Veterinary MEDICAL TERMINOLOGY

DAWN E. CHRISTENSON

VETERINARY MEDICAL TERMINOLOGY

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Preface

This text has been designed for veterinary technician students and veterinary students for use with a self-study format. Instructors may wish to assign chapters as "adjuvants" to related course materials. The text is intended to provide students with a basic foundation in the language of veterinary medicine—veterinary medical terminology. Additionally, the text is designed to familiarize students with introductory level anatomy, physiology, and selected disease topics. The anatomic, physiologic, and disease concepts reinforce the medical terms through immediate application in relevant contexts. The fundamental knowledge gained from this text provides a base from which instructors and their students may springboard to higher levels of understanding, hopefully engaging students in a lifelong quest for knowledge in veterinary medicine.

Whether used in a self-study situation or as part of a course, it is strongly recommended that students complete chapters 1–3, in succession, before proceeding to any subsequent chapters. The rest of the text has been organized by body-systems. Each chapter presents information about a given body-system. Therefore, most chapters, other than 1–3, may be completed in any sequence.

Use of an unabridged, medical dictionary (such as Dorland's Illustrated Medical Dictionary) in conjunction with this text is highly recommended. Note that all directional terminology used in this text adheres to the standardized nomenclature accepted by most veterinary anatomists and the American College of Veterinary Radiologists (ACVR).¹

This book is dedicated to all students pursuing careers as veterinary technicians, veterinary technologists, and veterinarians. You are the future of veterinary medicine. It is the author's sincere hope that this text will provide you with a strong foundation on which to build your professional education and career.

¹Smallwood, J.E., et al.: A Standardized Nomenclature for Radiographic Projections Used in Veterinary Medicine; *Veterinary Radiology*, Vol. 26, No. 1, 1985, pp. 2–9./Shively, M.J.: Synonym Equivalence Among Names Used for Oblique Radiographic Views of Distal Limbs, *Veterinary Radiology*, Vol. 29, No. 6, 1988, pp. 282–284.

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This book is a culmination of innumerable hours of painstaking work at the computer and at the drafting table. Although I am recognized on the cover as the author and illustrator, I am indebted to many others for helping bring this text to fruition. It never would have come to pass if it weren't for the insight and vision of my editor, Selma Kaszczuk. Selma, you saw something in me which, frankly, I didn't think that I had. I sincerely appreciate the opportunity you have afforded me to mold the minds of future veterinary professionals.

I am very grateful to my sister, Sharon. Sis, I can't begin to tell you how much I appreciate your willingness to learn about a completely foreign subject, proofread the entire document (arrrgh!), and play the role of the student by completing all of the testing sections in each chapter. I can't tell you how refreshing it was for me to hear you get excited about learning this information. Your student perspective was a strong guiding force for me. Thanks!

I must express my appreciation to my colleagues in the MSU Veterinary Technology Program. Cindi, Donn, Helen, Jolynne and Mel, you guys are topnotch people. It truly is a privilege working with you. I can't thank you enough for supporting and encouraging me throughout this project. Thank you too for letting me bounce ideas off of you. Your insights have helped me focus many of the ideas in this text.

I cannot forget to thank two outstanding medical professionals, Dr. Tom Lindsey and Dr. Dorothy Mondejar, who restored my health so that I could complete this task. You two are a credit to physicians everywhere. Certainly, what you have done for me goes far beyond the scope of this book and I cannot thank you enough. In light of the book, Dr. Mondejar, I appreciate your tolerance of me as a patient. Without your help in keeping the discomfort in my drawing arm tolerable, the illustrations for this book could never have been completed. Now that it is finished, I shall follow through with your directives to rest it.

I am grateful to so many individuals that I could not begin to name them all. I must, however, express my appreciation to my family and friends. I am indebted to you for all of your support, love, encouragement, and belief in my abilities. You have always stood by me through thick and thin and have always seen past my shortcomings (no pun intended). I am also grateful to my students who, through the years, have taught me so much. I am thankful for Mongo, Sadie, and Porky who provided me with subjects to illustrate. More so than that, Mongo and Sadie, I appreciate all of the unconditional love that you bestowed upon me, even at times when I was less than receptive to you.

They say that one should always save the best for last, and so I have. Galen, you are by far the very best husband that any woman could ever wish for. I can't thank you enough for the years of love and companionship that you've given me. You truly are my best friend. They say that there are no heroes left in the world today, but they're wrong. You are, and always will be, my hero. Thank you so much for putting up with me during the long, arduous process of writing and illustrating this book. Honestly, you are the most tolerant person I know. Your love and support are appreciated beyond that which words can express.

Dear Student:

I remember, when I was a student, the way that I struggled with learning medical terminology. The intensity and complexity of my professional education were overwhelming at times. This "foreign language" just complicated matters. If that wasn't bad enough, the subject by itself was boring beyond belief. Medical terminology has at times confused me, frightened me, and put me to sleep.

Through my experiences as a student, as a practicing veterinary technician, and as a teacher, I have found that medical terminology does not have to be an ominous "monster". Learning medical terminology can actually be an adventure. Put yourself in the shoes of Sherlock Holmes. How would he solve the mystery hidden within each medical term? If you can pursue this subject in a curious, positive way you'll change it from a millstone into a fun experience.

I know that medical terminology "feels" awkward at first. You're probably wondering how you will ever remember all of the terms, what they mean, and (Oh, my!) how to spell them. Once you begin to use them on a regular basis, they will become a part of you. You'll take them for granted. Someday you'll be in a casual conversation with family or friends and someone will stop you. "What did you say? Why do you always have to use such big words?" You'll feel like you've really arrived when you're having a conversation with practitioners, who are experts in the field, and you understand everything that they're talking about. That is so gratifying. You'll get there. Just give it time. When will you "arrive"? No one knows. It sneaks up on you. Someday you'll simply recognize, "I'm there!" Being persistent and consistent with anything is the key to success. Someone once said that success is a journey, not a destination. Enjoy the journey. I hope that this book will help you on that journey and I hope that you'll have some fun along the way.

Sincerely,

Au Vinter

ATTENTION!

Student, the following information is IMPORTANT to YOUR SUCCESS:

Many of the definitions given in the introductory sections of each chapter are literal translations from the Greek and Latin roots. These literal translations serve to simplify definitions and to reduce the volume of information to be absorbed initially. This approach eases the process of learning to recognize and rapidly interpret medical terms. It is important to read each chapter in its entirety to gain a greater understanding of the meanings and applications of these terms. As stated in the preface, it is strongly recommended that students complete chapters 1–3, in sequence, before proceeding to any subsequent chapters. Use of a medical dictionary (such as Dorland's Illustrated Medical Dictionary) in conjunction with this text is also highly recommended.

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Introduction to Veterinary Medical Terminology

GOALS AND OBJECTIVES

By the conclusion of this chapter, the student will be able to:

- 1. Recognize common root words, prefixes, suffixes, and combining vowels.
- 2. Understand the function of root words, prefixes, suffixes, and combining vowels.
- 3. Divide simple and compound words into their respective parts.
- 4. Understand the function of combining forms.
- 5. Recognize, correctly pronounce, and appropriately use common directional terms.
- 6. Recognize the planes of the body.
- Demonstrate a basic understanding of directional terminology as it relates to the body and to radiography.

1.1. Introduction to Word Structure

1.1.1. ROOT WORD

The root word is the **foundation of a word.** It is from the root that the majority of the meaning for a given word is derived. Words may contain one or more roots, as in football (root 1 = foot, root 2 = ball).

1.1.2. PREFIX

A prefix is a word part that **precedes the root, modifying the root's meaning.** Generally, prefixes may not stand alone as words. When written alone, prefixes are followed by a hyphen (e.g., *pre*-, a prefix meaning "before").

1.1.3. SUFFIX

A suffix is a word part that **follows the root word, modifying the root's meaning.** Generally, suffixes may not stand alone as words. When written alone, suffixes are preceded by a hyphen (e.g., -ad, a suffix meaning "toward"). When reading the meaning of a word containing a suffix, begin by reading the meaning of the suffix **first**. For example, in the word *craniad* (crani / ad), the root *crani(o)*-[head], when combined with the suffix -ad, is interpreted as meaning "toward the head."

1.1.4. COMPOUND WORD

A word constructed of **two or more roots** is a compound word. The roots may or may not be joined by a combining vowel. "Mediolateral" is a compound word. Given the following information, medi(o)- [middle] / o / later(o)- [side] / al [pertaining to], the correct interpretation of the word mediolateral would be "pertaining to the middle and the side."

1.1.5. COMBINING FORM

A combining form is an incomplete word constructed of **a root word, prefix, or suffix with a combining vowel.** In combining forms, the standard combining vowel (shown in parentheses) is "o." *Medi(o)*- is a combining form meaning "middle". *Later(o)*- is a combining form meaning "side." When joined in the compound word *mediolateral*, note that the combining vowel "o" is used between the two roots. However, the second combining vowel "o" is dropped before the suffix -al. In most cases, the combining vowel should be dropped when it precedes a suffix beginning with a vowel. The combining vowel "o," shown in most combining forms, may not be appropriate for use in the creation of some words. For example, with the adjective *posterior* (poster / i / or; "pertaining to the rear"), the combining form *poster(o)*- is joined to the suffix -or by the combining vowel "i."

Consult an unabridged medical dictionary to ensure correct spelling of any medical term.

1.1.6. GENERAL RULES

- 1. Read the meaning of medical terms beginning with the suffix, then proceed to the first part of the word and follow through.
- 2. Drop the combining vowel before a suffix beginning with a vowel.
- 3. Retain the combining vowel between two roots.

These rules hold true for most medical terms.

1.1.7. INTRODUCTION TO RELATED TERMS

	suffix, "CV" combin		o its respe	ective parts ("R	root, P pren	
1.	Anterior	(R)	(CV)	(S)		
	anterior (an-te're-or;	pertaining to the	front)			
2.	Caudad	(R)	(S)			
	caudad (kaw'dad; tow	pard the tail)				
3.	Cranial	(R)	(S)			
	cranial (kra'ne-al; per	cranial (kra' ne-al; pertaining to the head)				
4.	Caudocranial	(R)	(CV)	(R)	(S)	
	caudocranial (kaw"do- pertaining to coursing			tail and head; d	irectionally	
5.	Craniocaudal	(R)	(CV)	(R)	(S)	
	craniocaudal (kra'ne- pertaining to coursing			e head and tail;	directionally	
6.	Dorsal	(R)	(S)			
	dorsal (dor'sal; pertai neck, trunk, and tail.)		clinically 1	refers to the dors	um of the head,	
7.	Palmar	(R)	(S)			
	palmar (pal'mar; pert the forefeet of domesti		m; in veter	inary medicine 1	refers to the sole of	
8.	Dorsopalmar	(R)	(CV)	(R)	(S)	
	dorsopalmar (dor"so-pertaining to coursing		0		; directionally	