

An Introductory Curriculum for Ultrasound-Guided Regional Anesthesia – A Learner’s Guide

Brian A Pollard, Vincent Chan. UTPPRINT, A division of University of Toronto Press Inc., 2009, 81 pages, \$95.00 Can. ISBN: 978-0-7727-8735-4

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One of the most fascinating developments in regional anesthesia in recent years has been the advent of ultrasound technology. This advancement has led to a rejuvenation of the field, and practitioners with varying experience in regional anesthesia and use of ultrasound want to use this tool to perform blocks. Consequently, a structured approach to the use and application of ultrasound is greatly needed for all practitioners. The recently published textbook, *An Introductory Curriculum for Ultrasound-Guided Regional Anesthesia; A Learner’s Guide*, is certainly timely and essential. The textbook is divided into five sections, which are further subdivided into one to three chapters. The sections are organized logically with one chapter flowing seamlessly into the next. In the thoughtful Foreword and Introduction preceding the sections, the authors place key emphasis on the importance of curriculum development. Also, this book does not disappoint in highlighting the visual nature of ultrasound and regional anesthesia. The pages are filled with wonderful illustrations and photographs of ultrasound images. Each chapter ends with a summary, recommended readings, and knowledge keys (key points).

Most impressive in this textbook is the authors’ emphasis on understanding the ultrasound unit rather than merely performing the individual blocks. This is the true foundation behind safely using this technology, which the authors certainly appreciate. Close to half of the text is devoted to the Foundation of Ultrasound and Needling Techniques. The complexities of the physics behind ultrasound technology and the approach to scanning and the principles surrounding needling techniques are explained in such a graduated manner that they give way to many “aha”

moments. The illustrations in this section are particularly effective in making this complex subject easy to understand.

The authors emphasize the importance of in-plane scanning techniques; unfortunately, however, they omitted pictures and guidance for out-of-plane techniques. Although there are valid reasons for in-plane approaches, out-of-plane approaches remain useful in some circumstances, and it is critical that out-of-plane techniques be approached in the same cautious and structured manner as in-plane techniques. The section on using models for ultrasound-guided needling is focused exclusively on the economical tofu model. Some bias is evident, as this model was reported previously by the book’s author, Dr. Pollard, and it was also cited in the recommended reading section. It would be helpful to include descriptions of other low fidelity easy to use portable models, e.g., the blue phantom models.

The focus of the remaining four sections of the book is on the actual blocks: Section 2: Introductory Blocks, Section 3: Intermediate Level Blocks, Section 4: Advanced Techniques, and Section 5: Neuraxial Blocks.

The Introductory Blocks section includes peripheral upper extremity techniques and the femoral nerve block. The Intermediate Level Blocks section includes brachial plexus blocks and approaches to the proximal sciatic and distal sciatic (popliteal) blocks. Surprisingly, the authors omitted the axillary approach on the basis of inability to abduct the arm, need for multiple injections, and axillary sensitivity. In our opinion, the ultrasound-guided approach continues to be practiced widely and is not uncomfortable for patients. The “need for multiple injections” provides a wonderful illustration of enhanced efficacy with ultrasound assistance. The Advanced Techniques section includes a detailed description of an approach to ultrasound-guided continuous femoral catheter placement. The emphasis on sterility and the nuances of hand position are written

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effectively. The Neuraxial Blocks section includes a description of an approach to ultrasound scanning of the neuraxis. The use of ultrasound static assistance rather than dynamic placement is highlighted. The authors should consider a DVD for future editions, as it probably would enrich the overall experience.

In summary, this textbook is exceptionally well written and organized. It is inevitable that ultrasound-guided blocks will increase in popularity. It is also important to recognize that the efficacy and safety of this technology will be compromised without proper understanding of the science behind the ultrasound unit, appreciation of the needling

techniques, and awareness of the layering of sonoanatomy compared with well-grounded conventional cadaveric anatomy. Generally, the authors' description of one technique for each block is excellent; however, each depiction is at the exclusion of other approaches that are equally effective and safe. Thus, this book cannot be ascribed as the primer and the standard for an ultrasound-guided block curriculum. However, this book provides an excellent introductory field guide for both community and academic anesthesiologists as well as for university programs incorporating ultrasound into regional anesthesia fellowship and residency training.