

Book Review

Surgery for Cochlear and Other Auditory Implants: Mario Sanna, Rolien Free, Paul Merkus, and Maurizio Falcioni, eds; Stuttgart: Thieme, 2016.

In their recently available textbook, *Surgery for Cochlear and Other Auditory Implants*, Drs. Sanna, Falcioni, their colleagues at Gruppo Otologico, as well as the Netherlands (P. Merkus; R. Free) and United States (J.T. Roland, Jr), present a rich and beautifully illustrated compendium on auditory implant surgery. While the focus is primarily on cochlear and auditory brainstem implantation, chapters on bone conduction (direct and transcutaneous) and the vibrant soundbridge are also included. This unique book is pictorially rich with 1200+ illustrations ranging from annotated anatomic photographs, diagrams, intraoperative images, 100s of temporal bone radiographs (computed tomography and magnetic resonance imaging), as well as nearly 60 case studies and 15 accessible online videos.

Drawing on their collective depth and breadth of experience, the authors share their techniques, management algorithms, and frank advice regarding all aspects of auditory implant surgery. As explained by Dr. Sanna in the Preface, the book is intended as a surgical text for “otologic surgeons keen to pursue the discipline of hearing implantology.” Due to its focus on surgery, readers looking for detailed discussions of audiology, electrophysiology, and rehabilitation are referred to other existing sources.

The overall organization of the book and the highly detailed Table of Contents allows either sequential reading (i.e., from beginning to end) or use as a primary reference tool (i.e., quick access to a unique or challenging implant scenario). Chapters do not have separate bylines and it is not possible to identify a primary author for a given topic. Each chapter concludes with a helpful “Pearls and Pitfalls” section providing a summary and highlights of the preceding text.

The book begins with a “History of Auditory Implantation,” an encyclopedic, yet somewhat personal rendition of the foundation of the specialty, complete with a signed photo from William House, and a fascinating timeline/world map highlighting developments in auditory implant technology. Chapters focused on temporal bone anatomy and various imaging modalities then follow. Throughout these sections, the constant focus on implant surgery is readily apparent, such as with the important and unique Section 3.5.1 (Artifact of Cochlear and Auditory Brainstem Implant on MRI) complete with

images detailing in situ magnet artifact from various auditory implants.

The chapter on currently available devices/electrodes includes the four major manufacturers of the US and Western Europe is well done, but slightly incomplete. As with any rapidly changing technology, the risk of being outdated, even at time of initial publication, is high—and this text falls victim to this phenomenon. Thankfully, however, it is the comprehensive instruction on surgical technique and perioperative decision-making (not the devices themselves) which provide the uniquely valuable foundation for this textbook. The incomplete list of currently available devices merely provides proof of the rapid pace of technological change in this field.

Chapters providing detailed, step-wise instruction in cochlear implant and auditory implant surgery are clear and well-illustrated. Throughout the text, the authors focus on surgical execution, such as round window insertion or cochleostomy, rather than the controversies or data supporting one methodology over another. This is exemplified in their handling of device fixation, specifically drill-out of the receiver well in adults, creation of a “bony island” in children, and overall use of tie-downs. Details, surgical or otherwise, on the “tight pocket” technique are not included.

The chapters that follow offer a nearly exhaustive set of challenging cochlear implant scenarios, including considerations in subtotal petrosectomy, meningitis, otomastoiditis, cochlear ossification, otosclerosis, and inner ear malformations. Each chapter is followed by numerous cases highlighting a particular issue in perioperative management or surgical technique and a video that is accessible online. Complications and revision surgery are also addressed in detail, as are the complexities of auditory brainstem implantation in Neurofibromatosis type 2. Issues of implant candidacy, as they pertain to surgical technique and management, are comprehensively addressed in individual chapters organized by anatomic challenge (cochlear malformation, ossification, subtotal petrosectomy, etc.). While appropriately referenced, the distinction of this book lies not in the evidence presented, but in the vast experience and frank advice conveyed to the reader, such as that found in frequent highlighted “Comment” boxes throughout the book. One such comment in the chapter on revision surgery cautions, “Re-implantation is always possible according to the literature, but beware in real practice it is not always so smooth and easy.” In this way, parts of the text feel almost like a conversation

with an accomplished, smooth mentor accompanied by a (well-illustrated) roadmap for complex surgical decision-making.

Chapters on bone conduction include both direct and transcutaneous options, however are again subjected to the fast pace of technology and remain slightly incomplete. Active middle ear implants are challenging to cover as options vary by location (i.e., US versus Europe, etc.); the authors include only the Vibrant Soundbridge, however, address both incus and round window vibroplasty in detail.

Overall, Dr. Sanna and colleagues have created an in-depth, thoughtful, and beautifully illustrated text focused entirely on the surgical technique, perioperative manage-

ment, and complex decision-making in auditory implantation. It is a notable and valuable addition to the available texts on this subject and represents the capacious collective experience of an accomplished, talented group of international implant surgeons.

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