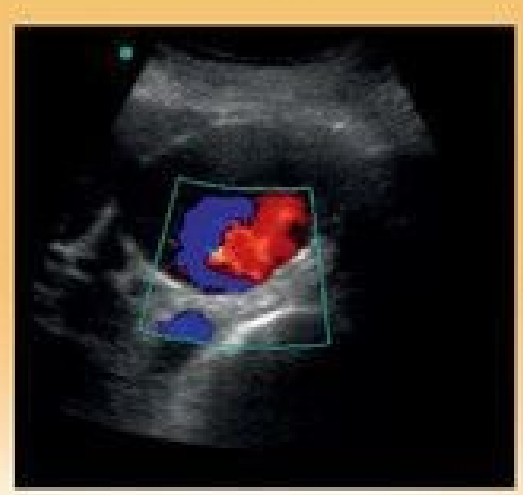

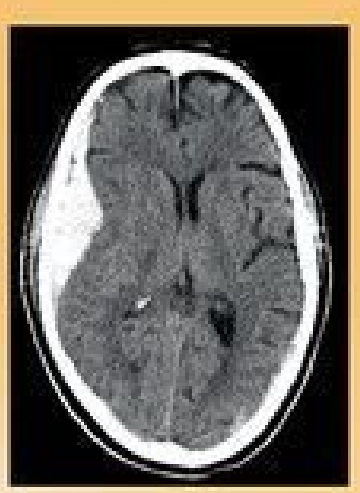

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Oral Board Review Illustrated

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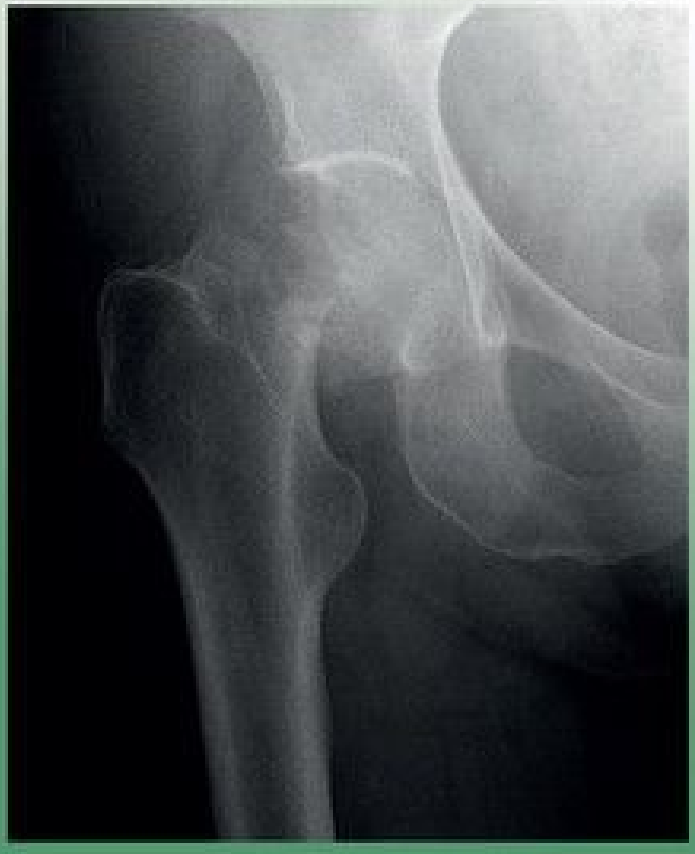

EDITED BY
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CAMBRIDGE Medicine

EMERGENCY MEDICINE ORAL BOARD REVIEW ILLUSTRATED

Second Edition

EMERGENCY MEDICINE ORAL BOARD REVIEW ILLUSTRATED SECOND EDITION EDITED BY

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Every effort has been made in preparing this book to provide accurate and up-to-date information which is in accord with accepted standards and practice at the time of publication. Although case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the authors, editors and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this book. Readers are strongly advised to pay careful attention to information provided by the manufacturer of any drugs or equipment that they plan to use.

The authors dedicate this book to their shared mentor, Sheldon Jacobson, MD. Having spent decades perfecting the art of bedside teaching, he has been a role model and an advocate for generations of young faculty. With his support and guidance the authors have begun what they hope will be an equally long and rewarding journey in patient care, advocacy, and medical education.

YO: To my wife, who is my strength and best friend; my two daughters who show me how to enjoy life every day to its fullest; my parents who always allowed me to question; my family, friends, and colleagues for their timeless support; and my residents and students who teach me something new every day.

BPN: Throughout my career I have been fortunate to work with passionate, talented individuals who continually exceed my expectations. I am proud to have worked with so many of them in creating this book. I am humbled by the love and support of my family; they are responsible for all the great joys of my life.

Table of Contents

(Raghu Seethala, MD)

24 Weakness

(Raghu Seethala, MD)

25 Assault to face

(Raghu Seethala, MD)

26 Burn

(Raghu Seethala, MD)

27 Vomiting blood

(Jessica Berrios, MD)

28 Light-headedness

(Jessica Berrios, MD)

29 Shortness of breath

(Jessica Berrios, MD)

30 Rash and fever

(Jessica Berrios, MD)

31 Weakness

(Jessica Berrios, MD)

32 Abdominal pain and vomiting

(Natasha Spencer, MD, PhD)

33 Chest pain

(Natasha Spencer, MD, PhD)

34 Seizure

(Natasha Spencer, MD, PhD)

35 Chest pain

(Natasha Spencer, MD, PhD)

36 Throat swelling

(Natasha Spencer, MD, PhD)

37 Abdominal pain

(Ani Aydin, MD)

38 Altered mental status

(Ani Aydin, MD)

39 Rectal pain

(Ani Aydin, MD)

40 Vaginal bleeding

(Ani Aydin, MD)

41 Agitation

(Ani Aydin, MD)

42 Abdominal pain

(Nicholas Genes, MD, PhD)

43 Abdominal pain

(Nicholas Genes, MD, PhD)

44 Abdominal pain

(Nicholas Genes, MD, PhD)

45 Altered mental status

(Nicholas Genes, MD, PhD)

46 Diarrhea

(Nicholas Genes, MD, PhD)

47 Seizure

(Shefali Trivedi, MD)

48 Toothache

(Shefali Trivedi, MD)

49 Penetrating chest trauma

(Abiola Fasina, MD)

50 Animal bite

(Shefali Trivedi, MD)

51 Abdominal pain: female

(Shefali Trivedi, MD)

52 Headache

(Bing Shen, MD)

53 Pediatric fever

(Bing Shen, MD)

54 Back pain

(Bing Shen, MD)

55 Cardiac arrest

(Bing Shen, MD)

56 Knee pain

(Bing Shen, MD)

57 Rash

(Braden Hexom, MD)

58 Sickle-cell disease

(Braden Hexom, MD)

59 Headache

(Braden Hexom, MD)

60 Chest pain

(Braden Hexom, MD)

61 Altered mental status

(Braden Hexom, MD)

62 Headache

(Ravi Kapoor, MD, MPH)

63 Altered mental status

(Ravi Kapoor, MD, MPH)

64 Shortness of breath

(Ravi Kapoor, MD, MPH)

65 Shortness of breath

(Christopher Strother, MD)

66 Flank pain

(Ravi Kapoor, MD, MPH)

67 Seizure

(Satjiv Kohli, MD, MBA)

68 Fever

(Satjiv Kohli, MD, MBA)

69 Vomiting

(Satjiv Kohli, MD, MBA)

70 Fever

(Satjiv Kohli, MD, MBA)

71 Palpitations

(Shawn Zhong, MD)

72 Cough

(Shawn Zhong, MD)

73 Drowning

(Shawn Zhong, MD)

74 Abdominal pain

(Sheler Sadati, MD)

75 Abdominal pain

(Sheler Sadati, MD)

76 Shortness of breath

(Sheler Sadati, MD)

77 Altered mental status

(Sheler Sadati, MD)

78 Weakness

(Matthew Constantine, MD)

79 Pedestrian struck

(Matthew Constantine, MD)

80 Back pain

(Matthew Constantine, MD)

81 Altered mental status

(Matthew Constantine, MD)

82 Abdominal pain

(Christopher Strother, MD)

83 Abdominal pain

(Lisa Jacobson, MD)

84 Respiratory distress

(Lisa Jacobson, MD)

85 Overdose

(Lisa Jacobson, MD)

86 Chest pain

(Lisa Jacobson, MD)

87 Fever

(Edward R. Melnick, MD, MHS)

88 Altered mental status

(Tiffany Truong, MD, MPH)

89 Shortness of breath

(Tiffany Truong, MD, MPH)

90 Stab to chest

(Tiffany Truong, MD, MPH)

91 Abdominal pain

(Edward R. Melnick, MD, MHS)

92 Seizure

(Tiffany Truong, MD, MPH)

93 Palpitations

(Edward R. Melnick, MD, MHS)

94 Seizure

(Ram Parekh, MD)

95 Fever

(Ram Parekh, MD)

96 Abdominal trauma

(Ram Parekh, MD)

97 Hematochezia

(Ram Parekh, MD)

98 Abdominal pain

(Anita Vashi, MD)

99 Cough

(Anita Vashi, MD)

100 Headache

(Anita Vashi, MD)

101 Drowning

(Anita Vashi, MD)

102 Cyanosis

(Evelyn Chow, MD)

103 Diarrhea

(Meika Close, MD)

104 Cough

(Meika Close, MD)

105 Altered mental status

(Meika Close, MD)

106 Weakness

(Meika Close, MD)

107 Foot pain

(Meika Close, MD)

108 Neck pain

(Evelyn Chow, MD)

109 Abdominal pain

(Evelyn Chow, MD)

110 Shortness of breath

(Tarlan Hedayati, MD)

111 Arm pain

(Yuemi An-Grogan, MD)

112 Altered mental status

(Raashee Kedia, MD)

113 Cardiac arrest

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Preface

The accreditation process for emergency medicine in the United States is considered to be one of the most difficult among all medical specialties, with residents required to pass both a written and oral examination to gain certification. This book allows the reader to apply a case-based interactive approach to studying for the oral board examination, while also providing an excellent introduction to the field. Featuring more than 100 cases derived from the *Model of Clinical Practice of Emergency Medicine*, with an emphasis on EKGs, CT scans, x-rays, and ultrasounds, this book is a model resource for the practicing emergency medicine resident. The reader can easily practice cases alone or with a partner and can follow up with key points of critical actions, clinical pearls, and references. The appendixes are loaded with high-yield information on subjects emphasized in the oral board examination, such as pediatric, cardiovascular, traumatic, and toxicological disorders. This book truly allows the reader to feel actively immersed in the case.

Some of the diagnoses featured in this book include: Iron overdose, congenital hyper-trophic pyloric stenosis, hemorrhagic stroke, tension pneumothorax, Boerhaave syndrome, necrotizing fasciitis, Henoch-Schönlein purpura, abdominal aortic aneurysm, thermal burn 30%, Steven-Johnson syndrome, febrile syndrome, ectopic pregnancy, inferior wall myocardial infarction, thrombotic thrombocytopenic purpura, Ludwig's angina, cavernous sinus thrombosis, Kawasaki syndrome, high altitude cerebral edema, Fournier gangrene, neck trauma, pancreatitis, alcohol withdrawal, pelvis fracture,

childhood trauma—abuse, necrotizing enterocolitis, cold water immersion, congenital coarctation, isoniazid overdose, elder abuse, and carotid artery dissection.

Dr. Yasuharu Okuda is the Director of the Institute for Medical Simulation and Advanced Learning for the Health and Hospitals Corporation (HHC) of New York City and is responsible for training clinical providers across all 11 NYC HHC hospitals using case-based simulation. He holds dual appointments in Emergency Medicine (EM) and Medical Education at The Mount Sinai School of Medicine and has significant experience in residency education as a former associate program director of EM. He received his MD from New York Medical College and completed his training at Mount Sinai Emergency Medicine Residency. He holds appointments on multiple national committees including Co-Chair of the Emergency Medicine Special Interest Group for the Society for Simulation in Healthcare and Vice-Chair of the SAEM Simulation Academy. He has received numerous awards in education and is published in the areas of simulation and neurological emergencies. His research focus is in human factors in health care, using simulation to improve safety and quality of patient care.

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Chapter 1

How to use this book

Bret P. Nelson, MD

How to Use this Book

The amount of information that must be transferred from books, patients, journals, mentors, and so on into the brain of an aspiring emergency physician is overwhelming. Many physicians create study plans, purchase books, fall behind schedule, and readjust timelines in an endless process akin to yo-yo dieting. Whatever the means we use to study while not actively caring for patients, inevitably we learn as our forebears did – one patient at a time.

Thus, this book was crafted as a case-based approach to the art and science of emergency medicine. Although the format stresses an approach useful in preparation for the emergency medicine oral boards, the cases serve as a review (or introduction) to the practice of emergency medicine. These pages contain heuristics on the general approach to patient management, pearls on the care of children, tips on performing common bedside procedures, and a litany of cases.

Oral Board Preparation

Working with a Partner

As described in Chapter 3, during the oral boards you will be taken through a series of cases by an American Board of Emergency Medicine examiner. To mimic this process as closely as possible, you should review the cases in this book with a partner. Pairing with another emergency physician is ideal, as they will be familiar with the format of the boards and the medical decision making in the cases, and they will have more fun throwing curveballs at you to make the cases more interesting (or difficult)! If you cannot find a colleague with a medical background to take you through the cases, a friend, family member, or significant other will do. The “examiner instructions” for each case are written to help a nonphysician approach the case. It is quite likely that your family and friends already know a lot of the jargon in this book. Like most physicians, you have probably regaled them with enough stomach-turning stories over the dinner table to make them experts. If you are fortunate enough to have a partner (examiner), read through the introductory section and appendices and become familiar with the format for the boards, but do not look at the images or cases. The examiner will take you (the candidate, to use ABEM's term) through the cases. You should read through each case on your own after working through it with your examiner, and look up any areas you had difficulty with. References for standard emergency medicine texts; Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*, 7th ed. by Tintinalli and colleagues, 2011; *Rosen's Emergency Medicine: Concepts and Clinical Practice*, 8th ed. by Marx and colleagues, 2014, are included for each case. Please ask your partner to read the

next section (Examiner Instructions) and the sample case before you tackle the cases in the rest of the book.

Examiner Instructions

Thank you for helping your friend, family member, or colleague (the candidate) to review for the oral board exam. This is the final step in their quest to become a board-certified emergency physician. It is probably not the first (and certainly not the last) time you will ask yourself, “What have I gotten myself into?” when dealing with them. Your efforts will greatly exceed whatever reward you have been offered, especially if you were convinced by dinner in any restaurant they can afford on a resident's salary.

If you are a physician, nurse, emergency medical technician (EMT), or other medical provider, the case-based format should be familiar to you. Your goal is to provide the candidate with bits of information about the case and take the case in different directions based on their actions (or inaction). If you have no medical background, don't be intimidated! You already understand enough about medical care to appreciate the daily struggles the candidate faces in taking care of patients. Keep in mind that none of the actors on today's “doctor shows” ever attended medical school. Yet they can sound convincing, and you can appreciate the medical plot points, with a little coaching.

Each case focuses on a patient presenting with some acute manifestation of illness. Some will have subtle signs such as headache or nausea, and others will be quite obviously sick (vomiting blood, major motor vehicle accident, etc.). Many patients will have straightforward problems such as broken bones, and others will have diagnoses that are difficult to pin down (poisonings, drug reactions, or more rare illnesses). Start by reading the examiner instructions for each case; these will give you an overall picture of what the medical problem and major critical actions are. Within the description there will often be additional points on how to deal with situations that will arise in the course of

the case – playing the part of a consultant, when to reveal certain key information, how to deal with common medical errors, and so on. Next, read the case from beginning to end to see the flow, starting with the “chief complaint” (reason for evaluation) to initial impressions (What do I see when I walk into the room?) to basic historical information about the patient and the physical examination, followed by ordering tests, giving medications, interpreting the test results, calling upon consultants, and establishing patient disposition (admitting to the hospital, going to the operating room, discharging them, etc.).

The cases are meant to be fun (in a nerdy sort of way). At first, you'll probably present the cases pretty “straight.” You can state the patient's complaint and examination as written in the text, speak about consultants in the third person (“the cardiologist says they will see the patient in the morning”), and “stick to the script.” As you become more comfortable with the oral boards' format, feel free to get into the character a bit more. Patients, consultants, nurses, and other “characters” in oral board cases are typically portrayed in the first person by examiners. Instead of saying, “the patient reports they are in pain,” try, “Doctor, my arm still hurts” or “Why isn't my son getting anything for pain? Who's in charge here?” You probably know someone who thought karaoke was stupid but then would not give up the microphone after trying it. Taking a friend through these cases can be similarly entertaining, even without the aid of alcohol.

When you become fairly comfortable with the format (this is easier for medical professionals), you can deviate a bit from the cases to make them more interesting and challenging. Examples of how to do this are given in some cases with a “curveball” described. Some of these curveballs will involve reluctant consultants, patients who aren't forthcoming with the truth, or other factors which can make proper diagnosis and treatment difficult. Many of these types of curveballs can appear on the real oral boards, because the candidate is being

tested partially on their ability to work effectively in the emergency medicine practice system. Some are so important that they should be expected in every case, even when not explicitly stated in the instructions. For example, if the candidate orders a medication before checking the patient's allergies, that patient should exhibit an allergic reaction to the medication. This is good practice for the boards (where points can be deducted for such mistakes) but more important in real life, where “points” are people.

Working Alone

Don't worry if you couldn't convince anyone to nurse you through all of the cases. You can still use this book effectively to engage in “active learning,” which is much more effective for adult learners than flipping through pages and passively reading the text. You'll have to use a bit of discipline in approaching the cases and force yourself to think about your management for each case.

After reading the sample case, take each case one by one. Read through the chief complaint and think about what you would do with that patient immediately. Usually, the next question to ask is, “What do I see when I look at the patient?” After the text reveals the answer, stop and think of your next action. For example, if you saw an ashen, unresponsive patient, you will want to move immediately toward resuscitation. For a well-appearing patient in no distress, you will likely start with a primary survey, history, and physical examination.

Try to think ahead as much as possible, focusing on what specific historical or physical examination items you are especially interested in. You will get more out of asking yourself, “Does this patient have a carotid bruit?” than simply thinking, “Now I'll examine the patient.” Remember that the real oral board examiners will not just give away the entire examination; they will often ask for what specific actions you would like to perform. There are no tricks in this book, and there should not be any on the boards either. When a test or physical examination is described as “normal,” move on with the case as if it is.

By the end of each case, you will see a checklist of critical actions. These types of actions are the basis for scoring on the real oral boards. The examiner instructions are near the end. These will often provide insights into the case, confirming or revealing the diagnosis, and often elucidating why certain actions were or were not mandated, why that computed tomography (CT) scan was

never available, or why the consultant gave you such a hard time. While the case is fresh in your mind, refer to the appropriate chapters in Rosen's or Tintinalli's to ensure you are comfortable with the material.