

Wilcox's Surgical Anatomy of the Heart

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978-1-009-38739-2 – Wilcox's Surgical Anatomy of the Heart

Robert H. Anderson , Andrew C. Cook , Diane E. Spicer , Anthony M. Hlavacek , Carl L. Backer , Justin T. Tretter

Frontmatter

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Preface

The books and articles devoted to technique in cardiac surgery are legion. This is most appropriate, since the success of cardiac surgery is greatly dependent upon excellent operative technique. But excellence of technique can be dissipated without a firm knowledge of the underlying cardiac morphology. This is just as true for the normal heart as for those hearts with complex congenital lesions. It is the feasibility of operating on such complex malformations that has highlighted the need for a more detailed understanding of the basic anatomy in itself. Thus, in recent years surgeons have come to appreciate the necessity of avoiding damage to the coronary vessels, often invisible when working within the cardiac chambers, and particularly to avoid the vital conduction tissues, invisible at all times. Although detailed and accurate descriptions of the conduction system have been available since the time of their discovery, only rarely has its position been described with the cardiac surgeon in mind. At the time the first edition of this volume was published, to the best of our knowledge, there had been no other books that specifically displayed the anatomy of normal and abnormal hearts as perceived at the time of operation. We tried to satisfy this need in the first volume by combining the experience of a practicing cardiac surgeon with that of a professional cardiac anatomist. We added significantly to the illustrations in the second edition, whilst seeking to retain the overall concept, since feedback from those who had used the first edition was very positive. In the third edition, we sought to expand and improve still further on the changes made in the second edition. In the second edition, we had added an entirely new chapter on cardiac valvar anatomy, and greatly expanded our treatment of coronary vascular anatomy. We retained this format in the third edition, since we were gratified that, as hoped, readers were able to find a particular subject more easily. The third edition also contained still more new illustrations, retaining the approach of orienting these illustrations, where appropriate, as seen by the surgeon working in the operating room, but reverting to anatomical orientation for most of the pictures of specimens. So as to clarify the various orientations of each individual illustration, we continued to include a set of axes showing, when appropriate, the directions of superior, inferior, anterior, posterior, left, right, apex, and base. All accounts were based on the anatomy as it is observed. In the previous editions, however, except in the case of malformations involving the aortic arch and its branches, we had avoided embryological speculations. That has now changed, since as we show in our new chapter devoted to development,

it is now possible to describe the changes taking place on the basis of evidence rather than speculation.

In May of 2010, just prior to the preparation of the fourth edition, our original surgical author, Benson Wilcox, sadly died. Although it was difficult to replace such a pioneer and champion of surgical education, we were gratified that Carl Backer agreed to join us, and assume the role of surgical editor. We were also pleased to add Diane Spicer to our anatomical team, along with Tony Hlavacek. Tony had been at the forefront of providing quite remarkable images obtained using computed tomography and magnetic resonance imaging, showing that the heart could be imaged with just as much accuracy during life as when the anatomists amongst us are able to hold the specimens in our hands. We are now also delighted, as we prepare the fifth edition, to be joined by Justin Tretter, who is equally skilled in the art of virtual dissection of three-dimensional computed tomographic datasets.

In seeking to recognize the huge contributions of Ben Wilcox, we had re-named the fourth edition as *Wilcox's Surgical Anatomy of the Heart*. We are proud to retain this title for our fifth edition. As with the previous editions, it is our hope that the new edition will continue to be of interest not only to the surgeon, but also to the cardiologist, anaesthesiologist, and surgical pathologist. All of these practitioners ideally should have some knowledge of cardiac structures and their exquisite intricacies, particularly those cardiologists who increasingly treat lesions that previously were the province of the surgeon. Our senior anatomist still remains active, despite his increasing years. It has been his association with Diane Spicer and Justin Tretter that has permitted him to continue to advance his knowledge of the normal and congenitally malformed heart, sharing all that information with Carl Backer and Andrew Cook, with Andrew now bringing still more advanced information from hearts imaged using synchrotron-based phase-contrast tomography. We remain confident that, in the hands of our new team, and if supply demands, the book will pass through still further editions, hopefully continuing to improve with each version.

Robert H. Anderson, Andrew C. Cook, Diane E. Spicer, Anthony M. Hlavacek, Justin T. Tretter, Carl L. Backer
London, Tampa, Charleston, Cleveland, and Lexington
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of America, who sadly passed on since the appearance of the fourth edition. We also remain indebted to the initial contributions of Siew Yen Ho, still associated with the National Heart and Lung Institute and part of Imperial College in London. Yen produced many of the original drawings from which we prepared our artwork, and photographed many of the hearts in the Brompton archive. The initial photographs and surgical artwork could not have been produced without the considerable help given by the Department of Medical Illustrations and Photography, University of North Carolina. As with all the previous editions, we owe an equal debt of gratitude to Gemma Price, who has continued to improve our series of cartoons. For the previous editions, and now this one, she has worked over and above the call of duty. Finally, it is a pleasure to acknowledge the ongoing support provided by Cambridge University Press. The Press has ensured that all the good parts of the previous editions were retained and encouraged us to make the changes needed for this edition. In particular, we thank Nicholas Dunton and Jessica Papworth for all their help during the preparation of the book for publication. We are equally indebted to Beth Morel for her eagle-eyed copy-editing.