

Preface

The role of pediatricians in caring for children has become daunting. The ever expanding knowledge in disease processes and the wide and complex therapeutic options available makes keeping up with all nuances of the management of childhood diseases exceedingly difficult. As the subspecialty fields expand, the role of pediatricians change as they work with subspecialists in caring for children with ailments, such as heart diseases. Pediatricians are the primary care providers for children and are entrusted with the discovery of early signs of heart diseases, particularly in the newborn period when presentation is frequently obscure and occasionally with devastating consequences if not discovered and managed promptly.

The issue of how much a pediatrician should know about diseases typically managed by subspecialists is frequently raised. Educators in charge of training pediatric residents as well as regulating bodies providing certification of educational competency to pediatricians continue to emphasize the need for pediatricians to acquire and be considerably proficient in issues relating to heart diseases in children. This is primarily because pediatricians are the frontline practitioners who could identify early signs of heart diseases and are the primary care providers who follow children with ongoing cardiac diseases undergoing medical and surgical management.

Pediatricians are not expected to come up with precise diagnoses of cardiac anomalies in a child; instead, their role is one of identifying the possibility of cardiac anomalies and their potential urgency, or lack of. Furthermore, pediatricians are expected to understand issues relating to ongoing therapy or staged interventional procedures to provide general pediatric care that augments the therapeutic measures underway for the cardiac lesion. Perhaps a good example of the latter includes the knowledge of lesions requiring subacute bacterial endocarditis prophylaxis or the management of a child requiring anticoagulation therapy.

The purpose of this textbook is to provide comprehensive, yet easy to understand details of heart diseases in children. Therefore, the construction of this reference was based upon three principals: Provide comprehensive details of most heart lesions encountered in this field, detail pathophysiological principals of each lesion so as to provide the reader with knowledge that could apply to a wide spectrum of

presentations of the same lesion, and finally illustrate each concept and lesion through case scenarios and images.

The art of teaching is a fascinating process. To be able to convey knowledge in a clear and meaningful way is not always easy. Educators should be well versed in the material they intend to teach; but perhaps more importantly is their ability to gauge what the audience already knows and how to build upon their existing knowledge to what is desired. To achieve this, we have followed a unique model in authoring each chapter. Topics were initially written by a pediatric cardiologist knowledgeable in the issues presented; this was then reshaped by a second author, a pediatrician, to suit the needs of the generalist, rather than the specialist. Each chapter traveled back and forth between specialist and generalist until a satisfactory format was reached providing ample information and packaged to what a pediatrician may need.

Significant effort was made in producing the large sum of illustrations in this book. The heart diagrams depicting various congenital heart diseases were based on a normal heart diagram created by Jeremy Brotherton, a talented medical illustrator. Jeremy crafted a normal heart diagram using a computer-based drawing program, thus allowing me to alter it to depict the various congenital heart disease illustrations in this text. The ECG rhythm strips were generated through a computer drawing program which I designed some time ago and found very useful in showing typical electrocardiographic rhythm strips for teaching purposes. The 12 lead ECG images were of actual patients, however, edited to enhance the pathological features without excessive annotations. The chest X-ray images were enhanced to clarify subtleties of abnormalities of cardiac silhouette or pulmonary vasculature though illustrations inserted over the original chest X-ray image providing clarity and details difficult to do with annotations. Variations of many of the images used in this book were previously used in the pediatric cardiology teaching Web site I constructed at Rush University (<http://www.pedcard.rush.edu>). The echocardiographic images in this book were limited to those which provide a clear understanding of how echocardiography is used in assessing children with congenital heart diseases. The purpose of these illustrations was to demonstrate the different tools available through this imaging modality. The echocardiographic images were made by Stephen Stone, MD who during an elective at Rush University showed an uncanny understanding of the 3-dimension nature of the heart as depicted through 2-dimension images of echocardiography. Furthermore, his ability to illustrate what echocardiographic images produced is a collection of illustrative images which he used in the chapter he coauthored.

Teaching pediatric cardiology to the noncardiologist is an exciting endeavor which I learned to love from my mentor, Dr. William Strong. I witnessed him during my fellowship at the Medical College of Georgia lecturing medical students the principals of pathophysiology in congenital heart diseases, I was awestricken. Dr. Strong captured their attention from the first word he uttered to the conclusion of his talk when he was always warmly applauded by the medical students who were finally able to put all the basic knowledge they have attained in synch with

the clinical sciences they are striving to learn. Once I became a faculty member, I too embraced his approach of tracing back cardiac symptoms and signs to their pathophysiological origins, thus demystifying clinical presentations and investigative studies of children with heart diseases. I have experienced many masters of education, but none like Bill Strong, a true scientist, thinker, orator, and above all a remarkable teacher to whom I owe much of what I have learned.

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