



Book Review

The Physiology of the Joints – Volume 3 (The Spinal Column, Pelvic Girdle, and Head), Adalbert Kapandji. 7th Edition Handspring Publishing (March 2019). 356 pp.ISBN: 978-1-912085-61-3

Since its first innovative edition Kapandji's "The Physiology of the Joints" has been a key reference text for those seeking to better understand the intricacies of human structure and function. The author is an internationally renowned orthopedic surgeon whose original work in biomechanics and functional anatomy has informed generations of students and practitioners.

The 7th edition continues in familiar style with clear easy to navigate sections allowing those using it for reference to quickly find their destination. Newer readers may note the unique layout of the book which gives a consistent experience; with clear digestible paragraphs on the left and accompanying illustrations on the right. This style offers the reader space to focus and reflect upon a specific topic prior to moving on to the next.

Whilst this edition expresses a renewed focus on quality illustrations readers may find the lack of accompanying digital resources, videos, and website access to be a limiting factor. Additionally, the labeling system can be difficult to link the appropriate text with the desired label in some of the more densely labeled pages. However, most of the colorful and informative illustrations do encourage the reader to visualize the anatomy in a meaningful way without overwhelming.

The first chapter gives an overview of the spinal column utilizing interesting foundation topics such as "functional components of a vertebra" and "compressive forces acting on the disc" which help to ground the reader and set the tone for the rest of the book. Complimenting this foundation is the clinical context present throughout; which attempts to engage the reader beyond the theoretical to the clinical. However, the paucity of references in this area may limit readers seeking to apply or further explore the presented clinical context.

Kapandji explores detailed biomechanical changes that take place in life using examples accessible to both students and experienced practitioners. For example, in an exploration of the nucleus pulposus, the author discusses the basis for the common adage "*one is taller in the morning than at night*" which draws the readers interest to the functional relevance of the nucleus pulposus.

As the book proceeds, readers will find consistency in the use of real-life examples and clinical context to reinforce the biomechanics. However, this does highlight a potential limitation to the scope of the book as the clinical focus is primarily on the biomechanical with little consideration of the contemporary biopsychosocial model. A key example can be found in the discussion of compressive forces acting upon the disc which "*in the long run is the main factor leading to spinal osteoarthritis*" (p.30). Those more accustomed to utilizing a biopsychosocial model and a contemporary evidence base to explore the factors involved in the development of conditions such as osteoarthritis may find leaps such as this challenging.

The section on the pelvic girdle offers students of anatomy clear explanations for common questions such as the difference in the male and female pelvis or the meaning of nutation and counternutation. A physical therapist may find the overview of the positional influences of the joints on the pelvis with its comprehensive consideration of force transference to be particularly noteworthy; and a well-considered reminder of the myriad of influences exerting themselves on the pelvic girdle (p.66).

The final chapter exploring the head offers a collection of complex and often misunderstood topics such as the biomechanics of cranial sutures and the structure-function of the temporomandibular joints. The author does not avoid challenging topics such as sutural motion in adult craniums and the potential for pathophysiological influences; encouraging the reader to consider the potential biomechanical reasons for these theories whilst acknowledging the uncertainty that remains in this area.

In summary, the book continues to be accessible to a range of healthcare practitioners and students looking to build their knowledge of biomechanics and functional anatomy. Future editions may benefit from the inclusion of accompanying digital resources, additional contemporary referencing, and a consideration of the biopsychosocial model to help to broaden its appeal to newer readers. However, the status of this book as a reference text on human biomechanics and functional anatomy is sound and whether you are looking to update from a previous edition or are new to the series you will find value in adding this book to your collection.

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