

THE PARAMEDIC EXAM REVIEW



BOB ELLING, MPA, REMT-P

KIRSTEN M. ELLING, BS, REMT-P

THOMSON

DELMAR LEARNING™

Australia Canada Mexico Singapore Spain United Kingdom United States



The Paramedic Exam Review, 2nd Edition
Bob Elling & Kirsten Elling

**Vice President, Technology
 and Trades ABU:**

David Garza

Director of Learning Solutions:

Sandy Clark

Managing Editor:

Larry Main

Acquisitions Editor:

Alison Pase

Product Manager:

Jennifer A. Starr

Marketing Director:

Deborah S. Yarnell

Marketing Manager:

Erin Coffin

Marketing Coordinator:

Patti Garrison

Director of Production:

Patty Stephan

Production Manager:

Stacy Massuci

Content Project Manager:

Jennifer Hanley

Technology Project Manager:

Kevin Smith

Editorial Assistant:

Maria Conto

COPYRIGHT © 2007, 2002 Thomson Delmar Learning, a division of Thomson Learning Inc. All rights reserved. The Thomson Learning Inc. logo is a registered trademark used herein under license.

Printed in the United States of America

1 2 3 4 5 XX 08 07 06

For more information contact Thomson Delmar Learning Executive Woods

5 Maxwell Drive, PO Box 8007, Clifton Park, NY 12065-8007

Or find us on the World Wide Web at www.delmarlearning.com

ALL RIGHTS RESERVED. No part of this work covered by the copyright hereon may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, Web distribution, or information storage and retrieval systems—without the written permission of the publisher.

For permission to use material from the text or product, contact us by Tel. (800) 730-2214 Fax (800) 730-2215 www.thomsonrights.com

Library of Congress Cataloging-in-Publication Data

Elling, Bob.

The paramedic review / Bob Elling, Kirsten M. Elling ; technical reviewer, Terry Devito. — 2nd ed.

p. ; cm.

Includes bibliographical references and index.

ISBN-13: 978-1-4180-3818-2 (alk. paper)

ISBN-10: 1-4180-3818-0 (alk. paper)

1. Emergency medical technicians—Examinations, questions, etc.

I. Elling, Kirsten M. II. Title.

[DNLN: 1. Emergency Medical Services—Examination Questions.

2. Emergency Medical Technicians—Examination Questions. 3. Emergency Treatment—Examination Questions.

WX 18.2 E46p 2007]

RC86.9.E43 2007

616.02'5076—dc22

2006037511

NOTICE TO THE READER

Publisher does not warrant or guarantee any of the products described herein or perform any independent analysis in connection with any of the product information contained herein. Publisher does not assume, and expressly disclaims, any obligation to obtain and include information other than that provided to it by the manufacturer.

The reader is expressly warned to consider and adopt all safety precautions that might be indicated by the activities herein and to avoid all potential hazards. By following the instructions contained herein, the reader willingly assumes all risks in connection with such instructions.

The publisher makes no representation or warranties of any kind, including but not limited to, the warranties of fitness for particular purpose or merchantability, nor are any such representations implied with respect to the material set forth herein, and the publisher takes no responsibility with respect to such material. The publisher shall not be liable for any special, consequential, or exemplary damages resulting, in whole or part, from the readers' use of, or reliance upon, this material.

Dedication

*This work is dedicated to Kirsten and my daughters Laura and Caitlin.
May you always maintain humility as your accomplishments meet the stars.*

—BOB ELLING

*In memory of my mother Inge Nicholson, 1940–2000, whose love and support I miss very much;
To my husband Bob, whose support and inspiration continue to drive me to
continuously improve patient care in the field.*

—KIRSTEN M. ELLING

Special Thanks

*Our deepest thanks to our close friend and colleague Mikel A. Rothenberg, MD
for all his hard work, insight, and guidance during the development of
the companion text, Why-Driven EMS Review.*

Contents

ABOUT THE AUTHORS	vi
PREFACE	vii
CHAPTER 1 • THE WELL-BEING OF THE EMS PROVIDER	1
CHAPTER 2 • ROLES AND RESPONSIBILITIES OF THE EMS PROVIDER	8
CHAPTER 3 • ILLNESS AND INJURY PREVENTION	17
CHAPTER 4 • MEDICAL/LEGAL ISSUES	22
CHAPTER 5 • ETHICAL ISSUES FOR THE EMS PROVIDER	30
CHAPTER 6 • GENERAL PRINCIPLES OF PATHOPHYSIOLOGY	34
CHAPTER 7 • PHARMACOLOGY	46
CHAPTER 8 • MEDICATION ADMINISTRATION	51
CHAPTER 9 • LIFE SPAN DEVELOPMENT	56
CHAPTER 10 • AIRWAY MANAGEMENT AND VENTILATION	61
CHAPTER 11 • THERAPEUTIC COMMUNICATIONS AND HISTORY TAKING	72
CHAPTER 12 • TECHNIQUES OF PHYSICAL EXAMINATION	77
CHAPTER 13 • OVERVIEW: PATIENT ASSESSMENT	83
CHAPTER 14 • SCENE SIZE-UP AND THE INITIAL ASSESSMENT	87
CHAPTER 15 • FOCUSED HISTORY AND PHYSICAL EXAMINATION: MEDICAL PATIENT	92
CHAPTER 16 • FOCUSED HISTORY AND PHYSICAL EXAMINATION: TRAUMA PATIENT	98
CHAPTER 17 • ASSESSMENT-BASED MANAGEMENT	103
CHAPTER 18 • ONGOING ASSESSMENT AND CLINICAL DECISION MAKING	107
CHAPTER 19 • COMMUNICATIONS	112
CHAPTER 20 • DOCUMENTATION	116
CHAPTER 21 • PULMONARY AND RESPIRATORY	121
CHAPTER 22 • CARDIOLOGY	132
CHAPTER 23 • NEUROLOGY	143
CHAPTER 24 • ENDOCRINOLOGY	153
CHAPTER 25 • ALLERGIES AND ANAPHYLAXIS	161
CHAPTER 26 • GASTROENTEROLOGY AND UROLOGY	165

CHAPTER 27 • TOXICOLOGY	171
CHAPTER 28 • ENVIRONMENTAL CONDITIONS	176
CHAPTER 29 • INFECTIOUS AND COMMUNICABLE DISEASES	185
CHAPTER 30 • BEHAVIORAL AND PSYCHIATRIC DISEASES	190
CHAPTER 31 • HEMATOLOGY	196
CHAPTER 32 • GYNECOLOGY AND OBSTETRICS	200
CHAPTER 33 • TRAUMA SYSTEMS AND MECHANISMS OF INJURY	207
CHAPTER 34 • HEMORRHAGE AND SHOCK	213
CHAPTER 35 • SOFT TISSUE TRAUMA	218
CHAPTER 36 • BURNS	225
CHAPTER 37 • HEAD AND FACIAL TRAUMA	232
CHAPTER 38 • SPINAL TRAUMA	239
CHAPTER 39 • THORACIC TRAUMA	246
CHAPTER 40 • ABDOMINAL TRAUMA	253
CHAPTER 41 • MUSCULOSKELETAL TRAUMA	257
CHAPTER 42 • NEONATOLOGY	262
CHAPTER 43 • PEDIATRICS	267
CHAPTER 44 • GERIATRICS	274
CHAPTER 45 • THE CHALLENGED PATIENT	280
CHAPTER 46 • ACUTE INTERVENTIONS IN THE HOME CARE PATIENT	286
CHAPTER 47 • AMBULANCE OPERATIONS AND MEDICAL INCIDENT COMMAND	291
CHAPTER 48 • RESCUE AWARENESS AND OPERATIONS	297
CHAPTER 49 • HAZARDOUS MATERIAL AWARENESS AND OPERATIONS	306
CHAPTER 50 • CRIME SCENE AWARENESS	310
CHAPTER 51 • BASIC LIFE SUPPORT (BLS) RESUSCITATION ISSUES	314
CHAPTER 52 • ADVANCED CARDIAC LIFE SUPPORT (ACLS)	319
APPENDIX A • ANSWERS & RATIONALE FOR QUESTIONS	323
APPENDIX B • TIPS FOR PREPARING FOR A PRACTICAL SKILLS EXAMINATION	420
APPENDIX C • ADVANCED LEVEL PARAMEDIC EXAM SKILL SHEETS	422
APPENDIX D • GLOSSARY	434

About the Authors

Bob Elling, MPA, REMT-P

Bob has been involved in EMS since 1975. He is an active paramedic with Colonie EMS and the Times Union Center, both in upstate NY. He has served as National Faculty for the American Heart Association (AHA), and Regional Faculty for the NYS Bureau of EMS. Bob is also a Professor of Management for Andrew Jackson University, faculty for Hudson Valley Community College (HVCC) paramedic program, as well as the BLS Guidelines 2005 editor/writer for AHA. He has also served as a paramedic and lieutenant for NYC EMS, Program Director for the Institute of Prehospital Emergency Medicine of HVCC, Associate Director of the NYS EMS Program, and the Education Coordinator for PULSE: Emergency Medical Update. Bob is an author/coauthor of many Delmar Learning titles in addition to *The Paramedic Exam Review*, 2e, including: *Principles of Assessment in EMS*, *Why-Driven EMS Review*, 2e, and *The EMT-Intermediate Exam Review*.

Kirsten M. Elling, BS, REMT-P

Kirsten (Kirt) Elling is a career paramedic who works in the Town of Colonie in upstate New York. She began work in EMS in 1988 as an EMT/firefighter and has been a National Registered paramedic since 1991. She has been an EMS educator since 1990 and teaches basic and advanced EMS programs at the Institute of Prehospital Emergency Medicine in Troy, New York. Kirsten serves as Regional Faculty NYS DOH, Bureau of EMS and Regional Faculty American Heart Association, Northeast region. In addition to *The Paramedic Exam Review*, 2e, Kirsten is the author/coauthor of the following: Numerous scripts for the EMS training video series PULSE: Emergency Medical Update; *EMT-Basic Exam Review*; *Why-Driven EMS Review*, 2e; *Principles of Assessment for the EMS Provider*; contributing author of the Paramedic Lab Manual for the IPEM, and an adjunct writer for the 1998 revision of the National Highway Traffic Safety Administration, EMT-Paramedic and EMT-Intermediate: National Standard Curricula.

Preface

Intent of This Book

The Paramedic Exam Review, second edition, is the perfect resource for preparing for the National Registry written exam. This book is a valuable tool to help review your knowledge, and practice the content requirements in order to build confidence for the actual exam. Intended as a review for both state and national examinations, the book is designed to follow the organizational chapter format of the 1999 Edition of the DOT Paramedic curriculum and is updated to the 2005 American Heart Association Guidelines.

Why We Wrote This Book

Paramedic training has evolved quite a bit since I first completed the program at the Institute of Albert Einstein Medical School in “da-Bronx” back in 1978. I remember the first day of class when Dr. J. and the instructor coordinator wheeled in a hand truck piled high with papers that we used as our textbook. Most of the materials consisted of the yet-unpublished draft of the Paramedic book that Nancy Caroline, M.D. had just completed for the U.S. DOT and lots of interesting articles from the medical journals. These days, it is hard to find a 15-module trained medic still working in the field. Both Kirsten, my co-author and partner, and I have seen the curriculum become more enriched and sophisticated in 1985 with the six division program and then again in 1998 with the latest revision. Working as paramedics and EMS educators for the past 16 years and 30 years respectively, both Kirsten and I have seen medic training evolve firsthand. Today there are many choices of books, magazines, video, workbooks, and Web sites for instructors to use to prepare their students for the streets.

We sincerely hope you will enjoy *The Paramedic Exam Review*, second edition, and benefit from the test-taking review to expand your knowledge base. After all, when the real test occurs, in the field, our patients rely on us to be prepared. See you in the streets!

—Bob & Kirsten Elling

Features of This Book

- **Accessible for both Certification and Refresher Exams** These questions allow you to study for the exam whether you are a candidate for paramedic certification, or a current paramedic working to renew certification.
- **Organized to the DOT Curriculum** The chapter order follows that of the curriculum for ease of reference and use. Early in this project we also made a decision that the questions would only be the multiple choice style with the standard format of three distractors and one correct answer to each question. Since this book will be used to prepare for both state and national paramedic examinations, it makes the most sense to use the format and style of questions used on these types of exams, in order to provide the best possible practice and build confidence for the actual exam.
- **Over 3100 questions** We suggest you tackle a chapter at a time and after taking each exam, check the answer key and mark the ones you need to review. The more time you spend using the practice questions, the better your chances for success on the exam.
- **Rationale** The rationale for correct answers provides you with the necessary feedback for understanding the context of the question, and, if applicable, a point of reference for review.

New to This Edition

- **Section on Test-Taking Strategies** Appendix B provides you with valuable advice on developing best practices for completing and achieving success on your paramedic exam.
- **New Scenario-Based Questions** Practice crucial critical-thinking skills that will be required on the job as a paramedic.
- **10% New Questions** A fresh approach to the content ensures that the questions remain up to date with the latest information required on the state and national paramedic exams.

- **Updated to the 2005 AHA Guidelines** The questions provide technical information that remains updated to the latest procedures outlined by the 2005 Edition of the American Heart Association guidelines.
- **Interactive CD-ROM** The CD-ROM included in the back of the book is now interactive and provides two practice exams that simulate the actual paramedic exam. Each question is identified by a topic for context, and provides immediate feedback, including rationale for both correct and incorrect answers, to help you practice for the exam and highlight areas requiring further study.

Acknowledgements

The authors and publisher would like to extend appreciation to the following experts for their thorough review of the content. Their comments proved invaluable to the revision of this book:

Linda Anderson
Director, Paramedic Education
Santa Rosa Junior College
Windsor, CA

David McDonald
Program Faculty
Greenville Technical College
Greenville, SC

Mike McLaughlin
Director of Health Occupations
Kirkwood Community College
Cedar Rapids, IA

Gordon Kokx
Associate Professor
College of Southern Idaho
Twin Falls, ID