

RESPONSIBILITIES OF SECOND YEAR GENERAL CARDIOLOGY FELLOW DURING THE ADVANCED HEART FAILURE/CARDIAC TRANSPLANT ROTATION

- I. The 2nd year fellow on the Heart Failure/Cardiac Transplant Service will be expected to:
- a. Throughout the rotation:
 - Participate in multidisciplinary cardiac transplant/LVAD conferences on Tuesday at 4:00 PM and Friday at 7:00 AM
 - Participate in the endomyocardial biopsy review at 8:00 AM on Friday.
 - Supervise cardiopulmonary exercise tests in patients undergoing evaluation for cardiac transplantation or participating in clinical research trials.
 - Attend their assigned cardiology continuity clinic irrespective of the rotation-specific schedule.
 - Prepare and deliver a case-based conference on a topic pertinent to Advanced HF/Transplant
 - Fellows on the Cardiac Transplant Service will not take primary call for the HF service. They will continue to take General Cardiology call as dictated by the General Cardiology program. They will have at least one 24 hour period off per week with an expectation that they have their pagers off.
 - b. When on the inpatient block (2 weeks):
 - Round daily on LVAD and Heart Transplant inpatients in collaboration with the
 - Advanced Heart Failure Fellow - Monday through Friday and one day on the weekend.
 - c. When on the outpatient block (1 weeks):
 - Attend post-transplant biopsy clinic in Center for Advanced Medicine (CAM) on Mondays at 8 AM – Fellow will perform office visits, assist in biopsies.
 - Attend LVAD clinic at Heart Care Institute (West County) on Thursdays at 8 AM – Fellow will perform office visits, learn to interrogate LVADs with coordinators, review LVAD echos.
 - Observe advanced heart failure (LVAD, transplant) surgeries in the OR when not engaged in other learning activities – schedule will vary with OR plans.
 - Participate in Cardiac Procedure Center with HF/Transplant attending on hemodynamic studies and transplant surveillance (biopsy/angiography) cases – Wednesday PM, Friday PM.
 - Observe cardiopulmonary exercise testing on Tuesdays
 - Read LVAD, cardiomyopathy echocardiograms with HF/Tx attending
 - Assist in coordinating and interpreting echocardiographic or invasive hemodynamic studies in left ventricular assist device or transplant patients
- II. The second year fellow should focus efforts on:
- Recognizing and guiding the initial management of common complications of LVAD support including: gastrointestinal bleeding, device thrombosis, driveline infection, and ventricular arrhythmias.
 - Understanding the indications for mechanical circulatory support and the appropriate evaluation of candidates for this therapy.
 - Understanding the post-operative management of LVAD and transplant patients including the management of vasoactive drugs.
 - Recognizing the common complications following cardiac transplantation and their management.
 - Be capable of performing echocardiographically-guided endomyocardial biopsy.

Core Competencies for Heart Failure Training in General Cardiology*

- ❖ Medical Knowledge
 - Know the clinical history and physical exam findings with utility/limitations for acute HF syndromes. (I,12)
 - Know indications, contraindications, clinical pharmacology of common HF drugs. (I,12)
 - Know pharmacologic and non-pharmacologic preventative or pre-emptive treatments for ACC/AHA Stage A&B HF. (I,12)
 - Know the pathophysiology, differential diagnosis, stages, and natural history of HF. (I,24)

- Understand HF pathophysiology at the molecular, cellular, organ, and organismal levels – particularly regarding neurohormonal activation and LV remodeling. (I,24)
 - Know indications, contraindications, and clinical pharmacology of vasoactive and inotropic drugs used for support of patients with advanced or refractory HF. (I,24)
 - Understand the effect of HF on other end organs and in the setting of systemic disease. (I,24)
 - Know the management of cardiac arrhythmias in HF patients, including the benefits and risks of ICDs and CRT therapies. (I,24)
 - Know the indications for referral for cardiac transplant evaluation. (I,24)
 - Know indications, contraindications, clinical pharmacology of HF drugs in special populations. (II,36)
 - Know the pharmacology and use of immunosuppressive medications and other interventions in heart transplant recipients in the treatment of rejection. (II,36)
 - Know the types and indications for mechanical circulatory support. (II,36)
 - Know management strategies for patients with cardiomyopathies that are infiltrative, restrictive, inherited, pregnancy-associated, or chemotherapy-associated. (II,36)
 - Know indications and rationale for pharmacologic management of patients with mechanical circulatory support devices. (III,>36)
 - Know the late-stage complications of HF in patients with congenital heart disease. (III,>36)
 - Know management strategies in specialized populations such as congenital heart disease and chronic pulmonary disease. (III,>36)
- ❖ Patient Care and Procedural Skills
- Evaluate and manage patients with new-onset, chronic, and acute decompensated HF (I,12)
 - Appropriately obtain and incorporate historical, laboratory, and imaging data in evaluation and management of HF patients(I,12)
 - Interpret imaging results in evaluation of HF patients (I,24)
 - Perform invasive hemodynamic monitoring (I,24)
 - Identify appropriate candidates for palliative care and hospice (I,24)
 - Recognize and manage cardiac arrhythmias, including identification of appropriate candidates for ICD, CRT, and arrhythmia ablation (1,24)
 - Recognize and manage comorbidities in HF patients (I,24)
 - Recognize, manage, and seek consultation for depression and anxiety in HF patients (I,24)
 - Evaluate and manage patients with severe HF despite treatment (II,36)
 - Use history and physical exam findings to accurately assess volume status and perfusion in HF patients (II,36)
 - Incorporate results of hemodynamic measurements and monitoring to make appropriate management decisions in HF patients of all etiologies and severity (II,36).
 - Select and implement arrhythmia management including ICD, CRT, and arrhythmia ablation in HF patients of all etiologies and severity (II,36)
 - Manage HF patients with complex comorbidities (II,36)
 - Identify and manage HF patients who require transition from hospital to home or a care facility while receiving infused inotropes or vasoactive drugs (II,36)
 - Appropriately utilize initial screening studies to determine patient eligibility for advanced HF therapies in order to determine appropriateness for referral to an Advanced HF program (II,36)
 - Interpret and incorporate results of CPET into management of HF patients including physical activity and exercise recommendations (II,36)
 - Evaluate and manage patients with mechanical circulatory support after heart transplant (III,>36)
 - Interpret imaging results found in advanced, rare, or uncommon forms of HF (III,>36)
 - Incorporate results of hemodynamic measures and monitoring to make appropriate management decisions in complex or advanced HF patients of all etiologies and severity or in patients with mechanical circulatory support (III,>36)
 - Manage patients with advanced HF and complex arrhythmias, including patient with mechanical support, in conjunction with an electrophysiologist (III,>36)
 - Identify and manage patients who require transition from hospital to home or to a care facility after heart transplant or permanent mechanical circulatory support (III,>36)
 - Evaluate, order all appropriate testing, and determine appropriateness patients for cardiac transplant or mechanical circulatory support (III,>36)
- ❖ Systems-Based Practice
- Identify and address financial, cultural, and social barriers to diagnostic and treatment recommendations (I,12)
 - Utilize appropriate care settings and teams for various levels and stages of heart failure (I,24)
 - Incorporate risk/benefit analysis and cost considerations in diagnostic and treatment decisions (I,24)

