DMS NEWS AND REVIEWS

A DYSPHAGIA MANAGEMENT SYSTEMS PUBLICATION

April 2015

IN THE NEWS

"Solutions for dehydration in seniors stump researchers"

http://www.mcknights.com/solutions-for-dehydration-in-seniors-stump-researchers/article/400545/

"Despite decades and nearly two dozen studies on dehydration in the frail elderly, very little conclusive evidence exists on its causes or solutions, a research team reported Wednesday in the Annals of Long-Term Care.

After their systematic review of 23 published research studies on the risk among those 65 and older, Diane Bunn, MSc, and colleagues said they could not identify "any proven effective strategies for dehydration prevention and/or increasing fluid intake for the older person living in long-term care facilities due to the high risk of bias in the studies reviewed."

Elderly individuals are at a much greater and faster dehydration risk because their bodies generally have significantly lower water content (about seven liters less for a 150-pound person) than younger people, according to the Illinois Council on Long-Term Care……..

DID YOU KNOW?

Dehydration and malnutrition may be the first sign that a patient has dysphagia?

Swallowing comes from the central command center in the brain. When danger is sensed, a subconscious aversion to the food or liquid is triggered.

An accurate dysphagia diagnosis including instrumentation, when necessary, identifies the subtleties associated with the dysphagia.

Accurate diagnosis and effective management can reduce repeat hospitalizations significantly and improve outcomes.

40% of people over the age of 65 suffer from dysphagia!

77 million Baby Boomers are expected to retire in the next twenty years!

ON PAGE 3:

Dr Jeanna Winchester, PhD provides a literature review focusing on cognitive decline and dysphagia. "Swallowing problems, or dysphagia, develop early in the disease's progression, possibly due to deterioration of brain areas commonly associated with the swallowing mechanisms."

DYSPHAGIA AFFECTS:

- >30% of CVA Patients
- 52%-82% Parkinson's Patients
- 84% of Alzheimer's Patients
- >40% of adults aged 65 and older
- >60% of Institutionalized
- >16,500,000 US senior citizens required care for dysphagia as of the year 2010

Dysphagia fulfills most criteria to be recognized as a major geriatric syndrome as its prevalence is very high in geriatric patients and results in multiple diseases, risk factors and precipitating diseases (Rofes et al., 2011)

Monthly Free Course

Successful Aging: Information for the SLP

For More Information Visit: DMS Courses

This two-hour seminar was designed to orient the SLP to the path that the brain takes in aging. Areas of instruction include brain plasticity, brain adaptation, neuronal plasticity, cognitive plasticity and the role of the environment on the healthy brain. The role of the SLP in promoting healthy aging is discussed along with diagnostic and therapeutic predictors of more positive outcomes.

INTRODUCING:

Dr Jeanna T Winchester, PhD

Dr. Jeanna Winchester PhD is a Clinical Cognitive Neuroscientist, a Professor of Anatomy/Physiology, Microbiology, Chemistry and Neuroscience, as well as a Director of Clinical Development at DMS.

Her background focuses on successful aging through the continuum of care, dementia, and bridging the functional gap between clinical science and clinical practice.

Dr. Winchester received her Bachelor's Degree from St Mary's Notre Dame and her PhD from Florida Atlantic University. At DMS she is responsible for program clinical trials, program development statistics, CEU Course research, and statistical quality control.

Cognitive Decline and Dysphagia Literature Review

Dr. Jeanna Winchester, PhD, Clinical Scientist

Previous clinical research has determined that Alzheimer's disease is a heterogenous neurodegenerative disorder, varying greatly in its presentation and its clinical course. As such, though there are many factors that have been correlated with varying rates in cognitive decline among Alzheimer's patients, it is commonly accepted that the magnitude, scope and rate of Alzheimer's decline will vary from patient to patient [Lopez et al., 2010].

Some research has shown that the time between diagnosed as independently living with Alzheimer's disease and the time at which the diagnosed individual requires continuous medical care is approximately 54 months [Rive et al., 3020]. According to the 2010 Alzheimer's Disease Fact and Figures, distributed by the Alzheimer's Association, the average per person payment for individuals living with Alzheimer's disease was $3,030 per year, and in 2009 the United States had 3,261,183 Alzheimer's patients residing in the SNF setting [Alzheimer's Association, 2010]. Considering the Baby Boom generation is entering the stage of life when they are likely to develop Alzheimer's, and by the year 2031 the number of Baby Boomers newly documented with Alzheimer's disease will be about 11 million [Alzheimer's Association, 2010], it is imperative that the clinical community continue to carry-out comprehensive quality care in the skilled nursing setting, with the hopes of provided the highest quality of life for these patients.

Swallowing problems, or dysphagia, develop early in the disease's progression, possibly due to deterioration of brain areas commonly associated with the swallowing mechanisms [Humbert et al., 2010]. Previous research has shown deficits in the duration of oral transit, pharyngeal response, and total swallow as well as in self-feeding capacity [Priefer & Robbins, 1997]. Alzheimer's disease patients also have a high risk of aspiration [Horner et al., 1994], aspiration pneumonia, loss of the gag reflex, periodontal disease, failure of basic homeostatic mechanisms [Kalia, 2003] and protein-energy malnutrition [Gray, 1990].

While in other forms of dementia, such as fronto-temporal or semantic dementia, specific swallowing issues have been consistently found throughout the population, in Alzheimer's disease no such pattern has emerged [Ikeda et al., 2002]. One possible reason for the variability in swallowing issues within the Alzheimer's population may be that no pattern can be consistently determined in these patients because the disease itself is dynamic and unpredictable. The variability in cognitive decline and the rate of progression within the Alzheimer's community is so great, that it impedes any attempt at determining a consist pattern to cognitive decline and thus, dysphagia.

The use of percutaneous endoscopic gastromy (PEG) in treating dementia patient with dysphagia is common in the SNF setting, and a large debate exists as to the efficacy of this treatment strategy. To date, the literature has come to no consistent conclusion as to whether patients with dementia and a PEG have a poorer outcome than non-dementia patients with a PEG, or if other forms of nutritional feeding are more or less effective than a PEG placement in dementia populations (see Higaki et al., 2008; Murphy et al., 2003; Freeman et al., 2010; Zalar et al., 2004; etc. for a review of the evidence). The evidence is simply confusing, variable and misleading. However, there does exist evidence that PEG placement in dementia patients results in a significantly beneficial cost to the SNF facility.

For example, in 2004 Mitchell & colleagues evaluated 22 nursing home residents aged 65 years and older, with advanced stages of dementia. Half the population was given a PEG while the other half of the population was hand-fed. The daily cost to the nursing home was higher for residents that were hand fed ($4219 +/- $1526) than for those with the PEG placement ($2379 +/- $1032, $p = 0.006$). Additionally, the Medicaid reimbursement in 26 states across America are higher for PEG placement patients than for non-PEG placement patients [Mitchell et al., 2004].

In some cases, PEG placement is temporary [Zala et al., 2004] and with both nutritional restoration and increased safety due to a comprehensive dysphagia plan, patients can safely recuperate their swallow. For example, when an effective dysphagia management has been put in place and has had previous success in rehabilitating dementia patient's swallowing mechanisms after PEG placement, it has been proven to provide a safe and step-wise plan for recuperating the swallow. The reason for this structured success is rooted in the definition of dysphagia. Dysphagia is defined as the inability of the patient to function in one or more of five basic systems involved in the swallowing process.

(Continued on next page)

The muscular system provides the mechanism as the patient chews and transits the food/liquid through the mouth, into the pharynx, and into the esophagus. In a patient with dementia, that muscular system can become weakened with decreased intake, malnutrition, and/or dehydration. With effective diagnosis via instrumental assessment, the appropriate food and liquid consistencies are identified to effectively move the nutrition through the system and provide the calories and hydration necessary to remain strong and vital. If the dementia patient is not ingesting enough nutrition for the muscular system to work effectively, a PEG placement, temporary in nature, is vital to return the patient to their previous nutritional status. As this happens, the patient may be weaned off the PEG and onto a diet that is now tolerable because of the increased strength.

The respiratory system provides the mechanism as the patient must hold his/her breath for one-to-two seconds in order for the food and liquid to transit through the pharynx and into the esophagus, without falling into the airway (aspiration). This reflex is autonomic as the superior branch of the laryngeal nerve feels the food and liquid as it falls into the pharynx and closes the vocal cords in response. In a patient with dementia, food/liquid of an inappropriate consistencies may prematurely fall into the pharynx and subsequently into the airway prior to the vocal folds being able to close. This is especially common in dementia patients with malnutrition or dehydration as the reflexes have slowed because of the diminished state. Not all dementia patients have respiratory complications, however, in those who are chronically aspirating, respiratory complications such as pneumonia, bronchitis, or chronic asthma may follow. In this dementia patient, a PEG placement provides the nutrition to increase the patient's strength, while reducing the risk of aspiration complications. This placement may provide part or all of this patient's nutrition and hydration, depending on the severity of the aspiration. Successful weaning from the PEG tube may follow the improved strength and lung function as the patient recovers from aspiration insult.

The neurological system provides the mechanism as the patient must feel the food/liquid as it moves past the base of the tongue, through the pharynx as the vocal cords close to protect the airway, and into the esophagus. When a patient has complications such as GERD, stricture, or motility dysfunction, the superior branch of the laryngeal nerve can have diminished sensitivity, and the patient may not feel the food or liquid with enough intensity to trigger airway protection. Although all dementia patients do not exhibit this diminished sensation, in those that do, PEG placement may be beneficial for a short time (2-3 months) in order for the physician to attempt to manage the GERD, or to provide additional nutrition to supplement diminished intake in the case of an esophageal stricture or fatigue associated with the increased pharyngeal clearing necessary in cases of diminished sensation.

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Dementia and PEG Placement

It is vital that dysphagia associated with dementia be managed proactively and effectively.

The costs to the facility and cost in patient decreased quality of life can be diminished dramatically with proper nutrition and hydration in the textures identified by the Speech Pathologist after an instrumentation.

As research shows that the health outcomes are similar for use of a PEG and hand feeding for extensive periods of time, and that the cost associated with the PEG is approximately half that of hand feeding in the dementia patients with dysphagia. It is our conclusion that proactive dysphagia management is more effective when a PEG placement is needed to allow the systems affected to rehabilitate.

Without this opportunity, the outcome is certain – continual decline in physical function.

With the opportunity to utilize a PEG when needed, the outcome for these patients may be changed in a positive way.

The gastrointestinal system provides the mechanism, as the patient must transit the food/liquid through the esophagus and into the stomach. As described above, the patient that suffers from gastrointestinal dysfunction exhibits dysphagia complications as the food and liquid flow back up through the esophagus and into the pharynx.

Aspiration of stomach contents mixed with stomach acid can result in serious complications to the lungs. Identifying these risk factors assist the physician with managing the gastrointestinal dysfunction, thus allowing the patient to recover from the lung insult. In dementia patients with GI dysfunction, there are typically more than one of the five systems involved in the swallowing process that are affected. Backflow of the bolus and/or reflux of the bolus can cause muscle weakness as the patient stops eating because of the silent aspiration of GI contents; respiratory complications as described; neurological effects as the acid causes irritation to the pharynx and larynx; and increased cognitive complications because of malnutrition and dehydration. PEG placement may be warranted in the patient whose reflux may be managed medically, and weaning from the PEG is possible as the other systems rehabilitate in the absence of the reflux irritant.

The final system causing dysphagia is the cognitive system. This system provides the mechanism to make appropriate food/liquid choices, problem solve for risk factors, and use executive function in order to manage dysphagia with compensatory techniques to increase safety. Dementia patients exhibit defects in this system, however, a thorough diagnostic, including instrumentation can provide the exact information pertaining to the patient's dysfunction. Once this information is identified, a dysphagia management plan is written and the patient, family, nursing staff, dietary staff, and other facility personnel are included in the training for safety. This training includes techniques to provide adequate nutrition and hydration. As the dementia patient often exhibits an aversion to texture, it is vital that the team monitor the patient's intake to assure proper nutrition. In the even that the patient cannot tolerate enough food orally, the patient may be appropriate for a PEG in order to provide the additional nutrition for the highest level of function. As provided in the literature review, it is imperative that these patient remain nutritionally sound and hydrated as without that, the decline in cognitive function is imminent.

▶ A JOB WELL DONE!

Jill Skinner, SLP – Richmond Virginia

Jill Skinner is a Speech Pathologist in the Richmond, VA area. Jill truly encompasses the meaning of the title "Patient Advocate" in all that she does. Although Jill is always doing what's best for her patients, it's not always easy. Jill recently was working with at 64 year old who had been admitted from acute care with a complicated history of respiratory failure requiring intubation, CHF, COPD, pneumonia, and dysphagia with PEG placement. Prior to discharge, a MBS had cleared her for a regular diet and thin liquids. Upon admission to Jill's SNF, she evaluated this patient and noted significant respiratory compromise, oxygen desaturation, new onset pneumonia, vocal changes, and oxygen dependency at four liters. Jill did significant education with this patient and recommended a Dysphagia Systems Test. This patient was extremely hesitant to consent to this assessment, stating "I just had a test and they said I was fine." Jill explained the benefit of repeating her instrumentation and differences between what could be seen on the MBS vs the DST.

The DST was completed and the results were significantly different. This patient had both limited airway closure, as well copious backflow/reflux with silent aspiration. With rapid fatigue and frank silent aspiration of ice chips and puree textures, the Patient was unsafe to continue eating by mouth. She already had a PEG so the physician resumed her PEG feeds and discontinued her PO intake. The Patient was amazed at what she could see and although at times was upset over the recommendation to use the PEG again, she understood and complied with the recommendations.

Over the next several months, Jill worked very hard with this patient on swallow safety, and diligently rehabilitating her swallow function. Several repeat studies were completed, each time demonstrating continued progress. Jill partnered with everyone involved; Physician to manage the backflow; Dietary to provide safe food and liquids for the patient; CNA's and Nursing to assist in proper positioning and safe intake for the Patient. The Patient progressively improved! The Patient eventually returned home independently, without oxygen, without her PEG tube, and on a regular diet/thin liquids thanks to Jill's expertise, Patient advocacy, partnership with the entire care plan team, and overall determination to do what is best for the Patient. Job well done Jill!

REFERENCES:

1. Freeman C, Ricevuto A, DeLegge MH (2010) Enteral nutrition in patients with dementia and stroke. Curr Opin Gastroenterol 26: 156-9

2. Gray GE (1989) Nutrition and dementia. J Am Diet Assoc 89: 1795-802

3. Higaki F, Yokota O, Ohishi M (2008) Factors predictive of survival after percutaneous endoscopic gastrostomy in the elderly: Is dementia really a risk factor? Am J Ganstroenterol 103: 11011-6

4. Horner J, Alberts MJ, Dawson DV, Cook GM (1994) Swallowing in Alzheimer's disease. Alzheimer Dis Assoc Disord 8: 177-189

5. Humbert IA, McLaren DG, Kosmatka K, Fitzgerald M, Johnson S, Porcaro E, Kays S, Umoh EO, Robbins J (2010) Early deficits in cotical control of swallowing in Alzheimer's disease. J Alzheimer's Dis 19:1185-97

6. Ikeda M, Brown J, Holland AJ, Fukuhara R, Hodges JR (2002) Changes in appetite, food preference, and eating habits in frontotemporal dementia and Alzheimer's disease J Neurol Neurosurg Psychiatry 73: 371-6

7. Kalia M (2003) Dysphagia and aspiration pneumonia in patients with Alzheimer's disease. Metabolism 52 (10 Suppl 2):36-8

8. Lopez OL, Schwam E, Cumming J, Gauthier S, Jones R, Wilkinson D, Waldemar G, Zhang R, Schindler R (2010) Predicting cognitive decline in Alzheimer's disease: An integrated analysis. Alz & Dem 6: 431-9

9. Murphy LM, Lipman TO (2003) Percutaneous endoscopic gastronomy does not prolong survival in patients with dementia. Arch Intern Med 163: 1351-3\

10. Priefer BA, Robbins J (1997) Eating change sin mild-stage Alzheimer's disease: A pilot study. Dysphagia 12: 212-21

11. Rive B, Le Reun C, Grishchenko M, Cochran J, Katona C, Livingston G, Lamure M, Toumi M, Francois C (2010) Predicting time to full-time care in AD: A new model. J Med Econ 13: 362-70

12. Suh MK, Kim H, Na DL (2009) Dysphagia in patients with dementia: Alzheimer versus vascular. Alzheimer Dis Assoc Disord 23: 178-84

13. Zalar AE, Guedon C, Piskorz EL, Sanchez Basso A, Ducrotte P (2004) Percutaneous endoscopic gastrostomy in patients with neurological diseases. Results of a prospective multicenter and international study. Acta Gastroenterol Latinoam 34: 127-32

COMING NEXT MONTH!

DMS is committed to providing Continuing Education Events to the Speech Pathologists in the facilities we serve. Next Month's issue will have sign-up information to attend these FREE educational experiences and the potential to earn ASHA CEU's at minimal to no fees, depending on your company's policies!

Did you know that esophageal cancer rates have risen over 800% in the past 25 years and that medication alone is not a cure? Identifying your patient's reflux risk and combining it with your rehabilitation techniques, you can improve their comfort, care, and quality of life significantly! Next month's issue delves into the area of Reflux Dysphagia and what you, as an SLP, can do to identify and modify your techniques appropriately to increase their dysphagia safety and recovery!

Have you heard of ***Transnasal Esophagoscopy***? Learn more about the relationship between food safety and reflux, and new identification techniques for non-sedated diagnosis. Next month's issue will include a review of books by two of our nation's leading experts!

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