing/choking
• Wet/hoarse/breathy voice
• Weak cough
• Foamy phlegm
• Poor swallow coordination
• Aspiration
• Food sticking (neck)
• Nasal regurgitation

Esophageal Phase
• Food sticking (sternum)
• Regurgitation
• Difficulty with solids
• Reflux

Treatment

• Medical / Surgical / Invasive
  • Myotomy, Botox
  • Medication
• Postural techniques
• Neuromuscular praxis
• Swallowing maneuvers
• Food & fluid consistency modifications

Food Texture & Liquid Consistency Modifications

• Objective: Minimize risk for aspiration and choking
• Goal: Maximize normal eating without compromising nutrition or hydration status
Diet Consistency Modification

- Influencing diet recommendation:
  - Medical status
  - Cognitive status
  - Level of alertness
  - Patient’s symptoms during attempts to swallow
  - Ability to maintain nutrition / hydration via PO only

Reminder

- The sequence of events from disordered swallowing to a normal swallow is rarely a straight line or “bump-free”.

Survey Question #2

- Does your facility use the National Dysphagia Diet?

National Dysphagia Diet (NDD)

- Published in 2002
- Defined food consistency diet labels by level
  - Level 1 Dysphagia Pureed
  - Level 2 Dysphagia Mechanically Altered
  - Level 3 Dysphagia Advanced
  - Level 4 Regular Diet
- Defined liquid consistency labels and viscosities
  - Thin
  - Nectar-like
  - Honey-like
  - Spoon-thick
- Sets guidelines for allowed foods and foods to avoid

National Dysphagia Diet (NDD)

- Update
  - > 10 years old, out of print
  - Ref: Nutrition Care Manual
  - International Dysphagia Diet Standardization Initiative [http://iddsiorg.fatcow.com/]
    - Adult
    - Pediatric

MYTH?

- SLP’s don’t recognize the NDD as valid
- Depends:
  - SLP’s were involved with NDD
  - NDD does get presented at their national meeting
  - Yes, some SLP’s do use and/or support the NDD
    - Variations may be requested to meet patient populations
  - If SLP doesn’t know about the NDD whose fault is that?
Thickened Liquids

Dysphagia & Hydration

• Ensuring adequate hydration is essential!
• Individuals with dysphagia are at high risk inadequate fluid intake:
  • Decreased thirst, medical condition, cognitive issues, reliance on assistance, dislike for thickened liquids, didn’t want to bother staff
• A 2000 study showed that patients on thickened liquids were served 48% less fluids than patients on regular diets.
• Study with stroke patients ... averaged only 59% of daily fluid intake
• In hospital 17.5% of dysphagic patients were dehydrated compared to 10.8% of non-dysphagic patients
  • Adding 1.15 – 1.64 days to LOS [and millions of dollars]
  • 25-43% stroke patients rebound to hospital from LTC

Limited [good] research on consistencies

Purpose: reduce the risk of aspiration
• And therefore risk of pulmonary distress

Thick liquids flow more slowly
• Assumed better control during swallowing
  • Smaller sip sizes
  • Slower bolus transit
• Thicker liquid not always desirable
  • Those who aspirate on very thick liquids tend to have worse outcomes

Clinical Exam & Diagnosis

Thickened Liquids

• Defined as:
  • Thin
  • Nectar-Like
  • Honey-Like
  • Spoon-Thick (pudding)
• Commercial products, prepared/used as directed comply with NDD viscosity
  • Thickeners
    • Powder (starch or gum)
    • liquid (gum)
  • Pre-thickened
    • Ready-to-drink (water, milk, juices, coffee/tea)
    • Mixes; just add liquid (Coffee/tea)

Clinical Exam & Diagnosis

Aspiration

The person in this exam video has no swallow response and therefore aspirates.

Factors that affect liquid viscosity — powders
• Human error
  • Not following ‘recipe’
  • Not measuring liquid
  • Not measuring thickener
  • Using different measuring devices
  • Inadequate mixing
  • Not waiting for thickener to act
• pH of liquid
• Temperature
• Solids (fiber, pulp, protein, fat…)
• Time to serve, consume
• Introduction of saliva
Thickened Liquids

- Subjective
- Budget concerns
  - Use team leverage to get right product(s) for facility
  - 2010 nursing study found pre-thickened liquids to save 44-59% over manually thickened
- Patients consume as much as 100% more fluid when given commercially pre-thickened liquids
- Dietary “To-Do”
  - With SLP define each consistency
    - SLP should review your products as served
    - What liquids are okay “as is”
    - Brand specific
    - Re-check periodically

Survey Question #3

- Who serves regular water to patients with dysphagia because it is “just water” and aspirating water “isn’t a problem”?

Referred to as “Frazier Water Protocol”

Frazier Water Protocol

- Not ‘new’; adapted “25 years ago
- Protocol based on water being “safe”
- Why water:
  - Neutral pH
  - Free of bacteria
  - Small amount of water reaching lungs is quickly absorbed
- Additional benefits:
  - Allows for assessing with thin liquid
  - Makes significant contribution to hydration
  - Decreases risk and cost of IV fluids
  - Reduces complaints of thirst
  - Reduces need for thickened liquids (cost, efforts, compliance)

Frazier Water Protocol

- What some don’t “hear”
  - Not all with dysphagia are candidates
  - Some only with supervision
  - Some with compensation techniques
  - Water is only offered between meals
  - Medications are never given with the water
  - Oral mouth care is extremely important to reduce bacteria
  - For:
  - No study refutes safety
  - Improves compliance; QOL
  - Followed properly no more/less aspiration issue
  - Against:
  - Lacks evidence of safety, efficacy or effectiveness; therefore not evidence-based practice
  - It is an easy “out” in place of involving patients
  - People cannot be ‘trusted’ to keep to the protocol so the risk is still there

Maximize compliance
- Explain why
- Introduce juices / fruity drinks first
- Be positive

Maximize hydration
- If you offer more individuals will drink more
- 66.8% more
- Consider using pre-thickened
- Improves intake as much as 100%
- Assist when needed
Thickening Liquids

- Starch-powder
- Gum powder
- Gel liquid
- Pre-thickened

Consider:
- Base beverages
- Cost
- Staff (who, skill, turnover)
- Setting
- Patient Preference
- Other uses

The Cost of Thickening

$____ Cost of base liquid
$____ Cost thickener
$____ Supplies (cup, lid, other...)
$____ Cost of labor

VS.

$____ Cost of pre-thickened portion
$____ Supplies (cup, lid, other... when pouring from bulk)

And

$____ Cost of waste (not consumed)

Dysphagia Diet (Levels 1, 2, & 3)
Survey Question #4

Does your facility serve dysphagia puree meals that look like the photo?

No divided dish required!

Top 3 Reasons to “Form” Food

• Meal aesthetics is the ante to getting into the mouth
• Vision and smell influence intake and digestion
• It is easier to feed or self-feed non-liquid foods

Myth?

• The patient/resident isn’t “with it” (e.g. dementia)

Great Dysphagia Meals

Lessons from the trenches
• Set milestones
• Empower staff – especially cooks
• Make it fun
• Make use of resources:
  • Manufacturers
  • Recipes, training tools
  • Distributors
  • Product ideas, recipes, equipment
  • Ask around (other facilities)
• Start simple

Simple Is:

• Just Scoop It
  • Use a Thickener or Enhancer
  • Flatten the scoop of food
  • Use the back of the scoop
  • Add gravy or sauce
  • Or sprinkle on a ground spice
**Ideas**

- Multiple small scoops vs. 1 huge

![Turkey with Gravy & Bread stuffing](image)

**Simple Is:**

- If it is a cold fruit, salad, meat salad, vegetable — scoop it
  - Add thickener to hold scoop shape
  - Use several small scoops instead of one big one

**Mold It:**

- Food Molds
  - Puree, thicken, mold, freeze, pop on plate/bowl
  - Immediate presentation perk!

**Other Ideas:**
- Candy molds
- Muffin tins
- Custard cups

**Food Molds**

- Molded Tomato Slice
- Molded Pickle Slices
- Molded Pizza
- Molded Pork Chop

**Slurry & Garnish**
“Advanced”

The Cost Objection

- It costs more
  - Pre-portioned, heat and serve $$$$  
- Food Molds $$
- Labor time $$$$$

- Does it really?
  - What is the cost of UWL? $$$$$
- Malnutrition? $$$$$
- Episode of pneumonia? $$$$$

- What is the value of QOL? priceless

As a child my family’s menu consisted of two choices: take it or leave it. Buddy Hackett

IDDSI News

Changing the way we look at consistencies

![IDDSI News Diagram]

MILDLY THICK

<table>
<thead>
<tr>
<th>Description Characteristics</th>
<th>Physical characteristics for this level of thickness</th>
<th>Testing method</th>
<th>IDDSI Flow Test®</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If thin liquids flow too fast to be controlled safely, these Mildly Thick liquids will flow at a slightly slower rate.</td>
<td>Testing liquid flows through a 10 ml, slip tip syringe leaving 4 to 8 ml in the syringe after 20 seconds (see IDDSI Flow Test Instructions®)</td>
<td></td>
</tr>
</tbody>
</table>
Resources

- EAT – 10 Forms

- Red Flags for Swallowing Difficulty

- Food photography provided courtesy of Nestlé Health Science

Acknowledgment

Thank you for participating in today’s session!

This presentation is intended to provide general information about dysphagia and texture modified dietary practices but is not intended to provide medical advice.

Presentation Author: Debra Zwiefelhofer, RDN, LD

POST TEST

- Identify 3 ideas to improve upon the Dysphagia Diet in your facility and the first step needed for implementation.

1. 
2. 
3.

Select References