BOOK REVIEW

Article 990207

'Pathophysiology Paramedic'

Bob Billing, Kirsten M. Elling, and Mikel. A. Rothernburg.

Andrew N. Polack (Ed).

American Academy of Orthopaedic Surgeons. Jones and Bartlett Publishers. 2006.

181 pages, ISBN 0-7637-3765-8. RRP \$75.00 AUD

Ramon Shaban

School of Nursing and Midwifery, Research Centre for Practice Innovation
Griffith University

Keywords

book review; paramedic, pathophysiology

The American Academy of Orthopaedic Surgeons *Pathophysiology Paramedic* is a small US publication that aims to cover the relevant issues of pathophysiology as they relate to the field of practice of the paramedic. Framed by the US National Standard Curriculum (NSC) objectives it suggests it adopts a unique position in that it was written with paramedic students in mind and connects pathophysiology to patient assessment and treatment.

The text is structured into 10 chapters that are thematically centred on: cells, tissues, and cellular injury; genetics and familial diseases, hypoperfusion, inflammation and immunity. Each chapter begins with a set of learning objectives from the NSC curriculum and others in addition to those. It features progressive case studies, full-colour illustration and a variety of tips for the student, such as special needs tips, physiology tips, medication tips, and paramedic safety tips. Each chapter are equipped with key learning objectives and is divided into parts, with each part addressing the case study progressively as the content in the chapter unfolds. The case studies draw analogies between the content and clinical practice examples. The soft cover title is also supported by an instructor's toolkit CD-Rom and a technology resources website (www.Paramedic/EMSzone.com) with lecture notes, PowerPoint presentations, an image bank and other learning materials.

Overall, the text is well-structured and illustrated. The book is easy to follow flow charts, examples in pictorial form and tips in easily identified boxes. Graphically, the text is easy to peruse, with good attention to detail with respect to suitable combinations of illustrations, textboxes, diagrams and summaries. The content of this publication is summarily average as an introductory publication. The themes identified are relevant to the pathophysiological responses. There are however two notable issues with this text. First, the text lacks much of the content that is directly

relevant to pathophysiology in paramedic practice. It gives a sound overview of cellular and tissue injury that are fundamental to all forms of pathology, both anatomical and physiological. It then looks to causes for such alteration in structure and function, such as genetics, immunology and inflammation. However, pathophysiology is more than cellular and tissue injury.

The second issue with this title is that much of the detail is oversimplified. This oversimplification appears to be both unnecessary and result in limitations. The oversimplification is significant because coupled with a lack of detail and depth the material may lead to confusion or even misinterpretation. This is particularly relevant for some diagrams presented. For example, chapter three examines mechanisms of cell and tissue injury. It illustrates some causes of cellular injury, including viruses, radiation, chemical carcinogens and 'other unknown factors'. The diagram on page 30 illustrates that cells respond to injury in one of two ways: the abnormal cells either 'becomes cancer because of an ineffective immune system' or 'are destroyed by the effective immune system'. The representation is seriously oversimplified and does not reflect the common and universally accepted view of cellular response to injury.¹ Cellular responses to injury may be reversible, adaptive or irreversible. Reversible cell injury is only mentioned summarily, and the discussion of cellular adaptation is not explicit. A more comprehensive understanding is essential. The publication lacks additional references and does not provide a list of references or a bibliography. Some of the physiology tips cite research without references, making it virtually impossible to follow up the content. This could have been achieved in this text by including a reference list for further reading and secondary sources. Its appeal is limited to a very introductory and rudimentary understanding of pathology and disease.

Anecdotally, publications on anatomy, physiology, pathophysiology and pharmacology for paramedics are 'abridged' or 'shorter' than those for other acute health care personnel. The reasons for this are not clear, although it would appear that an unspoken assumption that paramedics 'don't need to know everything in such detail' may be at play. Such a view, should it exist, is fundamentally flawed. All health care professionals require a comprehensive understanding of pathophysiology that is context specific to their practice. Paramedics and EMTs, like all acute primary health care professionals, must have a comprehensive understanding of pathophysiology, and publications that claim to facilitate this should be equally as comprehensive.

This book is available through:

Elsevier Australia

Ph: 1800 263 951

Email: service@elsevier.com.au

Website: www.elsevier.com.au

¹ Copstead, L. C and Banasik, J. L. (2005). *Pathophysiology* (3rd Ed). Elsevier: Missouri.