

Jacques Kpodonu
Stéphan Haulon
Editors

Atlas of Advanced Endoaortic Surgery



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 Springer

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To Agnès, Mathilde, Arthur, and Violette

Stéphan Haulon, M.D., Ph.D.

To Tiffany, Nathalie, and Henri.

Jacques Kpodonu, M.D.

Foreword I

The editors, Drs. Haulon and Kpodonu, are to be congratulated for presenting a book that successfully merges a simple clarity of approach with the comprehensive detail necessary to facilitate its practical application. This achievement is not altogether unexpected, as the editors are two of the most experienced practitioners of advanced endovascular aortic repair. The *Atlas of Advanced Endoaortic Surgery* will undoubtedly serve as an exceptional educational reference for all aortic enthusiasts. Additionally, it will find use among hospital administrators because it contains a “how to” for developing a hybrid operating suite and describes the latest imaging technology.

Aortic surgery does not exist in a vacuum. Rather, aortic surgery was, and continues to be, a collaborative effort in which the best approaches are identified and shared. My mentor, the late E.S. Crawford, instilled in me an appreciation for innovative solutions to complex aortic repair. Participation in the endovascular revolution—which has now become an evolutionary process—will ensure your ability to make an informed decision regarding the best approach for your patient. The academic surgeon has a unique responsibility—to identify and disseminate innovative operative strategies as the relative advantages of various techniques and technology are better understood.

This atlas has described numerous and varied cutting-edge approaches in one easily grasped volume, with plentiful illustrations and images detailing the editors’ preferred techniques. Its highly detailed chapters cover the practical aspects of advanced endoaortic repair, including a thorough description of hybrid suite development, an overview of imaging and accessory equipment, a description of suggested access techniques, and the mitigation of potential complications such as spinal cord ischemia and endoleak. Case scenarios are presented throughout these chapters and serve to reinforce the practical applications of endoaortic repair in increasingly complex aortic disease. Lastly, the book presents robotic applications to endoaortic repair and touches on the remote surveillance of endografts as a possible solution to long-term radiation exposure.

In closing, this book provides a comprehensive, highly detailed, and practical synthesis of endoaortic repair. Drs. Haulon and Kpodonu are to be commended for compiling this treasure trove, which is a practical and comprehensive atlas on endoaortic surgery.

Houston, TX, USA

Joseph S. Coselli M.D.

Foreword II

Endovascular surgery has become first-line treatment particularly for thoracic- and thoracoabdominal aortic diseases. Endoaortic surgery demands a high degree of image analysis and clinical planning together with a fusion of interventional and open operative skills. This novel clinical expertise can only be practiced and delivered in a setting of complex equipment and “high tech” endovascular operating rooms. Development of the required skills in endoaortic surgery for both established and training cardiovascular and vascular surgeons is predicated on access to such facilities, which in turn require specialist input to design and establish the appropriate infrastructure and environment. These challenges are the focus of this atlas.

Stephan Haulon and Jacques Kpodonu’s book amply fulfils the definition of an atlas, namely a volume that systematically illustrates a particular subject. The ideal requirements for imaging and planning workstations, and, of course, the cardiovascular hybrid room are described clearly and pragmatically. Further description of equipment and surgical and adjunctive techniques such as intravascular ultrasound imaging are elegantly set out. These chapters provide the foundation and practicalities for the setting up and delivery of an endoaortic clinical service by aspiring surgeons.

A further major component of the atlas addresses the wide spectrum of aortic diseases, focusing on clinical assessment, planning, and intervention. Each presentation of aortic disease is addressed by the authors in the most clinically informative style with extensive use of real-life clinical scenarios. There is no doubt that this rich clinical material beautifully informs and educates on the variations and nuances of endoaortic therapies in a much superior way to the more usual didactic textbook presentation. I particularly recommend this format, which will provide an excellent reference source for endoaortic surgeons throughout their career.

The *Atlas of Advanced Endoaortic Surgery*, truly practical and clinical, provides a superb resource for clinicians in training and those embarking on or already established in complex aortic work. I recommend this book unreservedly.

London, UK

George Hamilton

Preface

Since the first endovascular repair of abdominal aortic aneurysm (AAA) was reported in the early 1990s, there has been an explosion in the volume and complexity of endovascular and hybrid procedures for the treatment of aortic diseases. Endovascular techniques and technologies have evolved from the initial devices that allowed treatment of only the most straightforward infrarenal aneurysms with appropriately long and straight necks to the scenario that pertains today, wherein a customized endovascular solution is almost always available for even the most complex aortic aneurysm. There is growing evidence in favor of the endovascular treatment of complex aortic aneurysms, which extend above the visceral aortic segment, as well as for the treatment of thoracic aortic dissection and aneurysm. These new endoaortic surgical procedures have been proven to shorten hospitalization, reduce morbidity and mortality, speed recovery, and hasten return to normal life. The devices used to treat these complex anatomies currently include branches and/or fenestrations to preserve flow in the visceral aortic branches. The evolution and conceptual design of the endovascular grafts used to treat these complex anatomies would obviously not be possible without the simultaneous explosion in medical imaging technologies that has taken place over a similar time period.

This atlas is compiled in a way that engages its readers. All chapters are written in a comprehensive yet concise manner, with numerous illustrations of real clinical cases. It is our hope that the *Atlas of Advanced Endoaortic Surgery* provides a useful tool for practitioners as they plan and execute treatment of patients with these various aortic pathologies and serve as a useful reference as this segment of the field continues to evolve.

Stephan Haulon, M.D., Ph.D.

Jacques Kpodonu, M.D.

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Stéphan Haulon is a consultant for Cook Medical and GE Healthcare.

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