

SLHS 539: Swallowing Disorders
Purdue University
Department of Speech, Language, and Hearing Sciences

Fall 2007
Monday, Wednesday, and Friday 3:30-4:20

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Office Hours: W 12:30-
1:20 and by appointment

Goals of the Course:

1. To learn the phases and physiology of swallowing.
2. To address the underlying neural bases for normal and disordered swallowing.
3. To examine assessment techniques for dysphagia and to understand how to distinguish problems at the different phases of a swallow.
4. To discuss treatment techniques for dysphagia.
5. To understand the advantages, disadvantages, and efficacy of assessment and treatment techniques.

Assumed Knowledge:

1. Knowledge of the anatomy of the respiratory, laryngeal, and articulatory subsystems.
2. Understanding of the normal physiology of the respiratory, laryngeal, and articulatory subsystems.
3. Basic knowledge of the cranial nerve system.

American Speech-Language-Hearing Association (ASHA) Certification Standards Addressed in This Course:

III-B: The applicant must demonstrate knowledge of basic human communication processes and swallowing processes, including their biological, neurological, acoustic, psychological, development, and linguistic and cultural bases.

- 2a. swallowing – biological
- 2b. swallowing – neurological
- 2d. swallowing – psychological
- 2e. swallowing – developmental lifespan
- 2g. swallowing – cultural



III-C: The applicant must demonstrate knowledge of the nature of speech, language, hearing, and communication disorders and differences and swallowing disorders, including their etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates. Specific knowledge must be demonstrated in the following areas:

6. swallowing – etiologies and characteristics

III-D: The applicant must possess knowledge of the principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders.

6. swallowing

III-E: The applicant must demonstrate knowledge of standards of ethical conduct.

Behaviorally Defined Objectives Related to the Standards and the Target Knowledge/Skills to be Acquired Upon Course Completion:

III-B, 2a: The student will be able to describe the phases of swallowing, including the events which occur and the muscles which are involved.

III-B, 2b: The student will be able to describe the nerves involved in the phases of swallowing and indicate what muscles they innervate. Further, the student will be able to predict swallowing problems which may occur due to the loss of one or more of those nerves.

III-B, 2d: The student will be able to describe the impact of dysphagia on quality of life, self-esteem, and participation.

III-B, 2e: The student will be able to describe how the physiology swallowing changes from infancy to adulthood and with normal aging.

III-B, 2g: The student will be able to describe living wills, health care proxies, DNR orders, and refusal of alternate feeding methods and be able to describe how these issues impact the assessment and intervention for swallowing problems.

III-C, 6: The student will be able to describe the symptoms or list likely symptoms of dysphagia, based on case information.

III-D, 6 (assessment): The student will be able to explain and describe appropriate assessment procedures given specific dysphagia symptoms or a case history. Further the student will be able to determine dysphagic symptoms from a videofluoroscopy or still radiograph.

III-D, 6 (intervention): The student will be able to explain and describe appropriate intervention procedures given specific dysphagia symptoms or a case history.

III-E: The student will be able to discuss the issues surrounding provision of treatment to individuals who have refused some or all of the clinician's recommendations (i.e., NPO, thickened liquids, etc.).

Evidence for Evaluation of Achievement of Target Knowledge/Skills Competencies:

III-B, 2a: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 1.

III-B, 2b: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 1.

III-B, 2d: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 4 and acceptably engage in class discussion on this topic.

III-B, 2e: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 1.

III-B, 2g: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 4 and acceptably engage in class discussion on this topic.

III-C, 6: The student will perform at a level equal to or greater than 80% accuracy for papers 1 and 2.

III-D, 6 (assessment): The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 2 and on papers 1 and 2 and acceptably engage in class discussion on this topic.

III-D, 6 (intervention): The student will perform at a level equal to or greater than 80% accuracy on related questions on exams 3 and 4 and on papers 3 and 4 and acceptably engage in class discussion on this topic.

III-E: The student will perform at a level equal to or greater than 80% accuracy on related questions on exam 4 and acceptably engage in class discussion on this topic.

Opportunities for Remediation:

If criteria for successful demonstration of the level of knowledge/skills expected upon completion of this class are not achieved in the first assessment, the following remediation opportunities are available:

Remediation of KASAs III-B, 2a and III-B, 2b: The student will take an examination, covering this material, within 1 week of receiving the grade for the original exam. The student will continue to take these exams until s/he receives 80% or better for both of these KASAs.

Remediation of KASA III-B, 2e: The student will complete a review of an experimental article covering any topic related to the normal development or aging of a swallowing process (including oral phase mechanisms like chewing, sucking, etc.). Detailed instructions are available on WebVista.

Remediation of KASA III-D, 6 (assessment): The student will take an examination, covering this material, within 1 week of receiving the grade for the original exam. The student will continue to take these exams until s/he receives 80% or better for both of these KASAs.

Remediation of KASAs III-B, 2d, III-B, 2g, III-C, 6, III-D, 6 (intervention) and III-E: The students may address a standard in a portion of their final paper to demonstrate their understanding of the given standard. The student must receive 80% of the allotted points to that portion of the paper to achieve the standard. The student should speak to the instructor if s/he plans to take advantage of this remediation opportunity to be sure that the requirements are understood.

Alternate remediation of KASAs III-B, 2d, III-B, 2g, III-C, 6, III-D, 6 (intervention) and III-E are available on WebVista.

Required Textbook and Materials:

- 1) Logemann, J.A. (1998). Evaluation and Treatment of Swallowing Disorders (2nd ed.). Austin, TX: Pro-Ed.
- 2) Class packet – Contains lecture notes and handouts.

Recommended Textbook:

- 1) Wilson-Pauwels, L., Akesson, E.J., Stewart, P.A., and Spacey, S.D. (2002). Cranial Nerves in Health and Disease (2nd ed.). London: BC Decker Inc.

WebVista:

Class material will be presented through lecture, class discussion, and A-V materials. Class material, including pictures and diagrams presented in class and additional handouts, will be made available on WebVista. WebVista will also be used for email communication.

WebVista is at <http://ics.purdue.edu/ecourses/>. Once you are there, sign in using your Purdue career login name and password and click on SLHS 519D. Then you can click on the links available, including syllabus, mail, calendar, handouts, articles, and lectures. From the WebVista site, it is possible to forward your WebVista email to any other email account.

If you prefer not to download figures and articles from WebVista, you can give me a CD (in a case, with your name on it). I will burn the pdfs of the articles and pdfs of the figures for each lecture to your disk. You can also get pdfs of the articles from the journal Dysphagia via the online link through Purdue libraries (THOR).

Emergency Procedures:

In the event of a major campus emergency, course requirements, deadlines, and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Information about changes to the course will be available through the WebVista online web page for this course.

Evaluation:

You will be evaluated based on your completion of four written reports, four exams, and participation in class discussion. Each is described below. Due dates are given under the description. **No late work will be accepted**, except in cases of extenuating circumstances.

Cheating and Plagiarism

You are expected to work individually on all assignments and exams. Please only turn in your own work. The final exam is a take-home. You are not to discuss the answers to these questions with one another. You must prepare your own answer individually. Remember it is cheating to allow someone to copy your work as well.

It is plagiarism to copy from articles, your textbook, websites, or any other sources and present that work as your own. You must give proper acknowledgement to the authors, including using quotation marks and proper APA citation (author, year, page number). In particular, when completing your take-home exam be sure that you do not copy from the textbook. It is plagiarism to copy from the textbook, even if you change a few of the words in each sentence.

You will receive a 0 on any paper that contains evidence of cheating or plagiarism. All suspected instances of cheating and plagiarism will be reported to the Chair of the Audiology and Speech Sciences department and may be referred to the Office of the Dean of Students.

1. Reports

You will write several four reports, given specific client data. Each report will have its own guidelines which will be provided with the data set. All reports are due at the start of class on the date specified.

For all reports, use normal margins (1” on top and bottom, 1.25” on left and right – this is the default in MS Word), 12-point font, and 1½ line spacing.

Non-Instrumental “Bedside” assessment report – due September 26

Videofluoroscopic assessment report – due October 12

Management Plan #1 – due November 9

Management Plan #2 – due December 7

You are welcome to turn these in early if you would like. If you would like feedback on your paper prior to turning it in, please feel free to bring them to me during my office hours. Please do this **in advance** since I will not make additional individual meetings to review your papers right before they are due. Also, please do not email your paper to me for feedback. I prefer to go over the papers with you so that you learn about

writing, rather than having me serve as an editor. **Each paper is worth 10% of your grade.**

2. Exams

There will be three in-class exams. **Each of these exams will be worth 12% of your final grade.** Late or alternate day exams will not be given, except in the case of extenuating circumstances.

There will be one comprehensive take-home final exam. This exam will be more essay and case-based questions. **The final exam will be worth 15% of your grade and will be due on Wednesday, December 12th by 12 PM.** I will provide more detailed information about the examinations closer to the date of the exam.

3. Class Discussion

There will be class discussion on assigned readings and in-class activities. You are expected to have read the assigned readings, completed the in-class activities, and be ready to participate in class discussion. I will keep track of class discussion and participation throughout the semester and assign a grade at the end of the semester. **Class discussion will be worth 9% of your final grade.**

Tentative Class Schedule:

The schedule below is a projected schedule, which is subject to change. Topics to be discussed are listed across from the date on which they will be addressed. Chapters from the text listed for each date are to be read by that date. Articles and other readings are listed under each topic. Changes in readings and topics will be announced by email through WebCT.

Attendance in class is very important to your understanding of the material in the course. Please let me know in advance if you will be missing any of the class periods. Please be respectful of your classmates and I at all times. This means that you should read the assigned readings and be prepared for discussion in class, be on-time for class, not talk during class presentations or lectures, turn off cell phones and pagers during class, and notify me if extenuating circumstances or an emergency require you to leave class early.

<u>Date</u>	<u>Topic</u>	<u>Reading</u>
8/20	Introduction to the Class Introduction to Dysphagia	Chapter 1
8/22	Anatomy and Physiology of Swallowing	Chapter 2
8/24	Anatomy and Physiology of Swallowing	
8/27	Anatomy and Physiology of Swallowing	
8/29	Anatomy and Physiology of Swallowing Begin: Normal Changes in Swallowing	

- 8/31 Normal Changes in Swallowing
Begin: Cranial Nerves
- 9/3 NO CLASS – LABOR DAY**
- 9/5 Cranial Nerves
- 9/7 Cranial Nerves
- 9/10 Cranial Nerves
Begin: Non-instrumental Assessment of Swallowing Chapter 3
- 9/12 Non-Instrumental Assessment of Swallowing
- 9/14 EXAM 1 – Normal Anatomy, Physiology, and Neurology (8/20-9/10)**
- 9/17 Instrumental Assessment of Swallowing Chapter 5
Handout to Read: SWAL-QUAL Survey (bring to class too)
- 9/19 Instrumental Assessment of Swallowing Chapter 4
- 9/21 Instrumental Assessment of Swallowing
- 9/24 Instrumental Assessment of Swallowing
- 9/26 Instrumental Assessment of Swallowing
- 9/28 Instrumental Assessment of Swallowing
Article: de Larminat, V., Montravers, P., Dureuil, B., Desmonts, J. (1995). Alteration in swallowing reflex after extubation in intensive care patients. *Critical Care Medicine*, 23, 486-490.
- 10/1 Instrumental Assessment of Swallowing
Article: Robbins, J., Coyle, J., Rosenbek, J., Roecker, E., and Wood, J. (1999). Differentiation of normal and abnormal airway protection during swallowing using the Penetration-Aspiration Scale. *Dysphagia*, 14, 228-232.
- 10/3 Nutrition
Chapter: Curran, J.E. (1997). Nutritional considerations in dysphagia. In Groher, M.E. (ed.). *Dysphagia Diagnosis and Management* (3rd ed.), pp. 289-312). Boston, MA: Butterworth-Heinemann.

10/5 Nutrition

Articles:

1. Whelan, K. (2001). Inadequate fluid intakes in dysphagic acute stroke. *Clinical Nutrition, 20* (5), 423-428.
2. Garon, B.R., Engle, M., and Ormiston, C. (1997). A randomized control study to determine the effects of unlimited oral intake of water in patients with identified aspiration. *J Neuro Rehab, 11*, 139-148.

10/8 NO CLASS – OCTOBER BREAK

10/10 Management of Dysphagia Chapter 6 to p. 241

10/12 Management of Dysphagia

10/15 EXAM 2 – Assessment (9/10-10/1)

10/17 Management of Dysphagia

Article: Suiter, D.M., McCullough, G.H., and Powell, P.W. (2003). Effects of cuff deflation and one-way tracheostomy speaking valve placement on swallow physiology. *Dysphagia, 18*, 284-292.

10/19 Management of Dysphagia

Articles:

1. Logemann, J.A., Pauloski, B.R., Colangelo, L., Lazarus, C., Fujii, M., and Kahrilas, P.J. (1995). Effects of a sour bolus on oropharyngeal swallowing measures in patients with neurogenic dysphagia. *Journal of Speech and Hearing Research, 38*, 556-563.
2. Robbins, J., Kays, S.A., Gangnon, R.E., Hind, J.A., Hewitt, A.L., Gentry, L.R., & Taylor, A.J. (2007). The effects of lingual exercise in stroke patients with dysphagia. *Archives of Physical Medicine and Rehabilitation, 88*, 150-158.

10/22 Management of Dysphagia

10/24 Management of Dysphagia

Articles and Other Readings:

1. Rosenbek, J.C., Roecker, E.B., Wood, J.L., and Robbins, J. (1996). Thermal application reduces the duration of stage transition in dysphagia after stroke. *Dysphagia, 11*, 225-233.
2. Shanahan, T.K., Logemann, J.A., Rademaker, A.W., Pauloski, B., and Kahrilas, P.J. (1993). Chin-down posture effect on aspiration in dysphagic patients. *Archives of Physical Medicine and Rehabilitation, 74*, 736-739.
3. SWAL-CARE Survey (bring to class too)

10/26 Respiratory Therapist: Guest Speaker

10/29 NO CLASS – CROSSROADS CONFERENCE

- 10/31 Dysphagia Associated with Disorders
Head and Neck Cancer Chapter 7
Laryngeal Cancer Chapter 8
- 11/2 EXAM 3 – Nutrition and Management of Dysphagia (10/3-10/26)**
- 11/5 Dysphagia Associated with Disorders
Cancer
- 11/7 Dysphagia Associated with Disorders
Neurologic Lesions Chapter 9
- 11/9 Dysphagia Associated with Disorders
Progressive Disorders Chapter 10
Article: Huckabee, M.L., and Cannito, M.P. (1999). Outcomes of swallowing rehabilitation in chronic brainstem dysphagia: A retrospective evaluation. *Dysphagia*, 14, 93-109.
- 11/12 Dysphagia Associated with Disorders
Progressive Disorders Chapter 10
- 11/14 NO CLASS – ASHA CONVENTION**
- 11/16 NO CLASS – ASHA CONVENTION**
- 11/19 Dysphagia Associated with Disorders
Handout to Read: Feeding Behavior Inventory and Handout on Failure to Eat Syndrome (FATE) (bring to class too)
- 11/21 NO CLASS – THANKSGIVING BREAK**
- 11/23 NO CLASS – THANKSGIVING BREAK**
- 11/26 Dysphagia Associated with Disorders
- 11/28 Medical Issues Related to Dysphagia Chapter 11
Article: Jones, B., Ravich, W.J., and Donner, M.W. (1993). Dysphagia in systemic disease. *Dysphagia*, 8, 368-383.

Articles:

1. Ekberg, O., et al. (2002). Social and psychological burden of dysphagia: its impact on diagnosis and treatment. *Dysphagia*, 17, 139-146.
2. Langmore, S.E., Terpenning, M.S., Schork, A., et al. (1998). Predictors of aspiration pneumonia: How important is dysphagia? *Dysphagia*, 13, 69-81.

12/3 Ethical Issues

Articles and Other Readings:

1. Serradura-Russell, A. (1992). Ethical dilemmas in dysphagia management and the right to a natural death. *Dysphagia*, 7, 102-105.
2. Sharp, H.M. and Genesen, L.B. (1996). Ethical decision-making in dysphagia management. *American Journal of Speech-Language Pathology*, 5 (1), 15-22.
3. National Ethics Committee of the Veterans Health Administration (2002). Ten Myths About Decision-Making Capacity.
4. Ethical cases (class packet) (bring to class too)

12/5 Ethical Issues

Articles and Other Readings:

1. Pasqua, S. (1996). Feeding tube may not foster quality of life. *Contemporary Long Term Care*, 19 (5), 98-99.
2. Handout regarding living wills and health care proxies (class packet)
3. Packet and worksheet entitled "Making Choices: Long Term Feeding Tube Placement in Elderly Patients." (bring to class too)

12/7 Ethical Issues

Articles:

1. Weaver, J.P., Odell, P., and Nelson, C. (1993). Evaluation of the benefits of gastric tube feeding in an elderly population. *Archives of Family Medicine*, 2, 953-956.
2. Takano, Y., Suga, M., Sakamoto, O., Sato, K., Samejima, Y., and Ando, M. (1999). Satisfaction of patients treated surgically for intractable aspiration. *Chest*, 116, 1251-1256.

Students with disabilities must be registered with Adaptive Programs in the Office of the Dean of Students before classroom accommodations can be provided. If you have a disability that requires academic adjustments, please make an appointment with me to discuss your needs as soon as possible.