

Book Review / Évaluation de ressource écrit

Clinical Anatomy and Physiology of the Swallow Mechanism

Kim Corbin-Lewis, Julie M. Liss, and
Kellie L. Sciortino (2005)

Publisher: Thomson Delmar Learning, Clifton Park, NY

Cost: \$57.95 (US)

Reviewers: Karen White and Rosemary Martino

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This book is composed of seven chapters, each dedicated to various components of the swallow mechanism. Its 273 pages are replete with useful diagrams and tables. This book was used for the first time in the Fall of 2005 as a textbook for the Swallowing Disorders course at the University of Toronto. We present first a review of the content within each chapter. We end with our overall impressions of this book from the perspective of a graduate student (KW) and teacher/clinician (RM).

The first chapter, *Examination of the Oral Swallow Component*, begins with a brief introduction to the four stages of deglutition. The bulk of this chapter is devoted to a description of the bony structural framework of the swallow mechanism and structures in the oral cavity (i.e., important anatomical landmarks, musculature, and the role of the salivary glands). The descriptions are easy to follow and are accompanied by excellent black and white diagrams. A minimum amount of information is provided on the oral preparatory phase.

Chapter 2, *Examination of the Pharyngeal Swallow Mechanism*, provides an in-depth look at the pharyngeal phase of deglutition. Pharyngeal anatomy is detailed, followed by a discussion of the pharyngeal swallow response. Information is provided on important events that take place during this phase such as velopharyngeal closure, hyolaryngeal elevation, laryngeal protection, progressive pharyngeal contraction and opening of the upper esophageal sphincter. Once again, descriptions and diagrams are helpful and easy to follow.

Chapter 3, *Examination of the Esophageal Swallow Component*, is devoted to the esophageal phase of swallowing and is an excellent component of this textbook. The authors note the importance of clinicians having an adequate understanding of this phase in order to identify "problems that may present as oropharyngeal dysphagia that are [instead] related to an esophageal disorder" (p. 67). Details are provided on esophageal anatomy, innervation, blood supply, physiology, and pressure measurement.

Chapter 4, *Control of the Normal Swallow*, takes leave from the common four-phase model of deglutition

focused on in previous chapters and introduces a new model. This new model addresses three factors that affect and control the normal swallow physiology: namely, motor equivalence, bolus characteristics and individual swallower variables. Issues such as the effects of bolus characteristics and aging are discussed in detail sufficient for both graduate students and practicing clinicians.

Chapter 5, *Direct and Indirect Oropharyngeal and Esophageal Imaging*, describes different anatomical planes typically available during diagnostic imaging. The benefits and disadvantages of each plane are detailed in reference to the assessment of swallowing. This information is highlighted with sample images that help orient the reader. In the last half of the chapter, various specific direct and indirect diagnostic imaging methods are compared (i.e., endoscopy, modified barium swallow, scintigraphy, and manometry).

Chapter 6, *Physiological Bases of Neurogenic Dysphagia and Treatment Strategies*, describes neurogenic dysphagia in terms of etiology and possible presenting symptoms for issues arising during each stage of the swallow. Descriptions of the most common clinical presentations of neurogenic dysphagia are included. This chapter also includes a table that nicely summarizes various treatment strategies, their rationale, instructions to provide patients, and desired swallow outcomes. This section is especially useful for the clinician.

Chapter 7, *Physiological Bases of Structural Etiologies of Dysphagia and Treatment Strategies*, outlines and provides some treatment strategies for structural changes that are acute (i.e., tracheotomy), secondary to infection (i.e., candidiasis), progressive transformations (i.e., osteophytes, Zenker's diverticulum), and head and neck cancer (i.e., glossectomy, laryngectomy). All clinically relevant structural areas are discussed, albeit not in great detail.

From a student's perspective (KW), this textbook serves as an excellent resource for use in an introductory swallowing disorders course at the graduate level. It provides fundamental information pertinent to a beginning clinician that is organized and functional for clinical use. The appendices, diagrams and tables interspersed throughout the textbook provide quick, easy-to-use references while clinical notes found in each chapter offer a practical application of the material. Additionally, each chapter identifies learning objectives and study questions to help guide the reader's learning. While the information in this textbook provides an underlying knowledge base of the swallowing mechanism, it is essential for a clinical course in swallowing disorders to supplement this textbook with current research findings. Furthermore, a more comprehensive description of the four stages of deglutition would have been helpful from the outset to allow the beginning clinician to envision the entire process.

From a teacher/clinician's perspective (RM), this textbook is a welcome addition. It addresses anatomy and physiology in a remarkably easy to follow manner. Assigning these readings as background information was especially useful for me to then teach these areas to graduate students. Throughout the book, the authors provide clinical anecdotes that help link this very structured material to the clinical setting. There are many excellent diagrams and tables that are useful to even seasoned clinicians. There are, however, a few typographical errors that will need to be edited in future editions (i.e., page 96 table 4-1: CN X and XI both elevate the velum). From the onset the content is loosely organized according to the common four-swallowing-phase model. The authors fall short in providing a cohesive description of this model. This might confuse readers who are novices to swallowing, especially in light of the new model they introduce in Chapter 4. Furthermore, this book does not thoroughly cover areas of clinical and instrumental assessment. This last point is not a criticism because the authors make no claim to address these areas. Instructors of graduate swallowing disorder courses will need to use other sources to supplement these areas. Overall, my opinion is that this textbook serves as an excellent resource for the basic anatomy and physiology of normal and abnormal swallowing. It will benefit both the teacher and practicing clinician.

In summary, we highly endorse this book for graduate students, teaching faculty, and practicing clinicians.



ERRATUM

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Adaptation du HINT (Hearing in Noise Test) pour les enfants francophones canadiens et données préliminaires sur l'effet d'âge

In *Adaptation du HINT (Hearing in Noise Test) pour les enfants francophones canadiens et données préliminaires sur l'effet d'âge* by Chantal Laroche, Véronique Vaillancourt, Chantale Melanson, Marie-Eve Renault, Chantal Thériault, Sigfrid D. Soli and Christian Giguère the following corrections are made by this errata sheet. The publisher regrets the error and apologizes for any misunderstandings it may have caused.

Page 100, right hand column, first paragraph, should read:

“le taux d’occurrence des phonèmes dans le test se compare très bien aux données de Gromer & Weiss (1990). Ainsi, si on juge qu’une différence de $\pm 2\%$ du taux d’occurrence d’un phonème en particulier est acceptable, il n’y aurait que les phonèmes «l, e et ϵ » qui ne sont pas conformes à ce critère. Il est facile d’expliquer ces différences. Le « l » est sur-représenté dans le corpus du HINT pour enfants, car plusieurs des phrases débutent par « Il, Elle, Le, La, Les ». En français oral spontané, on ne retrouverait pas nécessairement cette structure. En ce qui a trait au « e » et « ϵ », on peut supposer que comme ces deux phonèmes ont une place d’articulation très proche l’une de l’autre, ils peuvent être substitués à l’oral. En effet, dans le test, les participants ont tendance à répéter intégralement ce qu’ils entendent alors qu’à l’oral spontané, ils pourraient plus facilement substituer le « ϵ » par le « e ». La phrase « Il fait tomber toutes les quilles » pourrait être prononcée « Il fait tomber toutes le quilles » en langage spontané alors que cette même phrase serait répétée « Il fait tomber toutes là quilles » dans le contexte du test. On peut donc affirmer que le corpus de phrases est bien équilibré phonétiquement et représente assez fidèlement la distribution des phonèmes à l’oral. Il n’est pas surprenant qu’on obtienne d’aussi bons résultats compte tenu du grand nombre de mots qui constituent le corpus de 18 listes de 10 phrases, chacune des phrases comptant environ 5 à 7 syllabes.”

Story Sparks: Practice with Oral and Written Narratives for Grades 3-5

Story Sparks: Practice with Oral and Written Narratives for Grades 6-8

Michael Paulus and Cherie Godar (2005)

Publisher: Thinking Publications, Eau Claire, Wisconsin

Cost: \$31.00 (Can) each

Reviewer: Linda Allis, M. Sc., R.SLP, S-LP(C)

Story Sparks: Practice with Oral and Written Narratives for Grades 3-5 is an 88-page soft cover resource for teaching and assessing oral and written narrative skills. The authors have organized the book into introduction, therapy materials-sections 1 to 3, appendices, and references.

Story Sparks: Practice with Oral and Written Narratives for Grades 6-8 is a companion to the volume for grades 3-5. The format between the two books is exactly the same in all sections. The only difference between the two books is that the materials and stories are intended for different grades. The review below is based on the version for Grades 3-5.

The introduction section provides an overview of the book, target audience, goals, background information, and how to use the materials. The authors state that this material is to provide “age-appropriate, practical, and philosophically sound resources for practicing the skills students need to form successful oral and written narratives both in academic and in social arenas.” The student goals are to “learn and practice the elements for oral and written narratives” and to “develop metanarrative strategies for learning new vocabulary, for understanding the relationship between story elements, and for making clear connections between the elements of oral and written narratives.” The authors state that the professionals using this material will “have a quick and easy reference plus suggestions for further learning in the area of narrative development” and “easily access a large collection of story starters at multiple levels of difficulty for daily use in their work with students needing practice with narrative skills.” The authors then pose and briefly respond to questions regarding narratives: Why are narratives important? Why combine oral narratives with written narratives? What about assessment? What is the best way to teach narrative skills? The final section in the introduction is “Using the Book”, a brief description of the materials and the appendices with which the authors “address the development of and practice with narrative skills.” The therapy materials are the main body of this resource and are divided into three sections.

Section 1, “Little Glimmers”, provides practice with story elements, the building blocks of narratives forming short complete narratives. This section is further divided into three levels of difficulty, each with three short stories. The first level stories contain all the story elements necessary for a good narrative and are identified and

provided for the student; the stories are complete. The stories in the next levels are missing most of the story elements — only the first event is provided. The student must choose the other story elements to fill in the blanks and complete the short story. The aim is for the student to make logical connections between the elements. The stories in the final set are presented in a paragraph format rather than line by line as before, thus increasing the level of difficulty.

Section 2, “Memory Matches”, provides practice for students to utilize their personal experience, memory and knowledge to create a good narrative with increasing levels of difficulty. A “story spark” is provided to give students a framework for their narrative. For example, “Imagine an old house in the middle of the woods. No one lives there anymore. Talk about or write a story about exploring the house.” At the first level of difficulty, the student is prompted to consider specific times, places, events and/or people, by responding to the scaffolding questions provided. These questions will help shape their story and provide the necessary elements for a cohesive story. At the next level of difficulty scaffolding questions are not provided; rather, students may use the “story map” or rely on their memory for the story elements.

Section 3, “Super Sparklers” are fictional story exercises utilizing “story sparks” to provide either an opening or closing paragraph, again with increasing levels of difficulty. At the first level, the story sparks include the story elements of time, place, characters, their feelings, and a first or ending action. Increasing the degree of difficulty, the story spark in the next level includes two or three basic story elements with the final level story spark providing only one detail, a first or ending event. There are a total of 25 exercises in this section.

The Appendices are an integral part of the materials used in this program. They include a “story map” from *Narrative Toolbox: Blueprints for Storybuilding*, by P. Hutson-Nechkash (2001), a “sample rubric for narrative assessment” from *S-MAPs: Rubrics for Curriculum-Based Assessment and Intervention* by E.W. Wiig, V.L. Larson, & J.A. Olson (2004), and “Word Sparks”, 100 word choices for story elements. The students are exposed to and encouraged to use these tools starting at the first level of exercises in this book.

The authors make reference in the introduction that this book is intended for use in conjunction with a more in-depth program for both teaching and assessing oral and written narrative skills. Accordingly the authors refer to and cite other narrative resources and programs throughout the book. The final section in this book is the list of references, which is a vital part of this resource material.

The value of narrative development both socially and academically is becoming increasingly well known. Thus materials to aid with instruction and practice of

creating coherent narratives are a valuable resource for speech-language pathologists and teachers. The exercises provided are well thought out and can be easily copied and incorporated into a narrative remediation program. It is of interest note that this material contains the least number of exercises at the lowest level; there are only three stories at this level. However, the material in this resource can be adapted and used as a template to create other exercises at each level in all of the three sections. The increasing levels of difficulty for each section as well as extension activities add to the usefulness of this material. Combining oral and written narrative activities has been found to improve all areas of literacy. This material does provide practice for both oral and written narratives. The authors provide some modification for those students with weak reading and writing skills but much of the material appears to be intended for students who have reasonable reading and writing skills. The materials frequently refer to the story map and the sample rubric for narrative assessment as tools for the student to self-monitor their narratives. A student with weak reading and comprehension skills will not be able to effectively utilize these tools. This is especially true for the sample rubric for narrative assessment, an assessment tool used by professionals. Students in grades 3-5 would most likely not have the reading and comprehension skills necessary to be able to use this tool for either self or peer monitoring.

It is this reviewer's feeling that the authors' goals for the student are not all met by this book. Using the materials in this book, the student will have the opportunity to learn and practice the elements of narratives, orally and perhaps also in writing. However, it is unclear to this reviewer how a student will develop meta-narrative strategies, as stated in the goals for students, by following this program. This material does meet the goals set out for professionals using this material.

In summary, speech-language pathologists and other professionals working with students with delayed narrative skills can benefit from the information and the exercises provided in this book. The information is brief and concise and well referenced for further edification of the reader. The materials are well organized with clear instructions on how best to use them and can be used for individual instruction or in a group setting. *Story Sparks: Practice with Oral and Written Narratives for Grades 3-5* would be a useful resource alongside other narrative resources, as would its companion book for Grades 6-8.

