# Clifford J. Kavinsky, MD, PhD

Dr. Kavinsky discusses his current work in fellowship training and structural heart research, as well as the current climate of opening an outpatient structural heart practice.

**Did you have a hand in designing the Cardiovascular Fellowship Training Program at Rush? If so, how did you decide how to structure it and what to include in order to provide the most well-rounded and up-to-date training?**

The Fellowship Program Director along with the faculty play a key role in determining what the program looks like. The program should have structure and adhere firmly to a set of policies and procedures while satisfying the mandated requirements of the accreditation counsel on graduate medical education, as well as the recently released 4th revision of the American College of Cardiology Core Cardiovascular Training Statement. I think fellowship trainees respond well to a firm hand while giving them guidance, mentoring, and encouragement. A unique feature of our fellowship is a rotation in congenital heart disease, which is a neglected area in most adult cardiovascular disease training programs. However, a problem that has plagued training programs is a lack of resources to assist fellows in support for research, statistical support, meeting travel, poster preparation costs, etc. Fellowships typically do not have a budget. All fellowship programs struggle with this problem.

**Do you find it difficult to balance patient satisfaction and any pressures to keep costs low and efficiency high, or do both of these goals work hand-in-hand?**

I do find it difficult to balance my mission as a physician committed to providing the highest quality care to my patients while at the same time meeting the high-volume, low-cost, efficient corporate style expectations that health care in this country has evolved to demand. This is made all the more complicated by the additional task of training future cardiovascular specialists in our fellowship training program. I feel pressure to perform procedures on patients who I meet for the first time as they are lying on the cath lab table. In the past, this would never have occurred.

The risk of a medical error is rising because of this emphasis on throughput despite the hospital administration increasing oversight as a means to prevent the very same thing. It is ironic. The outpatient environment is also a continual challenge. Twenty-minute follow-up appointments and 40-minute new patient visits are arguably difficult for a subspecialist, particularly a structural proceduralist who in a single visit must review records from another hospital, take the patient's history, perform a physical exam, and discuss a high-risk procedure in detail with the patient and his or her family. On top of that, all of this information must then be entered into the electronic medical records system. However, this should be viewed as a challenge and an opportunity because I think the current trends in health care will continue, and we must all adapt or be left behind.

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**What is the current focus of your research efforts, and how are those trials currently progressing?**

In our Center for Adult Structural Heart disease, which is my focus, we have two components to our research program. From a clinical standpoint, we are involved in multicenter trials mostly directed at percutaneous valve therapies and patent foramen ovale/atrial septal defect device trials. We also have the Rush Preclinical laboratory, which is a full cath lab for performing large animal procedures where we are working with novel valve technologies and biodegradable platforms. We also use our animal lab to train physicians on advanced interventional procedures often with industry support.

**Are there any new or emerging technologies for treating adults with congenital heart disease that you are excited about?**

I think the possibility of tissue-engineered cardiac valves is a potential paradigm-shifting technology that

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could revolutionize the area of valvular heart disease. It will be very interesting to see how this field matures. Also, biodegradable stents would be a major advance for patients with congenital heart disease, particularly in those with pulmonary artery branch stenosis.

**What are your thoughts on the just-released society document on left atrial appendage occlusion? Is there anything you would amend or add?**

I think the multisocietal document written by the American College of Cardiology, Heart Rhythm Society, and Society for Cardiovascular Angiography and Interventions is a good start. It is not really a guideline document, but more of an overview of the field of percutaneous left atrial appendage closure in terms of how it evolved, the clinical trial data, and the US Food and Drug Administration approval process leading to approval of the Watchman device (Boston Scientific Corporation). It also importantly addresses the unanswered questions regarding patient selection, reimbursement, operator and institutional training requirements, long-term follow-up, the need for a registry, and the role of the multidisciplinary team. Over the next several months, there will be additional published documents written by the stakeholder societies, which will address these thorny unanswered questions and will ultimately lead to a series of guidelines that will serve to help as this important technology rolls out to the public. Ultimately, we hope this will allow us to address the unmet needs of patients with atrial fibrillation who are at risk of stroke and for whom a nonpharmacologic treatment might be best.

**Which patients are candidates for early (24–72 hours) discharge after TAVR? What are the pros and cons of moving toward this approach?**

This is an interesting question. Two weeks ago, I discharged my first-ever patient post-TAVR the morning after his procedure. The reason is that he was part of the PARTNER II S3 intermediate-risk continued access registry. There is a big difference in the patient population you are dealing with in the intermediate-risk registry versus commercial cases. Intermediate-risk patients have Society of Thoracic Surgery scores between 4 and 8, whereas commercial patients are at 8 or greater. The intermediate-risk population is a more robust subset of patients with fewer comorbidities, who generally recover faster and get discharged earlier then their commercial counterparts. The hospital length of stay for intermediate patients is half that of commercial patients (2 days vs 4 days). Factors such as the use of conscious or deep sedation versus general anesthesia can also lead to earlier discharge, but there are pros and cons. One of the unforeseen problems leading to extended hospital stays in men is, surprisingly, urinary retention after instrumentation. This has actually become a real problem. We have tried to avoid bladder catheterization, but ultimately, most men end up getting Foley catheters, leading to prostate irritation and urinary retention.

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**What are your current go-to vascular closure techniques after transcatheter structural or valvular heart interventions?**

At my medical center, we use suture-mediated preclosure techniques for all of our large-bore percutaneous arteriotomy punctures. We have found that this generally works quite well in the overwhelming majority of patients. Occasionally, we will have to fall back to surgical cutdown, but this is quite rare.

**How might the current economic/reimbursement and regulatory climate affect one's decision to start an outpatient structural heart practice? Is this still a viable venture, or are the possible risks too great?**

Initiation of a structural heart disease (SHD) program is not done in a vacuum, but with institutional support, the establishment of a multidisciplinary team, and an understanding that there are many downstream benefits to an SHD program beyond just that associated with the index procedure. Patients who are referred often undergo extensive testing, all of which is reimbursed. From the physician side, SHD procedures are reimbursed reasonably well. From the hospital side, the margins are narrow. I think that in terms of the downstream benefits, the reputational improvement of an institution establishing an SHD program is a must for every academic program. ■

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