

## EDITOR'S PAGE



# The Dynamic and Evolving Realm of Interventional Cardiology

## A Fellow-in-Training's Perspective



Akram W. Ibrahim, MD

*I will periodically invite interventional fellows to reflect on their experiences and aspirations.*

—Spencer B. King, III, MD, MACC,  
Editor-in-Chief, *JACC: Cardiovascular Interventions*

The month of July marks the beginning of a new academic year in medical training spanning medical specialties and subspecialties in particular. It is a time period that witnesses the birth of young physicians who are ready to embark on a journey of their chosen specialty. It is a humbling time period of extensive learning and adaptation to a new environment and way of thinking.

The field of cardiology encompasses a variety of subspecialties. One of the main subspecialties of cardiovascular disease recognized by the Accreditation Council for Graduate Medical Education is interventional cardiology.

As defined by the American College of Physicians, this field, stemming from the Latin word “*inter-venire*” or “to come between,” encompasses all catheter-based interventions across a variety of disease conditions including acute coronary syndromes. It dates back to the days of Dr. Andreas Gruentzig, who performed the first percutaneous coronary angioplasty in 1977 in Zurich, Switzerland.

The field of interventional cardiology is continually expanding, and its current era has been described as a renaissance period (1). Not only does the field of interventional cardiology encompass the realm of percutaneous coronary interventions, but it has also extended into structural and endovascular

procedures. This had its effect on the duration of fellowship training in interventional cardiology, as many programs have extended the duration of training to 2 years despite the fact that the Accreditation Council for Graduate Medical Education requires only 1 year of subspecialty training. Faced with these additional opportunities, and coupled with the general inclination to pursue additional specialization (2), the interventional cardiology fellows-in-training (FITs) must be adequately prepared on how to stay abreast of these novel niches. This adds a layer of complexity in the FIT's life while he or she is simultaneously dealing with the challenges of searching for a career that meets his or her aspirations.

According to several fellows in interventional cardiology, the biggest challenge they face in the beginning of their training is searching for the ideal job. As newly starting interventional fellows, an experienced attending physician once told us that the term “dream job” is not a realistic term nowadays. You can rarely find trainees who pursue a job they are satisfied with. In fact, the trend of further training and subspecialization is occasionally driven by the need to become more marketable in hope for a more appealing job opportunity.

Lending credence to the aforementioned idea, the role of mentorship during subfellowship is highlighted. As one advances through the stages of training from medical school to fellowship, and eventually subfellowship, the role of mentorship gains more significance. In fact, the mentor-mentee relationship that is formed on the basis of common research and clinical interests serves as the cornerstone for an FIT's clinical growth and career guidance. As an undifferentiated interventional

cardiology FIT embarks on the journey in interventional cardiology training, searching for a right mentor becomes imperative. This relationship often extends beyond the fellowship years and provides the opportunity of continued growth, guidance, and mutual sharing of experiences between the mentor and mentee.

The beginning of interventional cardiology fellowship in July of every year serves as a challenging period in the FIT's training process. There is a steep learning curve, and throughout this time period, the FIT looks forward to perfect his or her procedural techniques and finesse while simultaneously remaining abreast of all of the new technologies and recent published data in the field. An additional challenge in the beginning of fellowship is the ST-segment elevation myocardial infarction call. In fact, most interventional fellows have a sense of reverence while dealing with acute coronary syndromes, and it takes a period of time with extensive experience before confidence and comfort develops.

Most interventional cardiology fellowship programs consistently update their core curriculum to comply with the dynamic nature of the field. The purpose of fellowship programs is to graduate FITs with an adequate level of training to serve as a building block for further experience. They graduate chariot-ers of knowledge with a constant enthusiasm for further self-growth who are ready for the real world.

During this time period, the FIT looks forward to learn by "osmosis" and observation, and then proceeds to the actual performance of the procedure. Most fellowship programs provide enough experience so that the enthusiastic FIT gains exposure to a variety of equipment including guidewires, guiding catheters, and coronary and vascular stents, in addition to structural tools. It is widely known that coronary intervention requires a high degree of skill and talent. Experienced attending physicians take ample time in describing the technical aspect of the procedure to the fellow and demonstrating the high degree of finesse that is required. This is done while simultaneously discussing the thought process behind the decision-making. With the addition of the structural and endovascular procedures to interventional

cardiology training, the FIT has to be cognizant that one cannot be a skilled operator in all of the branches of interventional cardiology. A niche should be pursued with an eye toward the fellow's career aspirations and the needs of the job market. For instance, the field of structural cardiology is currently restricted in large academic centers, although this is very dynamic and prone to change in the coming years. In contrast, the field of endovascular intervention is highly sought after and is present across multiple private and academic practices. The FIT has to hone and curb his or her enthusiasm to pursue training in the niches of interventional cardiology that are in line with future aspirations and the nature of the career he or she is planning to pursue.

The current trend in subspecialty training is toward an increase in the years of training. This has an effect on the FIT's educational journey, because medical training is a serious undertaking with an enormous financial burden. Most trainees hope for an early year of starting practice to be able to pay off their loans. However, the increase in the years of training coupled with the decrease in income (3) and reimbursement has proven to be an added stressor in the complex life of an FIT.

As interventional cardiology fellows in the beginning of our advanced training, we have high aspirations to excel in this field. As previously noted, a lot of challenges are ahead of us, including mastering the technical finesse in the face of the national decline in volume of percutaneous coronary intervention procedures, establishing a niche in a highly dynamic and evolving field, remaining abreast of the most recent guidelines in the field, and most importantly, embarking on a career journey that meets our expectations. This is all in the grand framework of delivery of high-quality, outstanding patient care. Our enthusiasm for our chosen specialty cannot be overstated, and we look forward to a career of continued learning and new innovation as the medical world is welcoming new niches.

---

**ADDRESS CORRESPONDENCE TO:** Dr. Akram W. Ibrahim, Interventional Cardiology, Emory University School of Medicine, 1648 Pierce Drive Northeast, Atlanta, Georgia 30307. E-mail: [awibrah@emory.edu](mailto:awibrah@emory.edu).

---

## REFERENCES

1. Maxwell Y. A changing job market for fellows requires new perspective, resources from trainers. TCTMD. November 12, 2014. Available at: <http://www.tctmd.com/show.aspx?id=127444>. Accessed July 22, 2015.
2. Goldfarb MJ. The push to subspecialize: choosing a career in cardiology. *J Am Coll Cardiol* 2014;64:2174-5.
3. Ephrem G. A career of lifelong learning, not lifelong training: an early cardiologist's perspective. *J Am Coll Cardiol* 2015;65:2664-6.