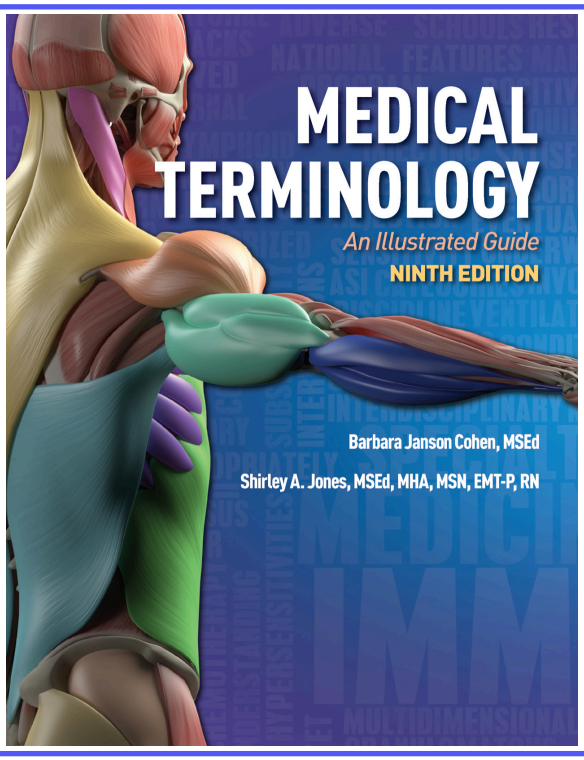


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Preface

Knowledge of medical terminology is fundamental to a wide variety of healthcare fields. This text is designed to satisfy the basic learning requirements needed to practice in any health career setting. In the course of your training and future careers, you will need to learn thousands of new terms. The job might be overwhelming if not for learning the skills of dividing the words into their component parts. These roots, suffixes, and prefixes appear over and over in different terms but retain the same meanings. Knowing these meanings will help you define and remember a host of words. This process is like using a set of building blocks to assemble different structures. Using a more scientific example, it is like using the four bases in DNA to code for all the amino acids needed to make proteins.

The text opens with a general introduction to word parts and the human body as a whole, followed by an overview of diseases and treatments. Each subsequent chapter on the individual body systems begins with an illustrated overview of the system with definitions of key terms relevant to that system. Tables of word parts and exercises on using them follow. Turning to the abnormal, a section on diseases and treatments is included, followed by definitions of related key terms. The section of enrichment terms includes words and phrases that are "good to know" if time allows or if someone is particularly interested in that specialty. The sequence of the systems chapters follows the same order as that found in traditional anatomy and physiology books. Thus this text easily can be used simultaneously with study of A & P. We have tried to make this text easy to use and full of reinforcing drills. We have also included many phonetic pronunciations so you can recognize technical terms when they are spoken and can comfortably use them yourself. Each chapter is enlivened with a short opening case study. These may have some words and abbreviations that are unfamiliar to you, especially at the start of the text. They are included to spark your interest in the chapter material, and give you a sense of medical situations and language. Don't be concerned if you don't understand them completely. Return to them after you study the chapter, or even later chapters, and see if they are more understandable.

You are probably at the beginning of a long journey to gain accomplishment in your chosen field. We hope that this text will aid you in that endeavor and provide a basis on which to build your career.

—Barbara Janson Cohen
and Shirley A. Jones

Acknowledgments

In our constant quest to improve the quality of *Medical Terminology: An Illustrated Guide*, we rely on the advice and talents of many people. First, we want to acknowledge the observant instructors and students who take the time to suggest improvements in the text. Also we thank the reviewers, who make many valuable suggestions for revisions. As always, we are grateful to the dedicated publishing staff; especially for this edition, Jonathan Joyce, Michael Kerns, Julie Vitale, Jeremiah Kiely, Cody Adams, Leo Gray, and Jennifer Clements.

—Barbara Janson Cohen
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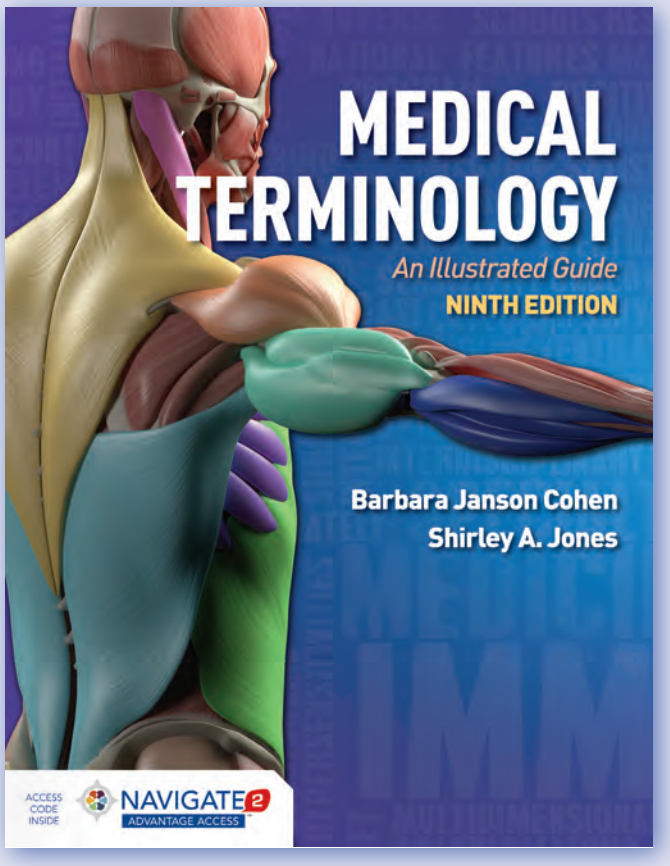
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User's Guide

Medical Terminology: An Illustrated Guide, Ninth Edition was created and developed to help you master the language of medicine. The tools and features in the text will help you work through the material presented. Please take a few moments to look through this User's Guide, which will introduce you to the features that will enhance your learning experience.





Learning Objectives

After careful study of this chapter, you should be able to:

1. Compare the location and function of smooth, cardiac, and skeletal muscles. ***P190***
2. Describe the typical structure of a skeletal muscle. ***P190***
3. Briefly describe the mechanism of muscle contraction. ***P190***
4. Explain how muscles work together to produce movement. ***P191***
5. Describe the main types of movements produced by muscles. ***P192***
6. List some of the criteria for naming muscles, and give examples of each. ***P192***
7. Identify and use the roots pertaining to the muscular system. ***P197***
8. Describe at least seven disorders that affect muscles. ***P198***
9. Interpret abbreviations pertaining to muscles. ***P204***
10. Analyze several case studies involving muscles. ***PP189, 212***

Case Study: Thomas s Brachial Plexus Injury

Chief Complaint
Thomas, a 16 y/o high school student, had a severe lacrosse accident that resulted in a flail arm. He had sustained right brachial plexus injury and had no recovery. He has continued to take medication for neurologic pain. He was scheduled to see his orthopedic surgeon for a possible brachial plexus exploration.

Examination
The orthopedic surgeon examined Thomas and noted that there had not been any change in his condition since the previous visit. Thomas still had no feeling or motion in his right shoulder or arm. He had atrophy over the supraspinatus and infraspinatus muscles and also subluxation of his shoulder and deltoid atrophy. He had no active motion of the right upper extremity and no sensation. The rest of his orthopedic exam showed full ROM of his hips, knees, and ankles with intact sensation and palpable distal pulses as well as normal motor function. He was diagnosed with a possible middle trunk brachial plexus injury from C7.

Clinical Course
Thomas and his parents had previous discussions with the surgeon and were aware of the prognosis and treatment plan. With middle trunk brachial plexus injury, damage to the subscapular nerve will interrupt conduction to the subscapularis and teres major muscles. Damage to the long thoracic nerve prevents conduction to the serratus anterior muscles. Injury to the pectoral nerves affects the pectoralis major and minor muscles.

Thomas was scheduled for an EMG, nerve conduction studies, and somatosensory evoked potentials (SSEPs). His diaphragm was examined under fluo oscopy to R/O phrenic nerve injury. The results of the diagnostic studies indicated that Thomas had most likely sustained a middle trunk brachial plexus injury. Thomas was scheduled for a brachial plexus exploration with possible bilateral sural (calf) nerve graft, nerve transfer, or gracilis muscle graft from his right thigh.

Case Study Revisited: Once you complete this chapter, please review the case follow-up on p. 205.

Ancillaries *At-A-Glance*

Visit the web resource to access the following resources.

Learning Resources

- eBook
- A&P Module with Heart & Lung Sounds
- Image bank
- TestPrep
- Animations
- Audio Pronunciation Glossary

Chapter Contents, Objectives, and Pretests

Chapter Opening Case Studies and Objectives help you identify learning goals and familiarize yourself with the materials covered in the chapter. Chapter Pretests quiz students on previous knowledge at the beginning of each chapter. Students should take each Chapter Pretest before starting the chapter and again after completing the chapter in order to measure progress.