Dysphagia Care in Non-Acute Settings

Presented by:
Rachel Fregien MS CCC-SLP
Elizabeth Swiggum MS CCC-SLP
Course Objectives:

• Define methods for identifying patients at risk for dysphagia.

• Educate and communicate about dysphagia risks, appropriate precautions, and continuity of care to multidisciplinary teams, front line staff, caregivers and families.

• Develop performance improvement goals and quality assurance measures for monitoring efficiency and effectiveness of dysphagia care.

• Discuss ethical considerations for quality of life and end of life factors.
MMHI Population

- 272 bed inpatient mental health facility
- Forensic and civil patients
- 18 to 90+ years of age
- Length of stay: 2 weeks to 30+ years
- Dementia, CVA, TBI, schizophrenia, bipolar disorder, depressive disorder, schizoaffective disorder, Huntington's disease, cognitive disorder, developmentally disabled
Aspiration Risk Factors at MMHI

- Majority of patients on psychotropic medications
- Forensic population getting older
- Large portion of caseload on Geriatric Unit
- Increasing complexity of medical issues in both civil and forensic admissions
- Opening of new forensic admission units - increase in dysphagia referrals
Factors that May Result in Dysphagia

- Physical
- Behavioral
- Cognitive
- Psychiatric
- Medication

It is important to note that within the MMHI population, there will most likely be a combination of these factors for each patient. Many times all five can factor into dysphagia diagnosis.
Factors that May Result in Dysphagia

• Physical
  – An actual blockage which impedes the movement of food from the pharynx to the esophagus
  – Fatigue
  – Medical diagnoses (stroke, Huntington’s disease, cerebral palsy)
  – Poor dentition
  – Poor motor functioning due to age or diagnosis
Factors that May Result in Dysphagia

• Behavioral
  – Anxiety
  – Impulsivity
  – Stuffing
  – Distractibility
Factors that May Result in Dysphagia

• Cognitive
  – Dementia
    • Dependence for Activities of Daily Living (ADLs)
    • No longer recognizes food or recalls what to do with it
  – Developmental Disabilities
  – Psychiatric diagnoses
    • Depression
    • Anxiety
    • Executive functioning - impulsivity
Factors that May Result in Dysphagia

• Medications
  – Altered level of consciousness
  – Falling asleep during meals
  – Xerostomia
  – Lower Esophageal Sphincter Pressure
Medications Known to Induce Dysphagia

- Anticholinergics
- Antihypertensives
- Phenothiazides
- Antihistamines
- Anticonvulsants
- Benzodiazepines
- Sedatives
- Antidepressants
- Antipsychotics
- Hypnotics
- Antispasmodics
- Theophyllines
- Nitrates
- Calcium channel blockers
- Beta Blockers
Psychotropic medications

27 medications
12 had higher risk of causing dysphagia

- Alprazolam (Xanax)
- Carbamazepine (Carbatrol)
- Chlorpromazine (Thorazine)
- Citalopram (Celexa)
- Clonazepam (Klonopin)
- Clozapine (Clozaril)
- Clorazepate (Tranxene)
- Diazepam (Valium)
- Fluoxetine (Prozac)
- Fluphenazine (Prolinx)
- Lorazepam (Ativan)
- Loxapine (Loxitane)
- Nefazodone (Serzone)
- Olanzapine (Zyprexa)
- Paroxetine (Paxil)
- Risperidone (Risperdal)
- Seroquel (Quetiapine)
- Sertraline (Zoloft)
- Thioridazine (Mellaril)
- Thiothixene (Navane)
- Trazodone (Desyrel)
- Trifluoperazine (Stelazine)
- Venlafaxine (Effexor)
- Ziprasidone (Geodon)
Tardive Dyskinesia

- Involuntary neurologic movement disorder
- Involves muscles in the face and neck
- Progressive
  - May make chewing and swallowing impossible
Increased mortality in elderly population

Warning
Increased Mortality in Elderly Patients with Dementia-Related Psychosis
Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Analyses of seventeen placebo-controlled trials (modal duration of 10 weeks), largely in patients taking atypical antipsychotic drugs, revealed a risk of death in drug-treated patients of between 1.6 to 1.7 times the risk of death in placebo-treated patients. Over the course of a typical 10-week controlled trial, the rate of death in drug-treated patients was about 4.5%, compared to a rate of about 2.6% in the placebo group. Although the causes of death were varied, most of the deaths appeared to be either cardiovascular (e.g., heart failure, sudden death) or infectious (e.g., pneumonia) in nature. Observational studies suggest that, similar to atypical antipsychotic drugs, treatment with conventional antipsychotic drugs may increase mortality. The extent to which the findings of increased mortality in observational studies may be attributed to the antipsychotic drug as opposed to some characteristic(s) of the patients is not clear. Trifluoperazine hydrochloride is not approved for the treatment of patients with dementia-related psychosis (see WARNINGS).
# Psychotropic Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>May cause...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dysphagia</td>
</tr>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td>X</td>
</tr>
<tr>
<td>Clozapine (Clozaril)</td>
<td>X</td>
</tr>
<tr>
<td>Fluphenazine (Prolixin)</td>
<td>X</td>
</tr>
<tr>
<td>Geodon (Ziprasidone)</td>
<td>X</td>
</tr>
<tr>
<td>Haloperidol (Haldol)</td>
<td>X</td>
</tr>
<tr>
<td>Loxapine (Loxitane)</td>
<td>X</td>
</tr>
<tr>
<td>Olanzapine (Zyprexa)</td>
<td>X</td>
</tr>
<tr>
<td>Risperidone (Risperdal)</td>
<td>X</td>
</tr>
<tr>
<td>Quetiapine (Seroquel)</td>
<td>X</td>
</tr>
<tr>
<td>Thioridazine (Mellaril)</td>
<td>X</td>
</tr>
<tr>
<td>Thiotheixene (Navane)</td>
<td>X</td>
</tr>
<tr>
<td>Trifluoperazine (Stelazine)</td>
<td>X</td>
</tr>
</tbody>
</table>
Dysphagia Care Dilemmas

- When to refer to Hospital for VFSS or FEES
- Wait time for above outpatient procedures
- Physical and behavioral issues with patients
- Conservative approach and management with altered diet and liquids
- Swallowing and feeding approaches to reduce signs and symptoms of aspiration
- Concerns for silent aspiration
Dysphagia Can Lead to:

- Malnutrition
- Dehydration
- Decreased QOL
- Pneumonia
- Death

- Decreased rehab. potential
- Increased length of hospital stay
- Increased cost
Interdisciplinary Team Approach

• Dysphagia and Adaptive Dining Committee
  – Participants:
    • Speech-Language Pathology
    • Dietary
    • Occupational Therapy
    • Nursing
    • Infection Prevention
    • Medical Doctor
The Dysphagia and Adaptive Dining Committee

• Hey DAD!
Speech-Language Pathology Role

- Recommend appropriate, least restrictive diet textures and liquid viscosities
- Recommend patient specific swallow guidelines
- Provide education about diet textures and liquids to patient, family and relevant others related to recommendations
- Provide necessary follow-up or treatment to address dysphagia needs
Occupational Therapy Role

• Identify physical, psychiatric, behavioral or environmental factors that may impact independence in self-feeding
• Recommend approaches, cues, and adaptations that may increase independence or success in self-feeding
• Provide education and training to patient, staff and relevant others related to recommendations
• Provide follow-up to evaluate effectiveness of recommendations
• Provide education on the use of adaptive equipment
Medical Doctor Role

• Consult with Speech-Language Pathology regarding patient’s ability to swallow safely
• Consult with Occupational Therapy regarding patient’s safety with self-feeding and adaptive dining accommodations necessary to maintain safe oral intake
• Modify diet orders as needed
• Order adaptive equipment as needed
• Specify, through orders, the level of supervision during meal times to maintain safe oral intake
• Consider risk for dysphagia when prescribing medications
Nursing Role

• Ensure ordered safety measures are in place
• Monitor ability of patient to utilize equipment correctly and provide education as needed
• Follow all MD, SLP and OT recommendations
• Monitor for and document any difficulties such as choking, coughing, gurgling noises, holding food in mouth or if patient has specific food chewing difficulties
• Provide visual observation during all food and fluid intake
• Ensure diet ticket is consistent with food on tray
• Provide all adaptive equipment needed for mealtime
• Make sure patient is sitting at a 90 degree angle during meal
• Keep patient upright for at least 30 minutes after meal
• Offer oral hygiene after eating
Dietary Staff Role

• Provide quality food options for altered diet textures
• Order diet specifications as they relate to nutritional needs
• Monitor nutrition and hydration needs
• Ensure accurate diet changes
Interdisciplinary Team Approach

• Dysphagia and Adaptive Dining (DAD) Committee
  – Institute-wide education and training
  – Foods offered in each diet texture
  – Adaptive equipment needs
  – Policy and procedure
  – Quality assurance and performance improvement
  – Aspiration pneumonia rates and review cases
  – Quality of life
Education and Training

- New Employee Orientation for Dysphagia and Adaptive Dining
  - Required for all new staff who will be working with cares
  - 4 hour course covering normal swallow, dysphagia & aspiration, diet modification, thickening liquids, feeding procedures monitoring and documentation and adaptive equipment

- In-service for Food Service Personnel
  - Shortened version of the long course –why attending to modifying diet texture and liquid viscosity is so important

- Special interest groups - PRN
  - Cross-shift training for on unit staff
  - Case studies and discussion points
  - Clinical services committee
Modified Diet Textures

**GENERAL**: For patients who are able to chew and swallow all diet textures.

**SOFT**: For patients who have some difficulty chewing. The patient maintains ability to cut or dice their soft—textured food.

**MECHANICAL SOFT**: For patients who have difficulty chewing, manipulating, and swallowing soft and general textures.

**PUREED**: For patients who are unable to chew or swallow solid foods safely.

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Appendix B
Modified Diet Textures

- **General Diet:**
  - Patient may eat any and all textures
  - No restrictions
Modified Diet Textures

• **Soft Diet:**
  – For patients who have a mild difficulty chewing, manipulating and swallowing foods
  – A decreased amount force and strength is needed to chew soft textured foods
  – The patient maintains the ability to cut or dice foods independently
Modified Diet Textures

• Foods RESTRICTED on a soft diet:
  – course cereals
  – bread with nuts or dried fruit
  – bagels
  – nuts
  – fresh fruit with tough membranes
  – raw vegetables
  – popcorn
Modified Diet Textures

• **Mechanical Soft Diet:**
  – For patients who have moderate to severe difficulty chewing, manipulating and swallowing foods
  – All textures are soft, moist and tender with no tough skins
  – All foods are diced into small (1/2 inch) cubes
Modified Diet Textures

• Foods RESTRICTED on a mechanical soft diet:
  – bread and cereal with nuts or dried fruit
  – nuts
  – dried fruit
  – fruit with seeds or coarse skins
  – whole grapes
  – raw vegetables
  – peanut butter
  – meat with bones
  – hard candies
  – chips or popcorn
Modified Diet Textures

• **Pureed Diet:**
  – For patients who are unable to chew or process solid foods safely
  – All foods are thick, smooth solid textures of the same consistency
Adaptive Feeding Equipment

• Mothercare Spoon
  – hard plastic bowl and handle
  – small bowl to slow impulsive eaters down
Adaptive Feeding Equipment

• **Nosey Cutout**
  – cutout side fits over the nose
  – decreases tactile stimulation around face
  – facilitates drinking without neck extension
  – flexible nosey cup conforms to mouth opening
Adaptive Feeding Equipment

- Bowl holder
  - holds bowl off edge of table
  - can then be used to scoop food out
  - people with poor posture are able to visualize food and feed independently
Adaptive Feeding Equipment

- Dysphagia Cup
  - Limits sip size
  - Prevents impulsive drinking
  - Distributes only 10 cc at a time
  - Assists in maintaining least restrictive liquid viscosity
New Employee Orientation

• The “DAD NEO”
  – Video Sample – Scenario 1:
    Patient Information:
    • 66 year old female
    • Diagnoses include dementia and schizoaffective disorder

    Notable Behaviors:
    • Impulsivity
    • Stuffing
New Employee Orientation

• The “DAD NEO”
  – Video Sample – Scenario 2:
    Patient Information:
    • 83 year old female
    • Diagnoses include Alzheimer’s dementia and history of stroke

    Notable Behaviors:
    • Fatigues easily
    • Lack of initiation
**TARA (scenario 2)**  
Swallowing and Self-feeding precautions

<table>
<thead>
<tr>
<th>DATE:</th>
<th>11-12-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIET:</td>
<td>Pureed Diet</td>
</tr>
<tr>
<td>LIQUIDS:</td>
<td>Nectar Thick Liquids</td>
</tr>
<tr>
<td>EQUIPMENT:</td>
<td>Nosey Cup and Inner Lip Plate</td>
</tr>
<tr>
<td>POSITION:</td>
<td>Sitting upright at table use a wedge behind back to assist with 90 degree positioning during meals.</td>
</tr>
</tbody>
</table>

**THINGS TO WATCH FOR AND DOCUMENT ON:**
- Patient takes large bites
- Patient fatigues quickly
- Patient may not be able to feed self for entire meal

**THINGS STAFF SHOULD DO:**
- Staff to prompt patient to decrease bite size and rate of intake as needed
- Feed the patient if unable to do so independently
- Check mouth after meal, cue patient to swallow any remaining food in mouth.

**OTHER:** (Please look on back of card for swallowing and self-feeding precautions.)

Mealtime Guidelines
Policy and Procedure

- Upon admission nursing data base is completed by RN
- Triggers for dysphagia risk

### 2009 Dysphagia Screens

<table>
<thead>
<tr>
<th>% residents</th>
<th>CSTU</th>
<th>AATU</th>
<th>SATU</th>
</tr>
</thead>
<tbody>
<tr>
<td>discontinued</td>
<td>87%</td>
<td>93%</td>
<td>91%</td>
</tr>
<tr>
<td>continued</td>
<td>13%</td>
<td>7%</td>
<td>9%</td>
</tr>
</tbody>
</table>

% of residents screened for swallowing precautions in 2009.
Policy and Procedure

- Dysphagia consult and swallowing precautions ordered by MD - standing order sheet section
- Admission diet ordered by MD-standing order sheet
- RN calls referral line to notify speech department of dysphagia consult
- Patient is placed on standard swallowing precautions
Swallow Precautions

- Visual observation within same room of patient at all times during meals and snacks
- Encourage and provide oral hygiene 2x/daily
- Place patient upright at 90° sitting for all oral intake
- Ensure patient is alert prior to feeding
- Encourage patient to remain upright for 30 minutes after meal
Swallow Precautions

• Monitor and document signs and symptoms of swallowing difficulties
  – coughing
  – choking
  – clearing throat
  – wet voice quality
  – holding food in cheeks
  – any food or liquid patient has difficulty chewing or swallowing
Dysphagia Care Flowchart

- SLP consult
  - Evidence of dysphagia
  - Discontinue swallowing precautions
- Individualized swallowing precautions
  - OT or RN
- Mealtime Card
- Patient
- Alter Diet
  - Dietary
- Diet Slip
Policy and Procedure (cont.)

• SLP completes dysphagia consult and makes recommendations for diet and swallowing precautions

• Individualized swallowing precautions and guidelines are printed on mealtime cards
# Mealtime Guideline Card

**TARA (scenario 2)**
Swallowing and Self-feeding precautions

<table>
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Mealtime Guidelines
Dysphagia Care Flow Chart

- Safe Intake Tx Plan
- Monitor & Document
- DAD Committee
- QA & PI

Patient

Daily
Weekly
Monthly
Policy and Procedure (cont.)

• Recovery focused: “Safe Intake Treatment Plan”
• Monitoring and Documenting sings and symptoms of dysphagia and aspiration
• Daily, weekly and monthly progress notes
• DAD committee audits documentation compliance and quality
Dysphagia Care Flow Chart

Patient → SLP TX/Monitors

- Continued evidence of aspiration

VFSS or FEES

MMHI SLP present
Policy and Procedure (cont.)

- SLP monitors and provides treatment for current dysphagia risk
- Patient continues to show significant s/s of aspiration despite diet modification and swallowing guideline recommendations
- Patient is referred for instrumental assessment at local hospital for either a VFSS or FEES
- SLP makes every effort to attend procedures for continuity of care
Quality Assurance

- Tracking aspiration pneumonia
- Goal is less than 2.0/1000 patient days
- Calculated by infection prevention coordinator (IPC)
- Number of cases/1000 patient days
- Per quarter
- Review & Chart audit completed by SLP and IPC
- IPC consults with medical clinic director
- Case Review presented to the DAD Committee
Quality Assurance

Aspiration pneumonia rates and case review

Aspiration Pneumonia Rates

<table>
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<tr>
<th>Year</th>
<th>Rate</th>
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<td>2000</td>
<td>1.37</td>
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<tr>
<td>2001</td>
<td>1.145</td>
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<tr>
<td>2002</td>
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<td>2004</td>
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<td>2005</td>
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<td>2006</td>
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<td>2009</td>
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<td>2010</td>
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</tr>
<tr>
<td>2011</td>
<td>0.575</td>
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<tr>
<td>2012</td>
<td>0.8</td>
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<tr>
<td>2013</td>
<td>0.5</td>
</tr>
<tr>
<td>2014</td>
<td>0.575</td>
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</table>
Performance Improvement

• The Geriatric Unit (GTU) project - Least Restrictive Environment:
  – All patients admitted to GTU were initially placed on a mechanically soft diet pending SLP review
  – Ethical dilemma!
  – Difficult to shift a cultural change
  – Data does not lie
Performance Improvement

2011 Geriatric Unit Admission Texture Modifications

- Upgrades to General: 25%
- Upgrades to Soft: 38%
- No Change: 6%
- Downgrade to Pureed or NPO: 8%
- Misc. Pt D/C: 23%
Performance Improvement

2012 Geriatric Admission Diet Modifications

- General Textures: 23%
- Soft Textures: 16%
- Mechanical Soft: 49%
- Pureed: 11%
- No hard fruits/veggies: 2%
## Performance Improvement

### Chart Analysis for Swallow Precautions and Dysphagia Documentation

**Patient Name:** ______________________________________________________

**Data Collection Dates:** _____________________________________________

**This unit’s documentation requirements:** (circle one)  
- every shift  
- daily  
- weekly

<table>
<thead>
<tr>
<th>Name of Recovery Focused Title</th>
<th>Date</th>
<th>QUANTITY: Documentation includes information on what patient ate (i.e.: lunch, snack, milk, amount (%) of meal etc.)</th>
<th>Documentation informs reader of “absence of problems” during meals without details (i.e.: no trouble with meals or snacks this shift)</th>
<th>QUALITY: Documentation must include at least ONE reference to mealtime guideline card. (i.e.: presence or absence of coughing, posture, eating rate etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A.M. Shift</td>
<td>P.M. Shift</td>
<td>A.M. Shift</td>
<td>P.M. Shift</td>
</tr>
<tr>
<td></td>
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<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
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<tr>
<td></td>
<td>Yes/No</td>
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<tr>
<td></td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>
Dysphagia Documentation 2013

- Limited: 20%
- Full: 52%
- None: 6%
- What Pt Ate: 22%
Ethical Considerations

• Informed clinical expertise + Evidence based practice + Patient preference = Ethical decision making

• First Do No Harm

• Educate patient, family and treatment team about risks for aspiration and it’s consequences

• Weigh risks for pneumonia versus dehydration and malnutrition

• Informed consent, diet waiver, advanced directives, medical living will?

• End of life decisions (patient, guardian or POA)

Thank You

Questions? Contact us!

• Rachel Fregien:
  Rachel.Fregien@dhs.wisconsin.gov

• Elizabeth Swiggum:
  Elizabeth.Swiggum@dhs.wisconsin.gov

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References

• Aldridge, Kristy J. and Taylor, Nicholas F., Dysphagia is a Common and Serious Problem for Adults with Mental Illness: A Systematic Review. Dysphagia, 2012, Vol. 27, 124-137.
Appendix C

DAD NEO
Competency Verification Tool

Name: _________________________      Unit/Work Area:_________________
Classification: _________________________      Date:__________________________

Verification Code/Method: Post Test

Competency Verified:  □ YES      □ NO

After watching the video answer the following questions regarding scenario # 2

1. Name the patient’s diet and the consistency of their liquids.
   
   Diet: ____________________________________________________________
   
   Liquids: _______________________________________________________

2. List the adaptive equipment used.

   ______________________________________________________________
   
   ______________________________________________________________

3. List precautions the patient is on.

   ______________________________________________________________
   
   ______________________________________________________________

4. List the specific feeding approaches used.

   ______________________________________________________________
   
   ______________________________________________________________

5. List 2 observations you would include in a SOAP note.

   ______________________________________________________________
   
   ______________________________________________________________
APPENDIX A
MEDICATIONS AND DYSPHAGIA/ SWALLOWING RISKS

Dysphagia as a side effect of medication
Medications that affect the smooth and striated muscles of the esophagus that are involved in swallowing may cause dysphagia.

<table>
<thead>
<tr>
<th>Medications with anticholinergic or antimuscarinic effects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benstropine mesylate</td>
<td>given for movement related effects caused by some psychotropic meds</td>
</tr>
<tr>
<td>Oxybutynin (Ditropan)</td>
<td>improves bladder capacity</td>
</tr>
<tr>
<td>Propantheline (Pro-Banthine)</td>
<td>inhibits the release of stomach acid</td>
</tr>
<tr>
<td>Tolterodine (Detrol)</td>
<td>affects bladder capacity</td>
</tr>
</tbody>
</table>

Medications that cause dry mouth (xerostomia) may interfere with swallowing by impairing the person’s ability to move food.

<table>
<thead>
<tr>
<th>Medications that cause dry mouth (xerostomia)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Captopril (Capoten)</td>
<td><strong>ACE inhibitors</strong>-used for high blood pressure</td>
</tr>
<tr>
<td>Lisinopril (Prinivil, Zestril)</td>
<td></td>
</tr>
<tr>
<td>Disopyramide (Norpace)</td>
<td><strong>Antiarrythmics</strong>-cardiac preparations</td>
</tr>
<tr>
<td>Mexiletine (Mexitil)</td>
<td></td>
</tr>
<tr>
<td>Procanamide (Procan)</td>
<td></td>
</tr>
<tr>
<td>Meclizine (Antivert)</td>
<td><strong>Antiemetics</strong>-used for nausea</td>
</tr>
<tr>
<td>Metoclopramide (Reglan)</td>
<td></td>
</tr>
<tr>
<td>Prochlorperazine (Compazine)</td>
<td></td>
</tr>
<tr>
<td>Chlorpheniramine (Chlor-Trimeton)</td>
<td><strong>Antihistamines and Decognestants</strong>-cold symptoms</td>
</tr>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td></td>
</tr>
<tr>
<td>Psuedoephedrine (Sudafed)</td>
<td></td>
</tr>
<tr>
<td>Amlodipine (Norvasc)</td>
<td><strong>Calcium Channel Blockers</strong>-used for chronic chest pain due to angina</td>
</tr>
<tr>
<td>Ethacrynic acid (Edecrin)</td>
<td><strong>Diurectics</strong>-given to get rid of excess fluid in body</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td></td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td></td>
</tr>
<tr>
<td>Nefasodone (Serzone)</td>
<td></td>
</tr>
<tr>
<td>Paroxetine (Paxil)</td>
<td></td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td></td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td></td>
</tr>
</tbody>
</table>

*see also Antipsychotic/Neuroleptic medication list below

Local anesthetics such as Novocain which is often used for dental work may temporarily cause a loss of sensation that may affect swallowing before it wears off.

Antipsychotic/ Neuroleptic medications given for treatment of psychiatric disorders may affect swallowing as many of them produce dry mouth and some of them can cause movement disorders that impact the muscles of the face and tongue which are involved in swallowing.

<table>
<thead>
<tr>
<th>Antipsychotic/Neuroleptic medications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td>Olanzapine (Zyprexa)</td>
</tr>
<tr>
<td>Clozapine (Clozaril)</td>
<td>Quetiapine (Serquel)</td>
</tr>
<tr>
<td>Fluphenazine (Prolixin)</td>
<td>Risperidone (Risperdal)</td>
</tr>
<tr>
<td>Haloperidol (Haldol)</td>
<td>Thioridazine (Mellaril)</td>
</tr>
<tr>
<td>Lithium (Eskalith, Lithobid)</td>
<td>Thiothizene (Navane)</td>
</tr>
<tr>
<td>Loxapine (Loxitane)</td>
<td>Trifluoperazine (Stelazine)</td>
</tr>
</tbody>
</table>
Dysphagia as a complication of the therapeutic action of the medication

Medications that depress the Central Nervous System (CNS) can decrease awareness and voluntary muscle control that may affect swallowing.

<table>
<thead>
<tr>
<th>Medications that depress the CNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbamazepine (Tegretol)</td>
</tr>
<tr>
<td>Gabapentin (Neurontin)</td>
</tr>
<tr>
<td>Phenobarbital</td>
</tr>
<tr>
<td>Phenytoin (Dilantin)</td>
</tr>
<tr>
<td>Valproic acid (Depakote)</td>
</tr>
<tr>
<td>Alprazolam (Xanax)</td>
</tr>
<tr>
<td>Clonazepam (Klonopin)</td>
</tr>
<tr>
<td>Clorazepate (Tranxene)</td>
</tr>
<tr>
<td>Diazepam (Valium)</td>
</tr>
<tr>
<td>Lorazepam (Ativan)</td>
</tr>
<tr>
<td>Codeine (Tylenol #3)</td>
</tr>
<tr>
<td>Fentanyl (Duragesic)</td>
</tr>
<tr>
<td>Propoxyphene (Darvon, Darvocet)</td>
</tr>
<tr>
<td>Baclofen (Lioresal)</td>
</tr>
<tr>
<td>Cyclobenzaprine (Flexeril)</td>
</tr>
<tr>
<td>Tizanidine (Zanaflex)</td>
</tr>
</tbody>
</table>

Antipileptics-for seizures
Benzodiazepines-antianxiety drugs
Narcotics-for pain relief
Skeletal Muscle Relaxants-relieves muscle spasms and relaxes muscles

Medications that can cause esophageal injury and increase risk

Some medications can cause dysphagia because of injury to the esophagus caused by local irritation. This can happen because the person is in a reclining position shortly after taking the medication or because an inadequate amount of fluid is taken with the medication. In both instances, the medications remain in the esophagus too long, potentially causing damage and affecting swallowing.

<table>
<thead>
<tr>
<th>Drugs that may cause esophageal injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clindamycin (Cleocin)</td>
</tr>
<tr>
<td>Doxycycline (Vibramycin)</td>
</tr>
<tr>
<td>Erythromycin (Ery-tabs, E-mycin)</td>
</tr>
<tr>
<td>Tetracycline (Sumycin)</td>
</tr>
<tr>
<td>Bayer aspirin and generic brands</td>
</tr>
<tr>
<td>Alendronate (Fosamax)</td>
</tr>
<tr>
<td>FeoSol, Feratab, Slow-FE, Fer-Iron etc.</td>
</tr>
<tr>
<td>Theophylline (Theo-Dur, Unidur, Slo-Bid)</td>
</tr>
<tr>
<td>Ibuprofen (Advil, Motrin)</td>
</tr>
<tr>
<td>Naproxen (Aleve, Naprosyn)</td>
</tr>
<tr>
<td>K-Dur, K-tabs, Klor-Con, Slow K, etc.</td>
</tr>
<tr>
<td>Allbee with C, Vitamin C tabs, etc.</td>
</tr>
</tbody>
</table>

Antibiotics- acid containing products
Aspirin-headache and pain relief
Bisphosphonates- given for osteoporosis
Iron containing products
Methylxanithines-bronchodilators
Nonsteroidal Anti-inflammatory- relieves pain
Potassium Chloride supplements
Vitamin C (ascorbic acid) supplements

Other medications such as high dose steroids and chemotherapeutic (anti-cancer) preparations may cause muscle wasting or damage to the esophagus and may suppress the immune system making the person susceptible to infection.

Appendix B: Fregien/Swig gum WSHA 2015

GENERAL: For patients who are able to chew and swallow all diet textures.

SOFT: For patients who have some difficulty chewing. The patient maintains ability to cut or dice their soft–textured food.

MECHANICAL SOFT: For patients who have difficulty chewing, manipulating, and swallowing soft and general textures.

PUREED: For patients who are unable to chew or swallow solid foods safely.

restricted foods

Appendix B: Altered Food Textures