

## Foreword

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REFLECTING ON MY OWN 49-YEAR CAREER as a pediatric cardiologist, it is hard to comprehend what has been achieved in the repair of atrial septal defects (ASDs) during that period of time. While still in medical school, I had the privilege of witnessing a very new and exciting “open heart” surgical closure of an ASD. This was accomplished using the new technique of hypothermic cardiac arrest (ice in a bathtub). At the time, this intracardiac repair was undoubtedly revolutionary, but the actual procedure seemed barbaric, too. Even as a medical student, I knew there had to be a better way. By the time I began my cardiology residency a few years later, cardiopulmonary bypass had become almost routine. With that, the surgical repair of ASDs already was being considered a simple and low-risk procedure. But, in addition to the risks of the early bypass procedures, it still required opening the chest and the heart, which, at the very least, was quite uncomfortable for the patient, the parents, and the physicians caring for them.

In 1966, Dr. William J. Rashkind published his paper on the improbable procedure of using a catheter with a balloon at its tip for the *creation* of ASDs in very sick infants *in the catheterization laboratory*. This procedure was to replace the high-risk, “closed” surgical procedure that was used for the same palliation. The Rashkind septostomy procedure saved thousands of infants’ lives, but of probably equal importance, it stimulated the creative imagination of many pediatric cardiologists. If we could create defects in the septum with a catheter, why couldn’t we close cardiac defects with a catheter-delivered device? Early and fairly crude devices for closure of the patent ductus appeared almost immediately. But the dream for a catheter-delivered device for atrial septal defects was not realized, even in its most rudimentary form, for almost another decade. Once demonstrated to be

feasible, the procedures and devices for catheter-delivered device closure of ASDs evolved into the standard of care over the next three decades.

*Transcatheter Closure of ASDs and PFOs: A Comprehensive Assessment* provides a comprehensive view of the long and arduous course taken in order to progress from the surgical repair of secundum ASDs, to the early devices, and finally to the more sophisticated catheter devices and procedures, which we now take for granted. It also extensively covers the technical aspect of the earlier as well as the very latest devices along with the details of the procedures for implanting them and the particular advantages and problems of each device.

Considering the progress that has occurred in catheter closure of ASDs since the 1970s, it is hard to imagine that, in the ensuing three or four decades, there could possibly be comparable advances in the management of ASDs. But, although we now have effective and safe catheter-delivered devices applicable for almost 80% of atrial defects, the goal of the perfect device/procedure still leaves much to be accomplished in the future. The ultimate catheter-delivered atrial septal occlusion device will have to be simple to implant, delivered through an even smaller catheter system, preferably leave no residual or permanent foreign material in the body, and have no real or potential risks to the patient.

For the practitioner today, this book presents a wealth of practical material that is invaluable for the current management of ASDs and provides a glimpse into the future of treating them.