#### FELLOWS-IN-TRAINING & EARLY CAREER PAGE

# Serving to Heal and Honored to Serve



## An Insight Into Military Cardiovascular Fellowship

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he Accreditation Council for Graduate Medical Education (ACGME) reports that there are 193 cardiovascular disease training programs in the United States, including 3 military training programs (1). Today, fellows-in-training (FITs) are faced with the challenge of balancing cardiovascular training requirements of the ACGME (2), American Board of Internal Medicine (3) and Core Cardiology Training Symposium (4), in addition to considering further subspecialization training upon completion of their general cardiology fellowship (5,6). Military FITs encounter the same challenges as their civilian counterparts but are also required to uphold and perform the duties of a military officer while obtaining the requisite knowledge and skills to meet the operational needs of the Department of Defense (DoD). Currently, no publications provide an indepth look at military cardiology fellowship programs or the transition to an early military cardiology career, so we wanted to take this opportunity to provide insight into our unique training experience.

#### **PROGRAMS STRUCTURE**

The DoD has 3 accredited fellowship programs in adult cardiovascular disease. Two of these programs provide joint training (involving at least 2 services): Air Force and Army fellows at the San Antonio Military Medical Center and Army and Navy fellows at the Walter Reed National Military Medical Center. The third program, the Naval Medical Center San Diego, provides training for only the U.S. Navy. These long-standing, 3-year general cardiology training programs are available to Medical Corps officers who

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have completed a residency in internal medicine. The number of training positions available each year are determined by the needs of the military services, influenced by the number of cardiologists leaving the military each year and the number of military internists that can be released for subspecialty training rather than be retained as primary care physicians. The decision on the final number of new training positions available is made on the basis of input primarily from a lead cardiologist (consultant or specialty leader to the Service Surgeon General), manpower projections, and General Officer Leadership, occasionally with input from the individual training programs. Funding for each training program comes directly from the graduate medical education (GME) section of each military branch through Congressional appropriations, and each fellow earns the same monthly income as a practicing military general internist. Additional employment of any kind while undergoing GME training is not permitted for military members. Due to the often limited nature of available cardiology training positions, a significant proportion of accepted applicants for military fellowships have often spent at least 2 years as a general internist in the military. These applicants often matriculate into military training programs having deployment or combat experience, as well as clinical leadership experience during time spent as a general internist or combat unit primary care physician.

#### TRAINING CURRICULUM

The military FIT curriculum is designed by each respective program director and program faculty and aligns with ACGME requirements and milestones. Similar to civilian training programs, cardiology fellows in military programs are trained using a team-based, multidisciplinary approach that provides them exposure to the wide variety of cardiovascular disorders seen in civilian centers. The program director is charged with producing highly competent

invasive, noninterventional cardiologists who can reliably and independently perform and interpret coronary angiograms, invasive hemodynamics, echocardiograms (including transesophageal echocardiograms), and myocardial perfusion imaging studies. In addition, graduating fellows must be knowledgeable in critical care medicine, as military cardiologists often deploy to intensive care unit settings where basic intensivist skills are required. Fulfilling COCATS (Core Cardiology Training Symposium) level II requirements for both the invasive and noninvasive cardiology skills listed previously as well as receiving foundational critical care training does not leave much room for customization of the rotational schedule on the basis of the trainee's individual interests; however, fellows have the opportunity for elective rotations after their required rotations are completed.

The military training hospital platform includes a patient base of active duty military members and their dependents, retired military members, and some Veterans Health Administration beneficiaries who are able to receive care in DoD hospitals. Military healthcare system hospitals that support cardiovascular fellowship training programs function as fullservice, tertiary care centers in major metropolitan areas that care for at least 250,000 beneficiaries in addition to worldwide aeromedical transfers. However, to increase the variety of patient exposure, fellows participate in external rotations in such areas as advanced heart failure/transplant and advanced interventional/catheterization in affiliated Veterans Affairs (VA) hospitals, civilian institutions, and other military treatment facilities (MTFs).

#### **ACADEMIC STRUCTURE**

Faculty at each of the military programs are comprised of highly qualified, board-certified cardiologists from a wide background of subspecialties that includes advanced cardiac imaging, electrophysiology, interventional cardiology, and advanced heart failure. All teaching faculty have undergone training both at military and civilian medical institutions. Compared with civilian programs, faculty in military programs tend to be early career members, typically having <10 years of experience working in cardiology following fellowship. The assignment of an early career military cardiologist to a faculty position is a complex process that involves the balance of meeting the clinical requirements of all of the MTFs versus the educational requirements of a few military training platforms. The selected faculty within military training programs are very engaged with the fellowship, and their work productivity goals are structured to allow dedicated time for teaching, academics, and supervision. Fellows participate in clinical research and start research protocols with the expectation that all graduates have published at least 1 paper and have the opportunity to present an abstract at a national-level meeting. Military FITs typically score above the national program average on the American College of Cardiology's National In-Training examination and meet or exceed the ABIM cardiovascular board certification first-time pass rate compared with their civilian counterparts (7,8). All military cardiology fellowship programs have received maximal continual accreditation by the ACGME.

#### **MILITARY OFFICERS FIRST**

Military FITs are military officers in the U.S. Armed Forces and are held to all of the standards expected of any commissioned officer. Military FITs are expected to develop leadership skills and a general knowledge of the workings of the military medical system. They are immediately viewed as mentors for enlisted members and junior officers despite being in a training status. All fellows must meet body weight and physical fitness standards of their corresponding branch of service and are at risk of being removed from their training program if the standards are not met. Fellows are also subject to random drug testing in line with the DoD's antidrug policies. During their training, fellows become familiarized with the military medical regulations for service and the processes involved in determining continued military service for military members who experience cardiovascular conditions.

#### **EARLY CAREER**

Military FITs are promoted to each academic year if they meet the milestones set by COCATS, and ACGME for all accredited academic training program, in addition to the DoD standards previously mentioned. Upon completion of training, military FITs are expected to become board-certified cardiologists in adult cardiovascular disease. Military cardiologists provide cardiovascular care to patients at MTFs throughout the continental United States and overseas depending on their military assignments. New graduates can immediately find themselves in prominent clinical leadership roles, overseeing hospitallevel committees, or directing policy development of MTFs, whereas others may be deployed on operational assignments (9). Early career faculty are also eligible to apply for further training in interventional cardiology, electrophysiology, advanced cardiovascular imaging, and advanced heart failure, depending on yearly availability and the needs of the DoD. Every

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