To The Students

Welcome to the second edition of *Essentials of Medical Language!* You may be asking yourself why taking Medical Terminology is so important. Considering you have chosen a major or a program that focuses on health care—whether it is nursing or medical assisting, medical coding or health information technology—understanding the language of medicine will be one of the most important skills you must master.

Right now, you are a student preparing for a career as a health professional. You may have already had a few health care-related courses, or this may be your very first course. Someday, you will be in a real medical office, hospital, or another health-care-related setting. *Essentials of Medical Language* is written using examples from **real-world health-care scenarios**—scenarios that you could actually encounter someday yourself. Just as one of the best ways to learn a foreign language is to be immersed in the language and culture of the country where it is spoken, one of the best ways to learn medical language is to be immersed within a vibrant, authentic, modern health care community.

To make sure your needs are addressed in this book, we asked both students and experienced medical terminology instructors, "What helps students learn medical terminology?" Overwhelmingly, the responses pointed to four common factors:

- motivation to learn
- retention of the material
- opportunities for application and practice
- readily available information

This Textbook Incorporates Features Designed To Address These Four Factors:

Motivation to learn	→	In order for students to be motivated to learn, what they are learning must be meaningful and relevant. To ensure the chapters in *Essentials of Medical Language* fit these criteria, the student is asked to step into the role of an allied health professional in each chapter. Authentic patient cases are used to illustrate how medical language is used on the job.
Retention of the material	→	When students encounter new medical terms within the context of a patient case, they are able to remember it more effectively. In addition, each chapter presents medical terms from one body system or medical specialty, which further serves to "tie it all together" to help students retain the knowledge and skills.
Opportunities for application and practice	→	Practice makes perfect. This is especially true for learning medical terminology. This textbook provides many opportunities for students to apply what they are learning. Exercises are included in the lessons, as well as at the end of each chapter. Additional exercises are available on the student Online Learning Center (www.mhhe.com/AllanEss2e).
Readily available information	→	In this book, all the information needed for a specific topic is presented in self-contained two-page spreads. On the left-hand page, new medical terms are introduced. On the right-hand page, for each new term, the pronunciation, color-coded word elements, and definition are provided in a *Word Analysis and Definition (WAD) Table.*

Essentials of Medical Language will help you learn the terminology and language of modern health care in a way that bridges the gap between the classroom and a clinical setting.
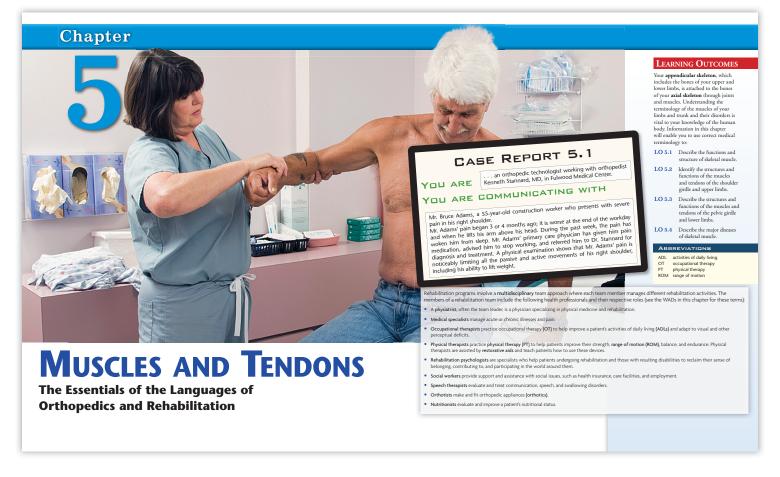
WHAT HELPS STUDENTS LEARN MEDICAL TERMINOLOGY

RELEVANT MATERIALS – YOUR MOTIVATION TO LEARN!

Essentials of Medical Language 2e provides you with terminology, exercises, images and examples you can apply to other courses and within your career. You will step into the role of a health professional in every chapter and experience medical language illustrated through authentic patient cases.

BODY SYSTEMS AND MEDICAL SPECIALTIES – REMEMBER AND APPLY THE MATERIAL!

Encountering new medical terms within the context of each patient case will help you remember them more effectively. Every chapter presents medical terms from one body system or medical specialty, which helps tie it all together!

Chapter

5

MUSCLES AND TENDONS

The Essentials of the Languages of Orthopedics and Rehabilitation

LEARNING OUTCOMES

Your **appendicular skeleton**, which includes the bones of your upper and lower limbs, is attached to the bones of your **axial skeleton** through joints and muscles. Understanding the terminology of the muscles of your limbs and trunk and their disorders is vital to your knowledge of the human body. Information in this chapter will enable you to use correct medical terminology to:

LO 5.1 Describe the functions and structure of skeletal muscle.

LO 5.2 Identify the structures and functions of the muscles and tendons of the shoulder girdle and upper limbs.

LO 5.3 Describe the structures and functions of the muscles and tendons of the pelvic girdle and lower limbs.

LO 5.4 Describe the major diseases of skeletal muscle.

ABBREVIATIONS

ADL activities of daily living
OT   occupational therapy
PT   physical therapy
ROM range of motion

CASE REPORT 5.1

YOU ARE . . . an orthopedic technologist working with orthopedist Kenneth Stannard, MD, in Fulwood Medical Center.

YOU ARE COMMUNICATING WITH

Mr. Bruce Adams, a 55-year-old construction worker who presents with severe pain in his right shoulder.
Mr. Adams' pain began 3 or 4 months ago; it is worse at the end of the workday and when he lifts his arm above his head. During the past week, the pain has woken him from sleep. Mr. Adams' primary care physician has given him pain medication, advised him to stop working, and referred him to Dr. Stannard for diagnosis and treatment. A physical examination shows that Mr. Adams' pain is noticeably limiting all the passive and active movements of his right shoulder, including his ability to lift weight.

Rehabilitation programs involve a **multidisciplinary** team approach where each team member manages different rehabilitation activities. The members of a rehabilitation team include the following health professionals and their respective roles (see the WADs in this chapter for these terms):

• A **physiatrist**, often the team leader, is a physician specializing in physical medicine and rehabilitation.
• **Medical specialists** manage acute or chronic illnesses and pain.
• **Occupational therapists** practice occupational therapy (**OT**) to help improve a patient's activities of daily living (**ADLs**) and adapt to visual and other perceptual deficits.
• **Physical therapists** practice **physical therapy** (**PT**) to help patients improve their strength, **range of motion** (**ROM**), balance, and endurance. Physical therapists are assisted by **restorative aids** and teach patients how to use these devices.
• **Rehabilitation psychologists** are specialists who help patients undergoing rehabilitation and those with resulting disabilities to reclaim their sense of belonging, contributing to, and participating in the world around them.
• **Social workers** provide support and assistance with social issues, such as health insurance, care facilities, and employment.
• **Speech therapists** evaluate and treat communication, speech, and swallowing disorders.
• **Orthotists** make and fit orthopedic appliances (**orthotics**).
• **Nutritionists** evaluate and improve a patient's nutritional status.

APPLICATION AND PRACTICE – YOUR KEY TO MASTERING MEDICAL TERMINOLOGY!

Practice makes perfect, especially when you are learning medical terminology. You will have plenty of opportunity to apply what you learn through exercises during the lessons and at the end of every chapter. Additional practice opportunities and exercises are available through LearnSmart Allied Health: Medical Terminology and Connect Plus (see pages xvi and xv).

To The Instructor

McGraw-Hill knows how much effort it takes to prepare for a new course. Through focus groups, symposia, reviews, and conversations with instructors like you, we have gathered information about what materials you need in order to facilitate successful courses. We are committed to providing you with high-quality, accurate instructor support.

Meeting Your Needs

New to This Edition!

1. The second edition contains 120 fewer text pages than the first edition. This has been achieved by reducing the anatomy and physiology; by focusing on essential terms, disorders and procedures; and by changing the layout of the text on each page.

2. The book's artwork has been enlarged and labeling has been reduced to allow greater focus on the terms covered within a spread.

3. The chapter sequence has been revised.

4. More word construction and deconstruction exercises have been added to the book.

5. The learning objectives have been revised and updated.

6. The lesson objectives have been tagged numerically and related to all questions in the Test Bank and to the exercises and activities in the Instructor Manual.

7. The learning objectives have been mapped to the content, with lessons in each chapter directly correlated to the learning objectives it satisfies.

8. The Word Analysis and Definition (WAD) tables and review exercises have been revamped and expanded and are now Bloom's taxonomy-progressive.

9. The contextual Case Reports have been emphasized within well-defined boxes. Each spread with a Case Report includes an exercise that reviews the Case Report.

10. In the opening spread of each chapter, we have included a list of health professionals involved in that particular specialty. The professions are also defined.

11. In each spread more questions and/or exercises have been added that are tied to the lesson objectives.

12. The exercises in the Chapter Reviews move from easy to more difficult based on Bloom's taxonomy.

13. The right page of each spread is now dedicated solely to WADs and exercises, and all content and art is confined to the left page of each spread.

14. The two musculoskeletal chapters have been segregated into one muscle chapter and one skeletal chapter.

15. The two female reproductive chapters have been combined into a single chapter.

16. The combined Urinary System and Male Reproductive System chapter has been split into a Urinary System chapter and a Male Reproductive System chapter.

17. The Life Span chapter can now be found in Create, McGraw-Hill's custom publishing alternative Web site (www.mcgrawhillcreate.com).

When you use *Essentials of Medical Language,* you will be supported at every point in the program. Each chapter in the book is broken down into lessons, and the Instructor's Manual provides lesson plans and additional materials for each lesson. Following are features of the text-book designed to address student needs:

Lesson-Based Approach

Each chapter of *Essentials of Medical Language* is divided into lessons covering different aspects of the overall chapter subject. Lessons within a chapter break down into topics. Each topic is designed so your students will not have to flip back and forth when completing exercises or look-ing at figures, tables, and boxes. All main concepts and ideas presented in topics begin and end within a two-page "spread." These spreads help learning flow smoothly by ensuring that valuable class and reading time is not wasted on flipping pages.

You Are . . . Your Patient Is . . . Case Scenarios

Each chapter and most lessons begin by immediately placing your students in the role of an allied health professional faced with a situation in which medical communication is neces-sary. Many different professional allied health and LPN-level nursing roles are utilized so your students can "experience" various specialties and positions. The patient cases introduced at the beginning of the chapters and lessons are referenced throughout the lessons to further unify the students' experience.

Chapter Outcomes and Lesson Objectives

The major learning outcomes for each chapter are previewed in the beginning so you and your students can focus on what they need to know and be able to do by the end of the chapter. Each lesson has outcome-based learning objectives. Accomplishing each lesson's objectives helps ensure students will be able to achieve the chapter outcomes and, ultimately, the goal of the textbook: to help them learn the essential terminology and language of modern health care.
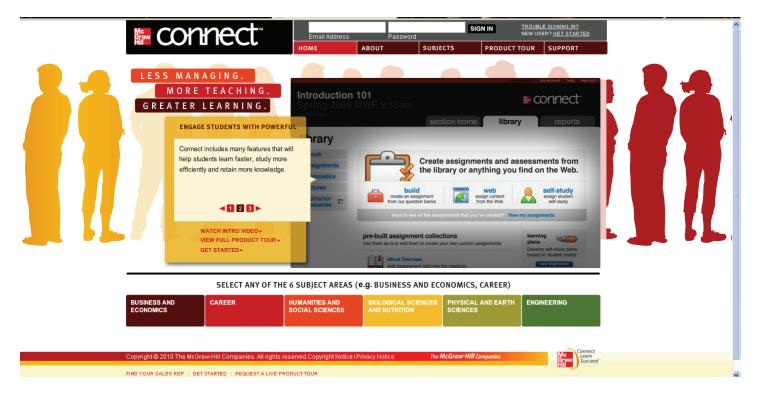
Word Analysis and Definition Tables (WAD)

Each lesson contains tables listing important medical terms and their pronunciation, elements, and defini-tion. Prefixes, suffixes, and combining forms are color-coded. These tables provide your students with an at-a-glance view of the terms covered. The tables are excellent for reference as well as for studying and reviewing.

End-of-Lesson and End-of-Chapter Exercises

At the end of each lesson is a series of exercises. The end-of-lesson exercises provide your students with imme-diate practice using the terms in the lesson. These exercises focus on basic understanding and ability to apply the terms. They are an excellent foundation for the end-of-chapter exercises, which are often based on authen-tic situations, such as interactions with patients, physicians, or medical documentation. The end-of-chapter exercises will require your students to understand, accurately apply, and think critically about the medical language they use. Throughout the text, frequent opportunities for application and reinforcement of medical language skills and concepts are provided to help your students build confidence and knowledge. A wide vari-ety of exercises and activities are included to address different medical settings and levels of learning (including knowledge, comprehension, application, analysis, synthesis, and evaluation).

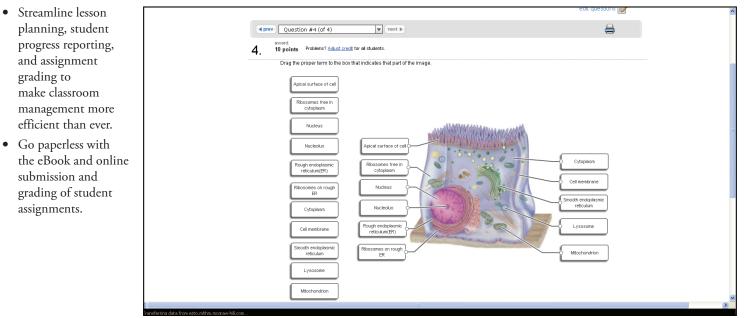# INTRODUCING *CONNECT PLUS™ ALLIED HEALTH:* MEDICAL TERMINOLOGY

McGraw-Hill's new *Connect Plus Allied Health:* Medical Terminology is a revolutionary online assignment and assessment solution, providing instructors and students with tools and resources to maximize their success.

SIMPLE ASSIGNMENT MANAGEMENT

With *Connect Plus Allied Health:* Medical Terminology, creating assignments is easier than ever, so you can spend more time teaching and less time managing. The assignment management function enables you to:

- Create and deliver assignments easily with selectable Interactives, vocabulary exercises, end-of-chapter questions, and test bank items.

- Streamline lesson planning, student progress reporting, and assignment grading to make classroom management more efficient than ever.

- Go paperless with the eBook and online submission and grading of student assignments.

SMART GRADING

When it comes to studying, time is precious. *Connect Plus Allied Health:* Medical Terminology helps students learn more efficiently by providing feedback and practice material when they need it, where they need it. When it comes to teaching, your time also is precious. The grading function enables you to:

- Have assignments scored automatically, giving students immediate feedback on their work and side-by-side comparisons with correct answers.
- Access and review each response; manually change grades or leave comments for students to review.
- Reinforce classroom concepts with practice tests and instant quizzes.

INSTRUCTOR LIBRARY

The *Connect Plus Allied Health:* Medical Terminology Instructor Library is your repository for additional resources to improve student engagement in and out of class. You can select and use any asset that enhances your lecture. The *Connect Plus Allied Health:* Medical Terminology Instructor Library includes:

- *Instructor's Manual*
- *Testbank*
- *PowerPoint presentation*
- *Videos*
- *Animations* (*to come April 2011*)
- *eBook*
    - Fully integrated, allowing for anytime, anywhere access to the textbook.
    - Dynamic links between the exercises or questions you assign to your students and the location in the eBook where that exercise or question is covered.
    - A powerful search function to pinpoint and connect key concepts in a snap.

STUDENT PROGRESS TRACKING

Connect Plus Allied Health: Medical Terminology keeps instructors informed about how each student, section, and class is performing, allowing for more productive use of lecture and office hours. The progress-tracking function enables you to:

- View scored work immediately and track individual or group performance with assignment and grade reports.
- Access an instant view of student or class performance relative to learning objectives.
- Collect data and generate reports required by many accreditation organizations, such as CAAHEP or ABHES.

LECTURE CAPTURE

Increase the attention paid to lecture discussion by decreasing the attention paid to note taking. For an additional charge Lecture Capture offers new ways for students to focus on the in-class discussion, knowing they can revisit important topics later. Lecture Capture enables you to:
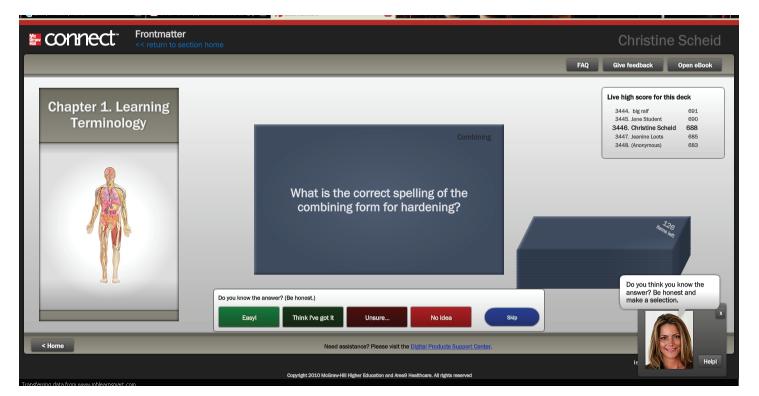
- Record and distribute your lecture with a click of a button.
- Record and index PowerPoint presentations and anything shown on your computer so they are easily searchable, frame by frame.
- Offer access to lectures anytime and anywhere by computer, iPod, or mobile device.
- Increase intent listening and class participation by easing students' concerns about note-taking. Lecture Capture will make it more likely you will see students' faces, not the tops of their heads.

MCGRAW-HILL'S LEARNSMART—DIAGNOSTIC AND ADAPTIVE LEARNING OF CONCEPTS

Students want to make the best use of their study time. The **LearnSmart** adaptive self-study technology within *Connect Plus Allied Health:* Medical Terminology provides students with a seamless combination of practice, assessment, and remediation of concepts found in their textbook. **LearnSmart's** intelligent software adapts to every student response and automatically delivers concepts that advance student understanding while reducing time devoted to the concepts already mastered. The result for every student is the fastest path to mastery of the chapter concepts. **LearnSmart:**

- Applies an intelligent concept engine to identify the relationships between concepts and to serve new concepts to each student only when he or she is ready.
- Adapts automatically to each student, so students spend less time on the topics they understand and practice more those they have yet to master.
- Provides continual reinforcement and remediation, but gives only as much guidance as students need.
- Integrates diagnostics as part of the learning experience.
- Enables you to assess which concepts students have efficiently learned on their own, thus freeing class time for more applications and discussion.

For more information about ***Connect Plus Allied Health:*** **Medical Terminology** or **LearnSmart,** go to **www. mcgrawhillconnect.com,** or contact your local McGraw-Hill sales representative.

McGraw-Hill Higher Education and Blackboard have teamed up. What does this mean for you?

1. *Your life, simplified.* Now you and your students can access McGraw-Hill's Connect™ and Create™ right from within your Blackboard course—all with one single sign-on. Say goodbye to the days of logging in to multiple applications forever.

2. *Deep integration of content and tools.* Not only do you get single sign-on with Connect™ and Create™, you also get deep integration of McGraw-Hill content and content engines right in Blackboard. Whether you're choosing a book for your course or building Connect™ assignments, all the tools you need are right where you want them—inside of Blackboard.

3. *Seamless gradebooks.* Are you tired of keeping multiple gradebooks and manually synchronizing grades into Blackboard? We thought so. When a student completes an integrated Connect™ assignment, the grade for that assignment automatically (and instantly) feeds your Blackboard grade center.

4. *A solution for everyone.* Whether your institution is already using Blackboard or you just want to try Blackboard on your own, we have a solution for you. McGraw-Hill and Blackboard can now offer you easy access to industry leading technology and content—whether your campus hosts it, or we do. Be sure to ask your local McGraw-Hill representative for details.

Instructors' Resources

Instructor Online Learning Center (OLC)

At www.mhhe.com/AllanEss2e, you will find the Instructor Online Learning Center. Your McGraw-Hill sales representative can provide you with the access you need to easily prepare for using *Essentials of Medical Language,* 2e. Our Online Learning Centers include:

- The Instructors' Manual, which contains valuable information that makes course prep a snap!
    - **Your Medical Terminology Course—An Introduction to Teaching Medical Terminology.** This valuable section includes information about student learning styles and instructor strategies; innovative learning activities; assessment techniques and strategies; classroom management tips; and techniques for teaching limited-English-proficiency students.
    - **Lesson Planning Guide.** Our Lesson Planning Guide comes complete with a customizable lesson plan for each of the lessons in this text. Each plan contains a step-by-step 50-minute teaching plan and master copies of handouts. Use these lessons alone or combined to accommodate different class schedules—you can even revise them to reflect your preferred topic or sequence. Each lesson plan is designed to be used with a corresponding PowerPoint® presentation that is also available on the OLC.
    - **PowerPoint® Lecture Outlines**. The PowerPoint lectures with speaking notes correlate to the Lesson Plans mentioned above and include the art and photos from the text. Covering the most important parts of every lesson, the slides are customizable to fit your course needs.
- **McGraw-Hill's EZ-Test Generator,** which makes creating tests easy!
    - This flexible electronic testing program allows instructors to create tests correlated to every chapter and learning outcome. Accommodating a variety of question types tied to Bloom's taxonomy, EZ-Test allows instructors to create multiple versions of the tests and then export to a course management system, such as Blackboard. EZ-Test Online gives you a place online to quickly and easily administer the exams you create.

How to Teach Medical Terminology

Online Course for Instructors to Support *Essentials of Medical Language* is found in the instructor resources section of the Online Learning Center at www.mhhe.com/AllanEss2e.

The **How to Teach Medical Terminology online course** provides instructors with the introductory knowledge and resources they need to begin effectively using the *Essentials of Medical Language* textbook and related materials. This course is designed to cover the "basics" of how to effectively teach medical terminology.

How to Teach Medical Terminology allows instructors to choose for themselves which module they wish to take, or they may opt to take a self-assessment survey that will recommend one of the three modules.

- **Module 1** is designed for the inexperienced instructor.
- **Module 2** is designed for the instructor who has previous classroom experience but who has never taught Medical Terminology.
- **Module 3** is designed for the experienced Medical Terminology instructor who has never taught using a contextualized approach.

Upon completion of a given module, instructors will take a final assessment designed to demonstrate their understanding and achievement of the learning objectives for that module. Those who score 70% or higher on the final assessment will receive a certificate that can be printed for professional development purposes.

McGraw-Hill Customer Care Contact Information

At McGraw-Hill, we understand that getting the most from new technology can be challenging. That's why our services don't stop after you purchase our products. You can e-mail our Product Specialists 24 hours a day to get product training online. Or you can search our knowledge bank of Frequently Asked Questions on our support website. For Customer Support, call **800-331-5094,** e-mail **hmsupport@mcgraw-hill.com,** or visit **www.mhhe.com/support.** One of our Technical Support Analysts will be able to assist you in a timely fashion.

For the Student

Available at www.mhhe.com/AllanEss2e, the OLC offers an extensive array of learning and teaching tools. The site includes quizzes for each chapter, links to websites, and interactive activities. Students also will be able to access chapter-specific interactive exercises via McGraw-Hill Connect. These exercises provide multiple opportunities for practice and the mastery of core concepts. The exercises are designed to:

- Help students learn medical terms, including their definitions, roots, prefixes, and suffixes, plus accurate spelling.
- Help students understand the meaning and use of medical terms.
- Help students learn how and when to correctly apply medical terms in written and verbal communication.