





## A New Home for Structural Heart Disease

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With this inaugural issue of *Structural Heart: The Journal of the Heart Team*, we introduce a new peer-reviewed publication devoted to cardiovascular disease. The new Journal is focused on disorders of cardiac structures, including the valves, myocardium, pericardium, and great vessels, as well as congenital heart disease. Stated simply, it will address all cardiovascular illness with the exception of vascular disease and atherosclerosis. The content will include an emphasis upon the relatively unique role of the interdisciplinary collaboration of the heart team in managing these conditions.

Given the rapidly expanding store of medical communications, not only in the form of journals and periodicals, but also from the internet and medical meetings, one can question the necessity or even the rationale for a new journal. Indeed, in regard to medical information, physicians often tell us that, they often feel as if they are standing under Niagara Falls trying to catch the water with a bucket. Therefore, we feel that it is incumbent upon us to present why we believe that *Structural Heart* will be a valuable addition to the medical literature and an important source of information for the cardiovascular community.

The term “structural heart disease” itself is relatively new, having been introduced to a wide audience by Martin Leon at the 1999 Transcatheter Cardiovascular Therapeutics (TCT) conference. Less than two decades later, structural heart disease is now an accepted distinct discipline. Even Dr Leon, prescient in his vision for this emerging field, probably did not foresee the rapidity in which the combination of increasing medical need coupled with the availability of innovative new therapies have propelled this field forward.

The factors responsible for the emergence of structural heart disease as an important and distinct field are in many ways similar to those contributing to the emergence of coronary artery disease (CAD) as the central disease in cardiovascular medicine. The predominance of CAD was undoubtedly related in part to the progressive increase in the prevalence of atherosclerosis due to the increased lifespan and lifestyle of industrialized society. There was also a decrease of rheumatic heart disease. While attention to CAD likely began to increase after the description of coronary thrombosis by Herrick in 1912, as is so often true in medicine,

it was the availability of novel therapeutic options that significantly fueled its emergence as the central focus of cardiovascular disease. Thus, the discovery of coronary angiography by Mason Sones in 1958, followed by the development of bypass surgery by his colleague Rene Favaloro in 1968, initiated an extensive and widespread effort to detect and treat coronary atherosclerosis. This endeavor was markedly amplified by the introduction of percutaneous angioplasty by Andreas Gruentzig in 1977.

Many of the same factors responsible for the prominence of CAD are contributing to the emerging importance of structural heart disease. Structural disorders are being encountered with increasing frequency. Although the prevalence of congenital disease is essentially fixed as a percentage of childbirths, more patients are surviving and living well into adulthood. The aging of the population is resulting in an increase in degenerative valve disorders, particularly aortic stenosis. Primary myocardial disease is also being increasingly encountered. In addition, a greater appreciation of the role of functional valve regurgitation in the natural history of a variety of cardiac disorders has evolved. However, as with CAD, the explosion of interest in structural heart disease that has recently occurred has largely been driven by effective therapies.

Transcatheter aortic valve replacement (TAVR or TAVI for implantation) is, of course, the quintessential example of a therapy that has revolutionized the management of structural heart disease. The efficacy and safety of this procedure has been so great that it has been implemented at virtually every center treating aortic stenosis (AS) patients. Application has expanded from patients who are not surgical candidates to those at high and intermediate risk, with studies in patients at low risk proceeding. The rate at which TAVR has been adopted has perhaps been best expressed by Jim Thomas of Northwestern University who stated that he has never seen a procedure go from “gee whiz to ho hum” so quickly. The introduction and penetration of TAVR has been driven by both preclinical and clinical research, and has represented a prime achievement of device development. Although TAVR is well established, extensive research continues to improve the devices and techniques utilized, material that will be important content for *Structural Heart*.



The development of TAVR has stimulated major efforts to develop transcatheter approaches to treat other valve lesions. Research has exploded in transcatheter treatment of mitral and tricuspid regurgitation, as well as lesions associated with the pulmonary valve. The Mitraclip treatment of regurgitation has already been introduced, and is being refined with increasing experience. A plethora of alternate approaches to atrioventricular regurgitation are underway and occupy an increasingly large proportion of the new investigation presented at national meetings. Catheter approaches to paravalvular regurgitation of prosthetic valves are increasingly being applied. Interestingly, the therapeutic advances have stimulated further research into the etiology, mechanisms and anatomic variations of valvular disorders. All of this investigation has created a treasure trove of new knowledge that needs to be presented to the cardiovascular community. We envision that *Structural Heart* will help to fill that need.

Advances in structural disease are not confined to heart valve disorders. Atrial septal closure devices have been used to percutaneously treat septal defects for many years. This technique has led to the development of new catheter approaches to treat other congenital heart diseases. These new approaches coupled with conventional surgical procedures have resulted in treatment of an increasing number of adult congenital heart disease patients with a variety of complicating comorbidities. Dealing with these conditions will also be in the province of our new journal. In addition, many of the new atrial appendage occlusion devices can be seen as an extension of the methodology used to occlude septal defects. The expanding role of anticoagulants, frequent indication for both anticoagulants and antiplatelet agents, and the common occurrence of contraindications to antithrombotic therapy, has highlighted the need for alternative methods to safely reduce the risk of thromboembolism. Considerable innovation and research continues to be directed to develop and validate catheter methods to achieve appendage closure. *Structural Heart* has been conceived to provide a ready venue to disseminate these new data.

The emergence of structural heart disorders as a prominent part of cardiovascular practice has had the strong effect of fostering collaboration among the various professional disciplines involved in the care of these patients. The importance of expertise in multiple areas has transformed the somewhat informal interaction that has always existed among providers into a defined heart team. Cardiologists and cardiac surgeons now have specific roles in the management of these patients, and are often guided in decision-making and accomplishing procedures by imaging specialists. Echocardiographers and radiologists interact with other members of the team to determine and perform the optimal imaging procedure for any indication. Anesthesiologists, nurses, and technical personnel all are typical participants in the heart team. No longer are these professionals operating independently with the goal of performing only their specific activity. Rather they are working in concert to achieve a single objective. This heart team interaction thus creates the need for new types of information,

as well as produces much novel data. *Structural Heart* has been conceived and is dedicated to transmitting the needed and novel information to all the members of the heart team, as well as the overall medical community interested in structural disorders. We will target a broad range of professionals as our audience, and anticipate equal participation in the Journal for cardiologists, surgeons, imagers, and all members of the team caring for the patient.

To accomplish our goal, *Structural Heart* will publish peer-reviewed clinical and experimental reports on all aspects of disease involving heart valves, myocardium, pericardium, great vessels, the cardiac conduction system, as well as congenital heart disease. The Journal will emphasize the important role of the heart team in diagnosing and treating these disorders. Topics covered will include diagnostic techniques, percutaneous interventional procedures, cardiovascular surgery, mechanical support, drug treatment, findings from the laboratory, and clinical trials. Symposia, clinical reviews and updates, editorial commentary, and letters will be regular features. *Structural Heart* will also plan to publish consensus documents and white papers with recommendations on current topics in structural heart disease. We will be particularly interested in publishing material in non-traditional formats, and will encourage potential authors to think in those terms. Our goal will be to provide rapid publication decisions to authors and prompt publication of new information to readers.

*Structural Heart* will be the first journal of the Cardiovascular Research Foundation (CRF). CRF has been at the forefront of cardiovascular innovation for both vascular and structural heart disease for over 25 years, and the Journal represents a logical extension of its investigative and educational activities. The organization will provide a high perch from which to view emerging knowledge regarding structural heart diseases and its therapies. In addition, in order to insure adequate dissemination of this information, the Journal will be provided to the registrants of the TCT/TVT meetings of the CRF, insuring a reader base of over 10,000 individuals. In conjunction with our publisher, Taylor & Francis, we anticipate extensive availability of the Journal in institutions throughout the world as well. We have been fortunate in obtaining a distinguished Editorial Board of recognized international experts in the field, and are honored to have the opportunity to work with these experts. We believe that the *Structural Heart* Journal team will enable us to be attractive and of value to both authors and readers.

Structural heart disease is one of, if not the most rapidly growing area within cardiovascular disease, and is the source of much of the most exciting recent innovative research and clinical advances in the field. It is fueled by new, more accurate non-invasive diagnostic assessment, breakthrough interventional and surgical therapy, and the benefit of team decision-making and collaboration. To this point in time there has largely been a void in medical publications devoted to this topic. We hope that *Structural Heart* will fill this void, and pledge to do our best to provide a publication that will be of real value to all those interested in the field.