

2020-2021

Fellowship Program Manual

Department of Cardiovascular Disease

Created by NS Created 1/30/2020 Last Revised 05/28/2020



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Preface

The purpose of this manual is to summarize and reference all relevant information regarding program operation of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center (AIMMC) of Advocate Aurora Health (AAH). When used in conjunction with the Advocate Aurora Health/IMMC Graduate Medical Education Policies and Procedures, this document serves as a tool for all program staff, faculty, and fellows to ensure deliberate communication of expectations and guidelines as well as empower future change.

In all instances, Advocate Aurora Health System and Site Policies supersede program or departmental policies. For more information on accessing these policy resources, please review the **Policies and Procedures** section of this manual.

The program is responsible for utilizing the ACGME Program Requirements for guiding program progress and change. These guidelines are used in conjunction with the Advocate Aurora Health System and Site Policies to ensure future accreditation and compliance.

Finally, this manual has been approved by a special Program Evaluation Committee over the course of several months of detailed review. The Cardiology Fellowship Program is grateful to all participating faculty, fellows, and administration for the efforts and time invested into the development of this new program manual.

A message from the Program Director:

"It is with great pleasure that I serve as your program director. I, along with my colleagues, take great pride in the unique blend of clinical and academic experience that our program has to offer. We are confident that as you finish your training here, you will be more than fully prepared to begin your career as a cardiovascular specialist."

Thank you,



Ajay Baddi, MD
Program Director, Cardiovascular Disease Fellowship
836 W. Wellington Ave. Rm 7304
Chicago, IL 60657
773-296-7046

Program Leadership and Team

Staff



Vacant Position
Program Administrator

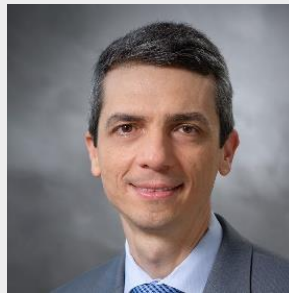


Nathalie Serrano
Program Coordinator

Key Core Faculty



Ajay Baddi, MD
Program Director (Non-Invasive)



Sorin Danciu, MD
Section Chief (Non-Invasive)



Allan Beall, MD
Interventional Cardiologist



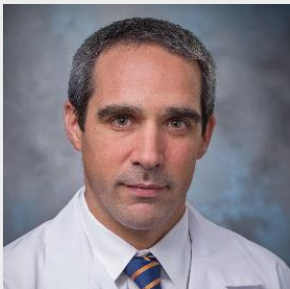
Peter Brady, MD
Electrophysiologist



Oliver D'Silva, MD
Electrophysiologist



Sanjay Gill, MD
Non-Invasive Cardiologist



Joaquin Gonzalez, MD
Interventional Cardiologist



Surender Kumar, MD
Interventional Cardiologist



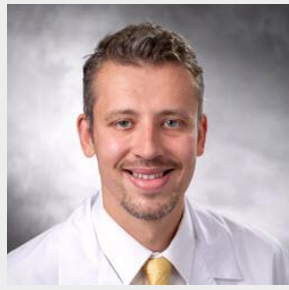
Ted Wang, MD
Electrophysiologist

Teaching Attendings (excluding core faculty)

Non-Invasive



Harry M. Cohen MD



Mark Kosinski, DO



Mona Soni, MD

Advanced Heart Failure



Nishit Shah, MD



Phoebe Ezidinma, MD

Interventional Cardiology



Steven Driver, MD

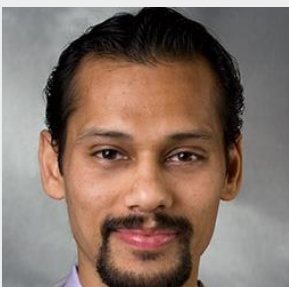


Mukesh Jain, MD



Ashish Mukherjee MD

Electrophysiology

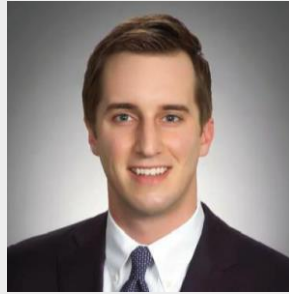


Saurabh Shah, MD

Fellows



Prateeth Prati, MD
PGY-4 Fellow



Stephen Sawyer, MD
PGY-4 Fellow



Mauro Taveras Alcantara, MD
PGY-4 Fellow



Lubka Ilieva, DO
PGY-5 Fellow



Divya Korpu, MD
PGY-5 Fellow



Charles Ogdon, MD
PGY-5 Fellow



Michael Accavitti, MD
PGY-6 Fellow



Ibett Colina, MD
PGY-6 Chief Fellow



Justin Coyle, MD
PGY-6 Fellow

2020 Graduates	Rohan Mehta, MD	Anahita Shahrrava, MD	Ammar Tahir, DO
2019 Graduates	Enrique Campos, MD	Brian Hachey, MD	Scott Hurley, MD
2018 Graduates	Shoeb Hussain, MD	Hesam Keshmiri, DO	Shahabuddin Mohammed, MD
2017 Graduates	Bhavith Aruni, MD	Rahul Malik, MD	Carlos Rios, MD
2016 Graduates	Mugurel Bazavan, MD	Mukesh Gopalakrishnan, MD	Rojina Pant, MD
2015 Graduates	Mercy Chandrasekaran, MD	Raj Marok, MD	Paloma Pina, MD

Program Description

The fellowship in Cardiovascular Disease, which is a subspecialty of Internal Medicine, is committed to providing the necessary instruction, educational structure, patient material, and support to develop exceptionally trained cardiologists. Success stems from two factors: individual attention for each fellow and a wealth of clinical experience. This 517-bed acute care hospital combines the clinical diversity of a teaching hospital and the personal attention of a community institution. It is centrally located on the north side of Chicago and has a well-developed referral network, which attracts patients from the tri-state area.

Mission Statement

As an ACGME-accredited fellowship program, we will pursue the resources, educational tools, and practices necessary to train our fellows to be well-rounded cardiologists. This includes achievement in all six of the ACGME core competencies as outlined by the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹.

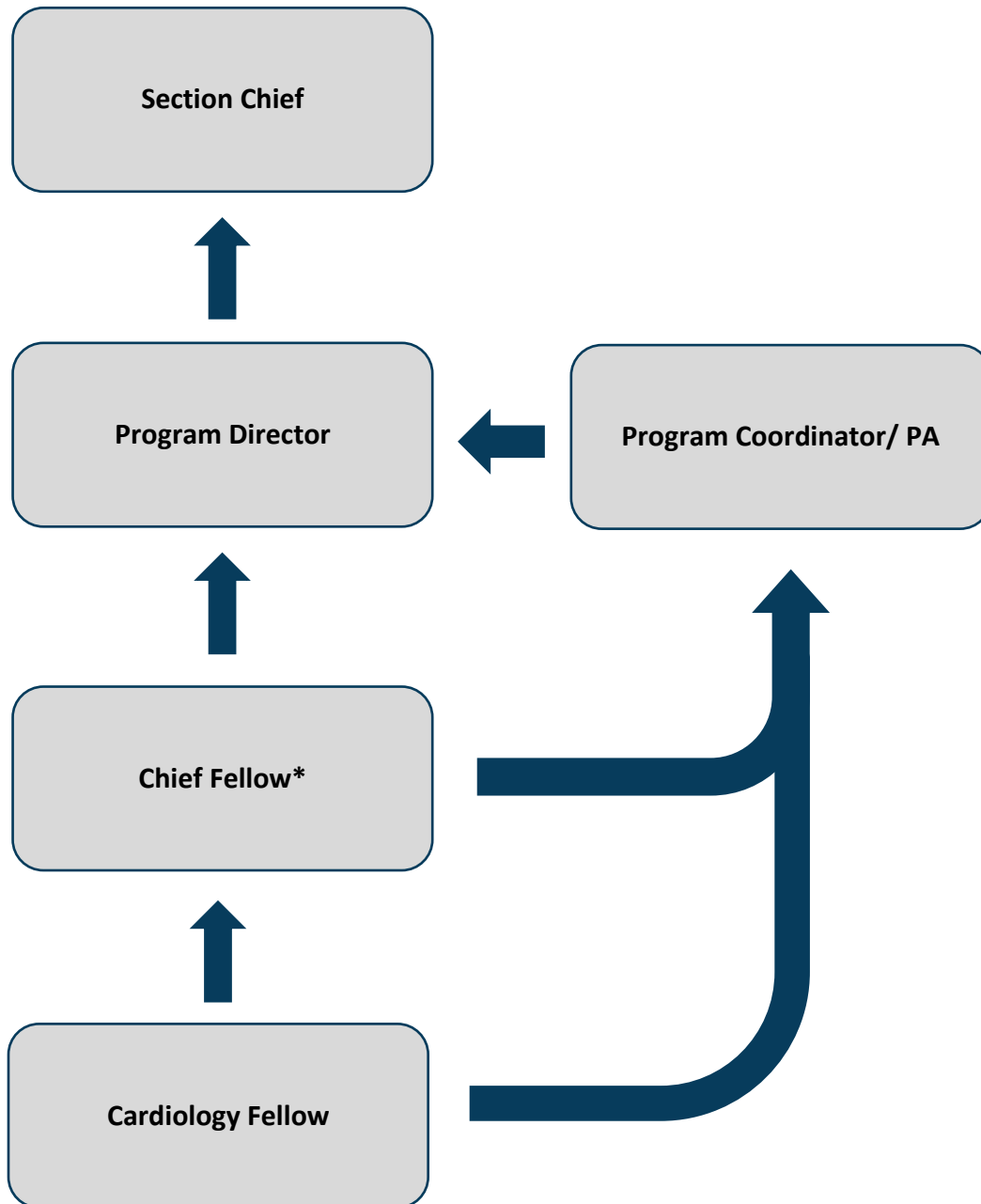
General Expectations of Fellows

All fellows should understand, recognize, and practice the following expectations throughout the duration of their fellowship in agreement with the Behaviors of Excellence established by Advocate Aurora Health:

- **Be Safe.** Fellows must ensure that their behaviors are within the scope of their training and do not pose harm or negligence.
- **Be Responsive.** Fellows must be on site in the hospital during designated hours, respond promptly to pages, and inform the department of any unscheduled absences.
- **Be Respectful.** Fellows must ensure that all interactions with patients, staff, faculty, peers, and any personnel are appropriate and absent of negative behaviors associated with poor interpersonal communication (demeaning, passive aggression, threats, etc.).
- **Be Professional.** Fellows must maintain appropriate dress and personal hygiene. A grey lab coat must be worn. Male residents must wear ties, unless prohibited by religious considerations. Scrub suit attire is only appropriate for fellows performing Electrophysiology or Operating Room procedures. Outside the labs, scrub suits must be covered with a buttoned lab coat.
- **Be Accountable.** Fellows must familiarize themselves with the policies outlined in both this manual and the AIMMC House-staff Manual and perform their duties in accordance with stated policies.
- **Be Collaborative.** Fellows must behave in a courteous and professional manner in their interactions with patients, families, attendings, hospital staff and other house officers.

Chain of Command Map

When questions or problems arise, the fellow is responsible for adhering to the following chain of command to ensure that they are addressed in the correct order. In all instances, your program coordinator and program administrator may serve as a primary resource to address and resolve most situations or concerns.



**The Chief fellow is responsible for delegating information to rotation preceptors for problem solving and conflict resolution when appropriate.*

Curriculum

Annual Rotation Schedules

Schedules are created annually by the Chief Fellow and may be adjusted throughout the year as needed, abiding by the program policy on Scheduling Changes and Requests ([Document #0000](#)).

Rotations follow the 13-block system established by the Cardiovascular Disease fellowship program. Program administration will work closely with other programs to ensure an accurate block distribution. For the most up-to-date schedule, please refer to the most recent Cardiology Call Schedule.

According to the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019)*¹, each fellow must have the following minimum number of rotations by graduation:

- CATH (4 months)
- Non-Invasive Rotations (6 months):
 - ECHO (3 months)
 - Nuclear (2 months)
 - Non-Invasive (1 month)
- EP (2 months)
- Non-Laboratory clinical practice activities (9 months)

The program chief resident will proactively develop an academic year schedule that will ensure completion of all appropriate rotations as described by the ACGME and the program director. This is also delineated in the program policy on Promotion/Appointment renewal ([Document #0000](#)).

Fellows can expect the following distribution of rotations for each academic year during their fellowship:

	PGY-4	PGY-5	PGY-6
ACVI			3-6
CATH	2-3	2	
Consult	2-3	2	
ECHO	2-3	2	
Hearth Rhythm (EP)	1	0-1	1-2
Heart Failure (HF-CCU)	2-3	2	
Interventional (PCI)			2
LVAD (Christ)		0-1	1-2
NI	1-2	2	0-1
Research	1	2	3
Electives*			3-6
Total	13	13	13

*To fulfill electives, fellows may choose any of the above rotations or pursue an opportunity at an outside institution. Please follow up with the program coordinator to ensure proper paperwork and all steps are completed for outside rotations to take place.

Didactics, Conferences, and Teaching Responsibilities

Blocks 1 and 13 have limited conferences to accommodate fellowship responsibilities and transition of care. Fellows will be able to participate in the following didactic opportunities throughout their training (for the most accurate schedule, please refer to the program didactics outlook calendar):

EKG Lectures (Ted Wang, MD)

Interpret, discuss, and code EKGs in a web-based format resembling the cardiology board examination.

CCU Conferences (Surender Kumar, MD)

Lectures covering general cardiology and critical care for the fellow on CCU rotation. Presented by attending or MICU residents on Mondays and Tuesdays.

Topic Lectures (Attendings)

Throughout the academic year, attendings begin teaching a myriad of cardiology topics in lecture format. This includes the Survival Lecture Series where essential skills and concepts are covered.

Grand Rounds (Internal Medicine)

Occasionally, the Internal Medicine Grand Rounds series includes topics in cardiovascular disease. Attended by fellows in the setting of a cardiovascular presentation.

Journal Clubs (Fellows, Led by Dr Baddi)

Critical review and presentation of a recent journal article chosen by a fellow. Held once a month on Thursdays.

Morbidity & Mortality (Fellows)

Critical review of recent cases with adverse outcomes at AIMMC. Fridays quarterly presented by fellows involving cardiology and cardiovascular surgery departments.

Pathology Lecture (Dr. Bharati)

Hands-on experience with previously dissected cadaver hearts selected for review of a particular topic. Thursdays quarterly.

Congenital Conference (Dr. Thoele)

Lecture and/or case review of topics pertaining to congenital pathology.

Morning Report

On Mondays, Tuesdays, Thursdays, and Fridays, the cardiology section will review current cases in the hospital. Fellow participation is mandatory.

CME Conferences

As additional practice for teaching, fellows are expected to lead weekly CME conferences that enhance their knowledge in cardiovascular disease and supplement interactions with the attendings. While these conferences are normally held on regularly scheduled dates and times, this may be adjusted as necessary to prioritize the attending-led lectures and conferences. If adjusted, these regularly scheduled series (RSS) activities must be approved beforehand to qualify for CME. These conferences include:

ACVI (Biweekly Tuesdays at 12pm, Dr. Danciu)

Review of various imaging modalities including cardiac MRI, CT, nuclear perfusion imaging, and

CATH (Wednesdays at 4pm, Dr. Gonzalez)*

Case presentation by cath fellow leading to review of a coronary angiogram and subsequent

vascular ultrasound via lectures, cases, and/or videos.

management discussion involving fellows and attendings. The fellow also presents an interventional topic related to the case.

ECHO (Wednesdays at 1pm)

Echo topics in the form of lectures, cases, and/or questions delivered by the echo fellow. Led by Dr. Danciu.

Hearth Rhythm & ECG (Thursdays at 3:30pm)

Lectures and cases encompassing various EP topics often selected by fellows. Presented by electrophysiologist Dr. Brady.

Interventional (Mondays at 1pm)

Case review involving percutaneous intervention and presentation of an associated teaching topic.

***CATH Conference Guidelines and Topic Suggestions:**

- Presentation should be 15-20 min and not more than 3-4 slides per trial
- Topic may be split up in two days but need to be done prior to finishing rotations
- Recommended to include some questions from Cath lab SA or other source that will illustrate the clinical point

Coronary Disease

- CAD stable angina/ UA/ pathophysiology
- AUC for revascularization
- TIMI Scores/Definitions/ Clinical usage
- Normal Coronary Physiology
- Normal Coronary anatomy and Anomalies/ Variants/ Indications for interventions
- Adjunctive Imaging (IVUS/ OCT/ Coronary CT)
- Syntax Trial /Score/ Clinical Applications
- Bifurcation lesions/ Classification/ Treatment
- Unprotected Left main Stenting
- Three vessel disease/ review of literature
- Culprit vs Non culprit revascularization
- SVG interventions
- Intermediate lesion assessment FFR vs IFR vs Coronary CT FFR)
- In-Stent Restenosis / Evaluation/ Treatment
- CTO/ Definition/ Evaluation and indications for revascularization
- Advance techniques / Atherectomy / indications/ management/ complications
- Preop Revascularization/ Evaluations and indications
- Short term antiplatelet therapy post PCI

Pharmacology:

- Anticoagulants medications comparison
- Antiplatelets medications comparison
- Coagulation Cascade and its interaction in the cath lab
- Vasoactive drugs in the cath lab (Adenosine/ Nitro/ Nipride/ etc)

- Pressors and Inotropes review
- Diabetes Management / Basic of medications/ New medications
- Radial vs Femoral Access sites/ the good the bad and the ugly
- Radiation Safety/
- Mechanical Hemodynamic support (IABP/ Impella/ ECMO/ Tandem Heart)

Guidelines

- CAD stable disease PCI vs Medical Management
- CAD Stable Disease PCI vs CABG
- STEMI reperfusion (PCI vs Lytics)
- NSTEMI guidelines

Complications in the Cath Lab:

- CKD and ARI in the cath lab/ definitions and preventions
- Periprocedural MI
- No reflow/ diagnosis and treatment
- Coronary complications from PCI (hematoma/ dissections/ treatment/ thrombosis)
- Tamponade/ Pericardial perforation
- Access site selection and complications
- Retrieval of foreign bodies
- Acute stent thrombosis
- Closure devices

Other Topics:

- Pulmonary Hypertension w/u in the cath lab
- Valvular Hemodynamics/ Shunts / Show and tell/ Landmark studies
- PFO closure (medical management vs percutaneous interventions)
- Pericardial Diseases (tamponade vs constriction vs restrictions)
- AAA Endovascular vs Surgical Repair

Program-Sponsored Conferences

Each fellow will be allotted one (1) specific conference to attend during each PGY-year that will be financially sponsored by the program. Expenses related to this conference (except for dues or memberships) will be covered by the program. For more information, review the policy and procedures section of this manual ([Document #0000](#)).

Fellow Teaching Responsibility

Throughout the year, fellows will have opportunities to present to the Internal Medicine residents and medical students rotating with the fellowship on cardiology topics of interest. Supervised by a cardiology attending, this will enhance and refine the fellow's teaching skills. Fellows are expected to participate in the education and training and provide themselves as a resource for other house staff. The fellow is expected to be a resource for the general concepts of cardiology.

CME Requirement for License Renewal

All licensed physicians who will be renewing their license (except for first-time renewals) must complete at least 150 hours of CME. A minimum of 60 hours must come from formal Category I CME programming. A maximum of 90 hours may be obtained from informal Category II programs. The IDFPR does not require documentation to confirm that CME was completed; however, they may audit the CME claimed and request documentation to prove your participation. This is all further detailed in *Section 1285.110 of the Medical Practice Act*² and the *IDFPR FAQ for CME*³.

CME Participation During Fellowship

The fellow is responsible for submitting attendance to CME activities. This can be done through Advocate's Tracking Website:

1. Find the activity CME code
2. Go to <https://www.activity.credit/s/code>
3. Input code into box
4. Sign-in with your advocate email address and password (or select "New User" if this is your first time and verify your profile information. Then choose a password and click "Save")
5. Confirm your attendance and click continue

The RSS CME lectures held each week during blocks 2-12 create an abundant opportunity for fellows to obtain all the required CME credits during their fellowship training. These credits can range anywhere from 88 (2 lectures/week) to 176 (4 lectures/week) per academic year.

Fellows can pursue additional CME credits for license renewal, as needed, through resources such as:

- Internal Medicine Grand Rounds
- Outside CME opportunities
- ACC CME resources (for members only)
- ISMS CME resources (for members only)
- AMA Residency/Fellowship Certificate (membership is not required)
 - This certificate costs \$75 and will provide 20 hours of CME credit for each academic year completed in fellowship training (60 hours total) ^{4, 5}

2020 CME Requirement Updates:

The IDFPR has included two additional requirements for CME renewal, which apply towards the required 150-hour total for renewal:

- **Safe Opioid Prescribing Practices Continuing Education (3 hrs.)**
 - Required for *all* renewals, including first time
 - For physicians with controlled substance licenses only
 - Available through resources shared on Advocate's Opioid Resource Page⁶
- **Sexual Harassment Prevention Training Continuing Education (1 hr.)**
 - Required for all renewals *except* first timers
 - Available through Advocate Talent Management System (ATMS) - CBT 851019⁷

Guidelines

Procedural requirements for Cardiovascular Disease fellows are determined by the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹ and the *ABIM Certification Policies and Procedures*⁸. Both guidelines are structured to ensure general consistency in procedural competency requirements for each cardiology fellow in training.

Procedural Volume and Competency Requirements

Volume			ACGME	ABIM
Direct Current Cardioversion	10	Cardioversions	X	X
Echocardiography	75	Performed	X	X
	150	Interpretations	X	
Exercise Stress Testing	50	Stress ECG Tests	X	X
Catheterization (right and left)	100	Performed	X	X
Electrocardiography	3500	Interpretations	X	X
Nuclear Cardiology	100	Radionuclide studies interpretations	X	
Competency			ACGME	ABIM
Conscious Sedation			X	
Placement and management of temporary pacemakers (transvenous and transcutaneous)			X	X
Programming and follow-up surveillance of permanent pacemakers and ICDs			X	
Chest X-rays			X	
Formal Instruction and Experience			ACGME	ABIM
Intracardiac electrophysiologic studies			X	
Intra-aortic balloon counter pulsation			X	
Percutaneous transluminal coronary angioplasty and other interventional procedures			X	
Pericardiocentesis			X	

Procedural requirements are also detailed in the policy and procedures section of this manual (Fellowship Program Policy: Promotion/Appointment Renewal - [Document #0000](#)).

Continuity Clinic

The AMG Ambulatory Cardiology Clinic will provide ACGME-required continuity clinic experience for all cardiology fellows in training.

Duration	Frequency	Expected Patient Load
4 hours (1/2 day)	weekly	4-8 pts
Locations		
Advocate Medical Group (Irving & Western) 4025 N. Western, Building E Chicago, IL 60618		Advocate Medical Group Heart and Vascular of Illinois 3134 N. Clark St. Chicago, IL 60657

Patient Characteristics and Encounters

Fellows will encounter a wide variety of cardiovascular disorders, including:

- Hypertensive Cardiovascular Disease
- Coronary Heart Disease
- Valvular Disease
- Arrhythmia disorders
- Pregnancy-related cardiac issues
- Congenital Heart Disease
- Pericardial Disease

Fellows will encounter conditions to treat or appropriately refer patients, such as:

- Hypertension
- Diabetes Mellitus
- Arthritis
- Infectious Disease
- Cancers

This experience will also allow specialized training in such areas as:

- Arrhythmia Management
- Pacemaker Management
- Adult Congenital Heart Disease

In the exam room, pertinent aspects of the history and physical will be reviewed and a consensus therapeutic and diagnostic plan will be created. The fellow will review all further testing such as echocardiograms, stress tests, and cardiac catheterization, and will see the patient back in follow-up visits. The fellows will evaluate the patients independently and then present their findings for discussion with the clinic attending. The fellows will be responsible for writing the initial visit note or progress note which may be expanded by the attending and will be countersigned by the faculty.

Mentorship and Evaluation

Prior to the first day in the program, incoming fellows will be assigned a mentor. Fellows are expected to rotate with their assigned mentor throughout the duration of the entire fellowship during continuity clinic. Attendings will be easily available through the paging system and during weekends, evenings and nights and will be available for informal contact by telephone and face-to-face on the units and in the laboratories. Using *Medhub*, fellows will keep a list of patient encounters and diagnoses in the continuity clinics. An evaluation in the continuity clinic will be completed every 3 months by the supervising attending(s).

Rotation Descriptions

Each rotation fulfills specific core competency requirements as established by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰. Fellows are responsible for understanding the rotation descriptions, goals, and objectives and fulfilling the requirements of each rotation listed in the following pages.

Important information regarding all rotations:

Evaluations

Rotation evaluations will be completed on *Medhub* by the respective supervising attending and should be relevant to the goals and objectives described for each rotation as well as additional information about the fellow that may be provided through interpersonal interactions and observations. For more information regarding evaluation, please review the Evaluation section of this manual and the Evaluation Policy listed under the Policies and Procedures section of this manual ([Document #0000](#)).

Revisions to Rotation Descriptions, Goals, and Objectives

Attendings are responsible for adhering to the rotation descriptions, goals, and objectives as specified in this manual. Any proposed changes to the goals and objectives for any rotation must follow the outlined procedures of the Curriculum Policy listed under the Policies and Procedures section of this manual ([Document #0000](#)).

Orientation

Preceptors are responsible for scheduling an orientation meeting with fellows rotating for the first time. Fellows are responsible for reading rotation descriptions in their entirety prior to starting their rotation. Both should work together to coordinate the most appropriate time and date to meet and discuss expectations. If there are any issues with scheduling, please reach out to the program coordinator.

Advanced Cardiovascular Imaging (ACVI)

Preceptors:	Schedule ¹ :	Site(s):
Sorin Danciu, MD*	Weekdays (8-5pm)	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The purpose of this PGY-6 elective rotation is to provide an intense study of advanced methods in nuclear cardiac imaging and the advancing technology of CT angiography, carotid, and vascular imaging. Fellows will learn of the clinical applicability, limitations, and potential applications of these techniques.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Patient Consultations Self-Directed Readings Observing Procedures	To be assigned during the rotation as applicable.	ACCSAP K2P

Fellows will be exposed to the basics of image acquisition, coronary anatomy as seen by CT angiogram, carotid/venous/arterial studies and the studies of abdominal aorta and renal arteries. This will aid in the identification of disease and help the fellow discover limitations and clinical applicability of these studies. PGY-6 fellows will emphasize on OR and procedural TEEs over CTs as part of this learning experience.

At the completion of this rotation, the fellow will be able to:

- Define principles of the various imaging methods
- Have increased proficiency in the technical aspects of performing these studies
- Understand protocols and determine which patients are likely candidates for these procedures
- Understand the appropriate utilization and reimbursement of these procedures

ACVI Certification Requirements

The fellow will obtain Level I training through participation in the fellowship program. Fellows interested in obtaining Level II or Level III certification with the Certification Board of Nuclear Medicine must follow the requirements described in the *ACC Core Cardiovascular Training Statement (COCATS 4 Task Force 6)*⁹. Fellows must inform the preceptor of their aspired certification level by the end of their PGY-5 year.

ACVI Goals and Objectives

The ACVI rotation will challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-6:

<i>Patient Care</i>	<ul style="list-style-type: none">• Demonstrate greater independence in managing patients and procedures
Medical Knowledge	<ul style="list-style-type: none">• Define principles of the various imaging methods• Have Increased proficiency in technical aspects of performing these studies.• Understand protocols and determine which patients are likely candidates for these procedures• Understand appropriate utilization and reimbursement of these procedures.
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Independently interpret Cardiac CT angiograms and calcium scores, achieve Level 1 with option of Level 2• Understand vascular CT angiograms• Have Level 1 exposure to Cardiac MRI and stress Cardiac MRI• Independently perform Advanced Transesophageal Echocardiograms for structural heart procedures
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records• Coordinate ACVI conference with the assistance of attending physician to select appropriate case for discussion and facilitation
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Participate in more independent behavior• Practice an active teaching role in supervising PGY-4 and PGY-5 fellows
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Respond to each patient's unique characteristics and needs• Exhibit integrity and ethical behavior in professional conducts

Cardiac Catherization (CATH)

Preceptors:	Schedule ¹ :	Site(s):
Joaquin Gonzalez, MD* Allan Beall, MD Steven Driver, MD	Weekdays (Time varies by case)	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

This elective rotation will prepare cardiology fellows expecting to independently perform diagnostic procedures after their training and serves as a basic introduction to interventional techniques. Given the frequency of obstructive coronary artery disease in the population and the rapid expansion and evolution of interventional techniques, these skills will be important for any invasive or interventional cardiologist. The invasive cardiologist must have a thorough understanding of the procedures and where its role should be in any individual patient.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Patient Consultations Self-Directed Readings Assisting with Procedures Didactic Conferences	To be assigned during the rotation as applicable.	ACCSAP K2P CATH SAP

The CATH rotation process consists of a pre-cath lab visit, cath lab procedure time and day, as well as a post cath lab visit day. This rotation will:

- Train fellows in interventional cardiology fundamentals, which include:
 - Selecting patients where the benefit of invasive information outweighs the risks
 - Performing procedures in a safe and effective fashion
 - Analyzing the information in an accurate and unbiased fashion
 - Utilizing this data intelligently for the further management of the cardiac patient.

- Begin exposing fellows to a full spectrum of cardiac disease, such as:
 - Coronary artery disease
 - Valvular heart disease, including rheumatic and aortic stenosis and tricuspid stenosis.
 - Regurgitation of the three principal heart valves from rheumatic causes.
 - Non-rheumatic causes of aortic stenosis and valvular insufficiencies
 - Cardiomyopathies from many causes, including alcoholic, peripartum and hypertension
 - Pericardial disease, including cardiac tamponade and chronic pericardial effusions
 - Restrictive physiologies
 - Acute coronary syndromes, including acute myocardial infarction and unstable angina.

- Allow fellows opportunities to learn about advanced invasive techniques on a case-by-case basis, such as:
 - myocardial biopsy
 - brachial artery catheterization
 - right heart catheterizations utilizing a balloon-tipped flow-directed catheter,
 - cardiac output determinations via the Fick technique and/or thermodilution technique
 - measurement of valvular gradient
 - Simultaneous measurements of diastolic pressures for evaluation of restrictive or constrictive disease
 - measurements of aortic and left ventricular pressures
 - multi-plane coronary angiography
 - multi-plane left ventricular angiography
 - angiography of saphenous vein bypass grafts
 - angiography of mammary artery bypass grafts
 - aortography
 - Occasional therapeutic techniques:
 - pericardiocentesis
 - intra-aortic balloon placement

NOTE: For PGY-6 fellows, refer to the PTCA rotation.

Patient Population

The patient/cardiac fellow encounters develop from referrals by staff cardiologists with cardiac cath lab privileges. The patients may originate from the cardiologist's own practice or may come from physicians from a variety of other specialties. Most of these patients will be seen in a hospitalized setting stemming from an acute cardiac problem. Approximately 50% of patients will be scheduled electively, on an outpatient basis.

CATH Rotation-Specific Expectations

General Fellow Responsibility and Call

Fellows will be expected to:

- Start the day one hour before the first schedule case and finish once the last case is over in the lab and proper after cath care is provided to all patients. The end of the day is not dictated by any specific time.
- Take ownership and care of all patients that come through our service.
- Work with cath lab staff in order make your experience the best one possible. Talk to the charge nurse often, understand each other needs, this will make for a better day in the cath lab
- Review all protocols currently available that pertain to the cath lab (Shock pathway/ Pulmonary Pathway/ Complex PCI algorithm.
- Be aware of radiation to his/herself, the attending and the staff as X-ray should not be taken lightly

- Overnight, the on-call fellow is expected to evaluate all cardiac alert patients and discuss with interventional attending.
- For evening/overnight activations, the on-call fellow is expected to scrub the case (weekday or weekend)
- For weekend cases during daytime hours, fellows are not expected to scrub cases unless specifically asked to do so by attending given complexity of case. However, fellows are expected to evaluate all patients going for cath, complete consent/sedation forms, and place post-cath orders.

Scrubbing

Fellows will be expected to scrub in cases during weekday work hours (for fellow on CATH or PCI rotation) and for urgent/emergent cases during work and off work hours when they are relevant to teaching opportunities at the discretion of the preceptor. Technologists will be scrubbing every case- elective and urgent/emergent.

On weekends, the fellow is still expected to scrub, but may be excused for patient care reasons such as sick patient on the floor, emergent consult, or long patient rounding list. The fellow will be expected to still be involved in the pre- and post-operative care of the patient. This involves getting consent, placing orders, sheath management, coordinating care, and communicating to CATH lab staff and primary team, etc.

If the fellow cannot scrub a case, he or she should communicate this with the attending on call. The staff should be ready to have a technologist scrubbing regardless. The plan is to have consistency and improve patient safety and quality.

Patient Care Guidelines

Pre-Cath Day

It is strongly recommended that the fellow review outpatient records for elective patients that are schedule for the upcoming day to make the day smoother and easier. It will help to understand the case and justifications for procedures as well as any other pertinent information.

The fellow is responsible for:

- Evaluating every case that is on the schedule for next day
- Evaluating and taking into consideration the following steps the day prior to the procedure in all inpatients that are on the schedule at the end of every day
 - Consent
 - pre cath orders
 - holding of appropriate medications
 - prescribing medication
 - pre-cath note
 - planning of the case
 - Access site

- reasoning for the case/information or clinical question that is being asked should be evaluated and be taken into consideration
- Discussion of cases with attending physician is always encourage and appreciated regarding any concerns about cases
- Coordinating with inpatient team to be aware of any overnight add on
- Reviewing of all imaging should be done (Cath/CT/noninvasive studies/stress tests). Look at the actual images and not the report- old images should be retrieved so they are available if need it during the day of the procedure
- Reviewing of Surgery reports and useful information needs to be sought out and clarify (CABG report/ Valve reports/ Surgical Reports)
- Reviewing all medical records including *CareConnection*, *EPIC*, outside medical records, etc.
- Assessing for need for pre-hydration, access site, contraindications, need for DAPT loading, dye allergy prep (see pre-hydration protocol below)

Cath Procedure Day

Involvement during the procedure (obtain access, equipment manipulation, etc.) is highly encourage by all attending physician if the fellow has sufficient knowledge and safety of the patient is preserved.

The fellow is responsible for:

- Reviewing every test that is ordered in the cath related to their patient/case (EKG, ECHO, etc.)
- Placing Post cath orders on every patient
- Reconciling all cardiac medications (admission and discharge) and prescribing of new cardiac medications on all outpatient cases in which discharge is anticipated the following day (full year supply/refills need to be sent in new meds specially if antiplatelets on patients with recent PCI/Stents)
- Managing any complications that occur during the day
- Completing dictations of reports if required by the attending physician (If attending physician wishes to do report him/herself, the fellow will not have to do it)
- Managing and following cases, even if he/she did not scrub in or was not present for procedure
- Placing short/ concise notes on all cases with the highlight of the cases
 - Notes should be done in *CareConnection*
 - Notes are used to keep lines of communications open with physicians that are involve in the care of patients

The fellow is not responsible for:

- Completing reports for cases that they were not involve in.

The fellow is expected to:

- Be available for all cases from the beginning of the day until the last schedule case is completed
- Actively participate in cases and make share decisions regarding the case
- Provide appropriate and accurate sign out is to the fellow on-call
 - Sign out should be high yield sign out, emphasizing what procedure was done and possible complications, including appropriate follow up on results if needed.
 - If sign out is not given to the on-call fellow, then the cath fellow should be responsible for the care of those patients during the night.

Post Cath Day

All patient that have passed through our service and procedure were done need to evaluated and seen the following day regardless if they are follow or not by primary consult/ CHF team. This should be a targeted visit regarding issues/complication/questions that are related to procedure.

The fellow is responsible for:

- The evaluation and care of post-cath patients from day prior
- Rounding and early discharge:
 - Fellow will not be allowed to scrub into cases unless patients for that day have been seen, discussed and discharge planning has been elaborated.
 - Is strongly recommended that these patients are seen by him/her and attending physician
 - After anticipated discharge work has been completed (med recs, notes, prescriptions, orders etc.), the patients are to be signed out to the consult service fellow along with the floor nurse for the day.
 - For the cath fellow to scrub the first case, any issues that arise with patients on the floor clinically or regarding discharge shall be run through the consult service fellow.
- Communicating with referral/ hospitalist on all cases
- Ensuring cardiac medications are reconciled and prescriptions are sent to pharmacy with appropriate one-year refill in crucial medications/ new cardiac meds
- Reviewing and following up on ordered tests from prior day

Didactic Lectures

Interventional Conference (Mondays at 4:00pm)

- The main objective of this conference is to learn technical aspects of the procedure/complications
- Choose interventional conference topic two weeks before your scheduled date and review slides with interventional attending one week before your scheduled date
- Case presentations should include list of equipment and steps in the case

CATH Conference (Wednesdays at 4:00pm)

- The main objective of this conference is to summarize all available information and make educated decisions regarding the care of the specific patient being presented
- Attendance, punctuality, and active participation is mandatory
- The fellow must review all protocols currently available that pertain to the cath lab (Shock pathway, Pulmonary Pathway, Complex PCI algorithm)
- The CATH SAP should guide the development of the CATH fellow Core curriculum strongly advised to be based on Cath Sap as provided by Fellowship program. Your goal should be to read through this material once in the first two month of your rotation. (first year of fellowship)

Structural Heart Disease Interdisciplinary Conference (Wednesdays at 7:00am)

- The fellow should review images of cases to be presented the day prior
- Except for emergencies, there are usually no cases at this time. The fellow should always be present unless a case is taking place in the cath lab.

CATH Goals and Objectives

The CATH rotation will progressively challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-4: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion.• Begin reaching competency all standard invasive diagnostic techniques• Begin learning invasive procedure skills and techniques progressively at the discretion of the supervising attending
Medical Knowledge	<ul style="list-style-type: none">• Display clinical knowledge skills required to provide care for common medical conditions and basic preventive care• Demonstrate scholarship through coordination of the CATH CME conference (with the assistance of attending physician to select appropriate case) and attendance at the Interventional CME Conference• Understand the value of the data obtained from the CATH Lab, including when invasive procedures are appropriate in conjunction with/or in place of noninvasive techniques
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize ACCSAP to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with CATH lab functions and structure• Actively and independently coordinate care of patients• Respond to each patient's unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

PGY-5: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Emphasize greater focus on the more difficult or unusual patient• Begin to play an increased first-hand active role in patients and procedures• Continue reaching competency all standard invasive diagnostic techniques
Medical Knowledge	<ul style="list-style-type: none">• Skillfully obtain vascular access, placing catheters appropriately in coronary arteries and cardiac chambers, and obtaining angiograms with safe injection techniques.• Gain more experience with crossing stenotic aortic valves, cannulating right/left internal mammary arteries, percutaneous brachial approach, and dealing with difficult peripheral vascular anatomy.• Demonstrate familiarity with coronary anatomy and physiology• Demonstrate scholarship through coordination of the CATH CME conference (with the assistance of attending physician to select appropriate case) and attendance at the Interventional CME Conference
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Master the skills of a complete and concise cardiac CATH lab dictation report.• Gain exposed to the concept of radiographic imaging and digital and film archiving.• Utilize ACCSAP to self-assess progress in medical knowledge
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Learn how to use computer analysis to measure ejection fractions and coronary stenosis• Actively and independently coordinate care of patients• Respond to each patient's unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

Consult (CON)

Preceptors:	Schedule ¹ :	Site(s):
Ajay Baddi, MD* AMG Service Attendings (Schedule changes every week)	Weekdays (7:30-5pm)	AIMMC Advocate Medical Group (Irving & Western) Advocate Medical Group Heart and Vascular of Illinois

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The focus of the consultation service will be to provide an opportunity for trainees to understand the prevention, diagnosis, and management of diseases of the cardiovascular system, including:

- Acute and Chronic Ischemic Heart Disease
- Non-life-threatening Cardiac Arrhythmias
- Cardiomyopathies
- Valvar Heart Disease
- Myopericarditis
- Adult Congenital Heart Disease
- Disorders of the Peripheral Vasculature including venous and arterial circulation.
- Management of Coronary Disease risk factors, Hypertension and Diabetic CV disease.

To supplement learning, fellows participate in an on-going continuity clinic weekly with their assigned mentors at any of the above referenced locations.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Self-Directed Readings Assisting with Procedures Didactic Conferences	To be assigned during the rotation as applicable.	ACCSAP K2P

At the end of the rotation, the fellow should be able to understand:

- Primary/secondary preventive care measurements in each of the recognized coronary artery disease risk factors
- The role of the basic noninvasive testing modalities
- The needs and depth of cardiovascular risk stratification in the preoperative assessment of cardiac patients undergoing non-cardiac surgery
- CPT coding for patient diagnoses and billing
- The proper channels for referring patients to other services
- Responding appropriately to the physician who referred the patient to cardiac services
- Electronic ordering and electronic medical records

Patient Population

The patient/cardiac fellow encounters develop from referrals by staff cardiologists with cardiac cath lab privileges. The patients may originate from the cardiologist's own practice or may come from physicians from a variety of other specialties. The majority of these patients will be seen in a hospitalized setting stemming from an acute cardiac problem. Approximately 50% of patients will be scheduled electively, on an outpatient basis.

Consult Rotation-Specific Expectations

Call Schedule and Fellow Responsibility

There will be no call or weekend responsibility. The rounding schedule may vary depending upon patient load and rate or urgency of new consultations.

The fellow is given the responsibility of managing the service. It is the fellow's responsibility to know all patients on the service, including those whom the medical resident is following. Consult and daily progress notes shall be completed by the fellow/resident and cosigned by the attending on service.

Locations

The location will be the Advocate Illinois Masonic Medical Center general medical, surgical, OB and telemetry wards. Specifically, CCU consultations will be divided between Consult and Heart Failure services as deemed appropriate upon collaboration.

Attendance and Teaching Rounds

Internal Medicine Residents and Cardiology Fellows will be available for work and teaching rounds Monday through Friday, 7:30 AM - 5 PM. The trainees will be responsible for attending all required fellowship didactic lectures and CME conferences as scheduled by the program in the weekly block schedule.

Teaching rounds will occur promptly no later than 9am (at the attending's discretion) and will consist of bedside rounding. Didactic sessions will occur depending on the attending and fellow availability.

In addition to attendance to conferences and rounding, the trainees are responsible for observing at least 3 cardiac catheterizations throughout the month, at least 3 ECG stress tests, 3 Nuclear Perfusion studies, and 3 Transesophageal Echocardiograms. They should also attend weekly sessions of EKG readings as well.

Additional Learning Materials

Frequent use of the computer ordering software and electronic medical records will be encouraged as well as CPT codes discussed. The fellows will also be encouraged to accept referred patients and refer patients to attendings in our disciplines. A primer of suggested readings will be provided to each participant and it is expected that the bulk of these articles will be read in depth.

Consult Goals and Objectives

The Consult rotation will progressively challenge fellows during their PGY-4 and PGY-5 to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-4: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion.• Begin reaching competency all standard invasive diagnostic techniques• Begin learning invasive procedure skills and techniques progressively at the discretion of the supervising attending
Medical Knowledge	<ul style="list-style-type: none">• Display clinical knowledge skills required to provide care for common medical conditions and basic preventive care• Demonstrate scholarship through attendance at all required didactic lectures and CME conferences• Understand the value of patient data obtained, including when invasive procedures are appropriate in conjunction with/or in place of noninvasive techniques
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize ACCSAP to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with hospital facility functions and structure• Actively and independently coordinate care of patients• Respond to each patient's unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

PGY-5: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion.• Begin reaching competency all standard invasive diagnostic techniques• Begin learning invasive procedure skills and techniques progressively at the discretion of the supervising attending
<i>Medical Knowledge</i>	<ul style="list-style-type: none">• Display clinical knowledge skills required to provide care for common medical conditions and basic preventive care• Demonstrate scholarship through attendance at all required didactic lectures and CME conferences• Understand the value of patient data obtained, including when invasive procedures are appropriate in conjunction with/or in place of noninvasive techniques
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize ACCSAP to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with hospital facility functions and structure• Actively and independently coordinate care of patients• Respond to each patient's unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

Echocardiography (ECHO)

Preceptors:	Schedule ¹ :	Site(s):
Sorin Danciu, MD*	Attached below	AIMMC

*Primary Contact for the rotation

¹Your preceptor may provide a detailed calendar for the month

Overall Description

Echocardiography has become an essential tool on the clinical evaluation of many patients with cardiac disease. Echo often complement or substitute previous invasive modalities. In addition to standard M-Mode, 2D and Doppler color flow mapping, the field encompasses stress echoes, pharmacologic stress echoes, transesophageal echoes, and intravascular echo. To function at an acceptable level as a cardiologist, the trainee must be capable of mastering the above techniques.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
<ul style="list-style-type: none"> Didactic teaching Daily teaching sessions Bedside training in TEE Teaching conferences 	<ul style="list-style-type: none"> • Feigenbaum. Echocardiography • Oh. The Echo Manual. • Otto. The Practice of Clinical Echocardiography • Textbook of Clinical Echocardiography (Third Edition). 443 pages. Saunders. 2000. 	<ul style="list-style-type: none"> ACCSAP K2P

Two months are dedicated to progressive echo training in the first and second year of fellowship. A monthly orientation will be given to go over roles, expectations, and learning objectives for that month.

For the PGY-4 fellow:

The primary role is to learn in alignment with the ACGME milestone-specific goals and objectives set forth in this curriculum. The secondary role of is to assist in the delivery of high-quality medical care. Cooperation is expected when ancillary echo staff is unavailable with performance of STAT echoes. After the first month of echo training, further experience is gained in learning the technical aspects of image acquisition and image interpretation under the tutelage of a board-certified sonographer. Emphasis will be placed on acquiring technical skills for ultrasound instrument settings such as transducer frequency, use of harmonics, mechanical index, depth, gain, time-gain-compensation, dynamic range, filtering, velocity scale manipulations, and display of received signals.

The fellow will:

- Progressively understand the following topics:
 - Ultrasound physics and image optimization
 - Anatomy, physiology, and pathology of the heart and great vessels

- Operating the echo machine
 - The potential bioeffects of ultrasound
 - Assessing cardiac morphology
 - Assessing LV/RV regional and global systolic function
 - Assessing valvular function, specifically the standard evaluation of valve stenosis/regurgitation
 - Estimating pulmonary pressures
 - Assessing pericardial disease, specifically pericardial effusion/tamponade
 - Assessing valvular function including the standard evaluation of prosthetic heart valves
 - Assessing of pericardial disease, specifically pericardial constriction
- Progressively perform the following procedures and demonstrate an understanding of the following procedure related topics:
 - Complete transthoracic echocardiography exam (perform)
 - Identify the standard imaging planes for 2D echocardiography
 - Accurately measure for chamber dimensions
 - Learn basic Doppler
 - Complete transthoracic echocardiography exam (perform)
 - Accurately measure and calculate for 2D and Doppler echocardiography
 - Transesophageal echo (TEE) (perform)
 - Learn the difference between pulse-wave and continuous-wave Doppler
 - Progressively learn the following skills of bedside image acquisition:
 - Transducer manipulation
 - One should not underestimate the mastery required in transducer manipulation, which is critical to obtaining optimal image quality in standard imaging planes, as well as obtaining optimal Doppler flow velocity signals.
 - Ultrasound system adjustments
 - The second set of technical skills includes appropriate knowledge of ultrasound instrument settings such as transducer frequency, use of harmonics, mechanical index, depth, gain, time-gain-compensation, dynamic range, filtering, velocity scale manipulations, and display of received signals.
 - TEE training:
 - The physician performing a TEE must possess a broad range of knowledge related to pharyngeal and esophageal anatomy, sedation, intubation and probe manipulation, complications and contraindications, and operating the ultrasound machine, as well as good communication skills and an understanding of the basic principles of ultrasound imaging and Doppler hemodynamic assessment.

For the PGY-5 fellow:

The rotation will promote the integration of echocardiographic examination into other cardiovascular disciplines, such as cardiac catheterization, clinical cardiology, and nuclear cardiology. The emphasis of training is shifted from image acquisition to transthoracic echo interpretative skills, learning stress echo, and performance of TEE. Between the two PGY-5 months, there is further emphasis in refining the knowledge base and interpretive echo skills. Fellows are expected to recognize subtleties in stress echo and manipulate and interpret TEE at a superior level. Fellows will spend the majority of their time with the attending in the echocardiography laboratory.

The fellow will:

- Progressively understand the following topics:
 - Use multiple formulae to calculate ejection fraction
 - Stress echocardiography pitfalls and pearls
 - Echo and Doppler features of hypertrophic cardiomyopathy
 - TEE interpretation of infective endocarditis
 - Constrictive vs. restrictive cardiomyopathy
 - Exam planes of the coronary arteries in TTE and TEE
 - Further echo interpretation of congenital disease including Tetralogy of Fallot and transposition of great arteries (TGA)
 - Proximal Isovolumic Surface Area (PISA)
 - Pressure half-time method for MS
 - Pressure half-time method for AI
 - Cardiac output
 - Regurgitant fraction (AI)
 - Continuity equation for AS
 - Dimensionless index (AS, prosthetic aortic valves)

- Progressively perform the following procedures and demonstrate an understanding of the following procedure related topics:
 - Stress echocardiograms (SE) (perform and interpret)
 - Transthoracic echocardiography (TTE) (perform and interpret) at an advanced level, including:
 - Doppler
 - Tissue Doppler
 - Diastology
 - Contrast
 - Transesophageal echocardiography (TEE) (perform and interpret)

- Pursue Level II Certification transthoracic echo to perform related procedures independently by completing:
 - 50 supervised transesophageal studies (performed)
 - 100 supervised stress echocardiographic studies (performed)
 - 150 transthoracic two-dimensional and Doppler examinations (interpreted)
 - Additional three months (total of six) in echocardiography training
 - **NOTE:** Although some experience in special procedures may be attained as a part of level II training, in most instances, full competence in these areas will require additional training beyond level II.

Patient Population

PGY-4 fellows can expect progressive exposure to patients with:

- normal cardiac exam
- valvular stenosis and regurgitation
- CHF (systolic heart failure)
- Pericardial effusion for diagnosis of pericardial effusion and cardiac tamponade, and with simple congenital abnormalities including a bicuspid aortic valve
- Ebstein's anomaly and ASD/PFO

PGY-5 fellows can expect progressive exposure to patients with:

- Hypertrophic cardiomyopathy and aortic stenosis
- Mitral stenosis and regurgitation (assess Wilkins score)
- Effusive-constrictive and restrictive cardiomyopathy
- Complex congenital abnormalities including a Fallot's Tetralogy, transposition, repaired congenital heart disease (Mustard, Senning, Waterston)
- Hypertrophic cardiomyopathy and aortic stenosis
- ischemic heart disease

ECHO Rotation-Specific Expectations

Elaboration on Teaching Methods

- **Didactic teaching:** introductory didactic series will be initiated during the first month of fellowship training and will continue throughout fellowship training, including survival lectures in echocardiography.
- **Daily teaching sessions:** the fellow should pick two previously scanned echoes from the day and discuss them with the assigned attending for echo that day. For PGY-5 fellows, this will include both anatomical and Doppler topics.
- **Bedside training in TEE:** The physician performing a TEE must possess a broad range of knowledge related to pharyngeal and esophageal anatomy, sedation, intubation and probe manipulation, complications and contraindications, and operating the ultrasound machine, as well as good communication skills and an understanding of the basic principles of ultrasound imaging and Doppler hemodynamic assessment.
- **Teaching conferences (CME):** Echocardiography conducts weekly, one hour organized teaching where fellows are expected to present relevant echocardiographic studies. The presentation should not be longer than 30 minutes followed by case presentations relevant to the presented topic and should not exceed more than 30 minutes.

Call and Service Types Performed

On call echocardiography (stat echoes), and emergency TTEs, on nights and weekends, when the sonographers are not available, are performed by the cardiology fellow on call. Fellows must have established partial competency in performance and interpretation of TTE. The on-call attending is always available for assistance.

The on-call fellow provides a preliminary interpretation to the physicians caring for the sick patient. All echoes performed should also be saved and sent to Merge reading station for other to view. On-call studies will be officially read by an echo attending within 24 hours. The echo attending interpreting on-call echoes will review the studies with the fellow who performed the study to give feedback on echo quality and interpretation. The echo attending on call will be available to assist in interpretation of TTE findings as requested by the on-call fellow.

TEEs on nights and weekends are performed and interpreted by the on-call fellow under direct physical supervision of the on-call echo attending.

Service types performed include:

- On-call echocardiography (stat echoes)
- Administration of agitated saline (bubble studies) for detection of intracardiac shunts
- Transthoracic and Transesophageal echo in special settings (TAVR, MitraClip, LAA closure device placement)
- Stress echocardiography

Weekly Schedule

The following schedule samples are meant to guide the echo fellow on their workload expectations and time frames. These samples are subject to change and not representative of potential day-to-day learning opportunities and challenges.

PGY-4 Sample Schedule (first month)

	Monday	Tuesday	Wednesday	Thursday	Friday
7am			TAVR meeting		
8am	TTE performance with echo techs (First month)	TTE performance with echo techs (First month)	TTE performance with echo techs (First month)	TTE performance with echo techs (First month)	TTE performance with echo techs (First month)
12pm	EKG Conference	ACVI Conference			
1pm	Echo interpretation with attendings	Echo interpretation with attendings	Echo Conference Echo interpretation with attendings	Echo interpretation with attendings	Echo interpretation with attendings

PGY-4 Sample Schedule (second month)

	Monday	Tuesday	Wednesday	Thursday	Friday
7am			TAVR meeting		
8am	TTE/TEE performance (second month)	TTE/TEE performance (second month)	TTE/TEE performance (second month)	TTE/TEE performance (second month)	TTE/TEE performance (second month)
12pm	EKG Conference	ACVI Conference			
1pm	Echo interpretation with attendings	Echo interpretation with attendings	Echo Conference Echo interpretation with attendings	Echo interpretation with attendings	Echo interpretation with attendings

PGY-5 Sample Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
7am			TAVR meeting		
8am	TTE performance with echo techs	TTE performance with echo techs	TTE performance with echo techs	TTE performance with echo techs	TTE performance with echo techs
12pm	EKG Conference	ACVI Conference			
1pm	Echo interpretation with attendings	Echo interpretation with attendings	Echo Conference Echo interpretation with attendings	Echo interpretation with attendings	Echo interpretation with attendings

ECHO Goals and Objectives

The ECHO rotation will progressively challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰. These descriptions are supplementary to the PGY-specific overall rotation description listed above.

PGY-4: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion• Begin reaching competency all standard invasive diagnostic techniques• Begin progressively learning skills and techniques
<i>Medical Knowledge</i>	<ul style="list-style-type: none">• Understand the principles of echocardiographic image acquisition and Doppler analysis• Understand the basic views, normal anatomy, and flow patterns• Evaluate simple stenotic and regurgitant valvular lesions• Accurately obtain a visual estimate of left ventricular ejection fraction• Diagnose tamponade physiology• Understand the indication, basic views, and clinical application of transesophageal echocardiography• Perform stress echocardiography, including treadmill/dobutamine stresses• Understand the principles of ischemic cardiac disease and identification of wall motion abnormalities• Understand the clinical utility of contrast echocardiography• Perform the basic steps of a routine echocardiographic examination
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize ACCSAP to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with functions and structure of AIMMC facility• Actively and independently coordinate care of patients

	<ul style="list-style-type: none"> • Respond to each patient’s unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none"> • Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team • Accept responsibility and follows through on tasks • Exhibit integrity and ethical behavior in professional conducts

PGY-5: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none"> • Emphasize greater focus on the more difficult or unusual patient • Begin to play an increased first-hand active role in patients • Continue reaching competency in all standard techniques
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Medical Knowledge	<ul style="list-style-type: none"> • Evaluate the entire spectrum of stenotic and regurgitant valvular lesions with all relevant methodologies and equations • Recognize the echocardiographic appearance of various forms of cardiomyopathic processes • Fully apply the concept of diastolic dysfunction • Recognize pericardial disease and the hemodynamic aspects of constrictive and restrictive processes, specifically be able to differentiate them echocardiographically • Intubate with a TEE probe and answer “simple” questions of TEE, i.e. presence of left atrial appendage thrombus or patent foramen ovale (PFO) • Independently read a regular stress echocardiogram • Utilize echocardiography in the management of patients
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<i>Practice-Based Learning</i>	<ul style="list-style-type: none"> • Utilize ACCSAP to self-assess progress in medical knowledge
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<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none"> • Communicate effectively with patients and caregivers as appropriate • Communicate effectively in interpersonal teams • Appropriately utilize and complete health records
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<i>Systems-Based Practice</i>	<ul style="list-style-type: none"> • Learn how to use technical software for reading • Actively and independently coordinate care of patients • Respond to each patient’s unique characteristics and needs
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<i>Professionalism</i>	<ul style="list-style-type: none"> • Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team • Accept responsibility and follows through on tasks • Exhibit integrity and ethical behavior in professional conducts
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PGY-6: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none"> • Emphasize greater focus on the more difficult or unusual patient • Begin to play an increased first-hand active role in patients • Continue reaching competency in all standard techniques
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Medical Knowledge	<ul style="list-style-type: none"> • Understand and assess the complexities of congenital heart disease lesions, including cyanotic congenital defects • Independently read stress echocardiograms, including viability studies • Independently perform and interpret routine transthoracic studies • Independently perform (with direct faculty supervision) and interpret routine transesophageal studies
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<i>Practice-Based Learning</i>	<ul style="list-style-type: none"> • Utilize ACCSAP to self-assess progress in medical knowledge
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<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none"> • Communicate effectively with patients and caregivers as appropriate • Communicate effectively in interpersonal teams • Appropriately utilize and complete health records
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<i>Systems-Based Practice</i>	<ul style="list-style-type: none"> • Continue mastering how to use technical software for reading • Actively and independently coordinate care of patients • Respond to each patient’s unique characteristics and needs
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<i>Professionalism</i>	<ul style="list-style-type: none"> • Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team • Accept responsibility and follows through on tasks • Exhibit integrity and ethical behavior in professional conducts
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Heart Rhythm Services Electrophysiology (EP)

Preceptors:	Schedule ¹ :	Site(s):
Peter Brady, MD* Ted Wang, MD Oliver D'Silva, MD Saurabh Shah, MD	Weekdays (8-5pm)	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The heart rhythm services (HRS) rotation will introduce the trainee to patients presenting with a wider variety of heart rhythm disorders and provide broad education in the initial assessment and management of these patients. Specifically, this will include an understanding of the complex pathophysiology of heart rhythm disorders and the pharmacologic and interventional management of patients presenting with bradycardia due to sinus node dysfunction and heart block and tachycardias due to both supra – and ventricular arrhythmias. The trainee will also gain exposure to patients indicated for implantable cardioverter defibrillators (ICD) and cardiac resynchronization therapy (CRT) as well as exposure to patients presenting with appropriate and inappropriate device therapies.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Patient Consultations Self-Directed Readings Assisting with Procedures Didactic Conferences	To be assigned during the rotation as applicable.	ACCSAP K2P Heart Rhythm Society

The fellow rotating on the electrophysiology service will:

- Develop a comprehensive understanding of the evaluation and the therapy of the patients with heart rhythm disorders to include:
 - an awareness of the natural history of the disorder
 - the appropriate steps in the diagnostic evaluation
 - the benefits as well as the risks of different therapeutic approaches
 - the expected probability that the prescribed therapy will afford the patient improvement in either survival or quality of life.
- Be exposed to the following procedures:
 - Non-Invasive diagnostics

- Electrocardiogram
- Holter and event recording use and analysis
- Invasive procedures
 - diagnostic electrophysiologic study
 - 3D mapping approaches
 - radiofrequency catheter ablation
- Permanent pacemaker insertion
- ICD implantation

Patient Population

The types of patients referred to the clinical cardiac electrophysiology service are wide ranging and exhibit the following types of disorders: sinus node dysfunction, AV conduction defects, supraventricular tachycardias as a result of either av nodal reentry or accessory pathways, supraventricular arrhythmias arising from structural heart disease, atrial flutter and atrial fibrillation, idiopathic ventricular tachycardia, ventricular tachycardia complicating post-infarction coronary disease, ventricular arrhythmias complicating a variety of myopathic processes, patients presenting as cardiac arrest survivors and patient presenting with syncope.

General, the patient – fellow encounters develop from a formal in-hospital consultation request to the clinical electrophysiology service. In addition, approximately 20% of the clinical contact occurs as a result of patients who had been initially evaluated as outpatient referrals.

Heart rhythm service Goals and Objectives

The heart rhythm service rotation will challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-4, 5, or 6: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion• Learn invasive and non-invasive procedure skills and techniques progressively at the discretion of the supervising attending
Medical Knowledge	<ul style="list-style-type: none">• Display clinical knowledge skills required to provide care for common medical conditions and basic preventive care• Demonstrate scholarship through independent studying and attendance at scheduled heart rhythm lectures and conferences• Understand the value of the data obtained from the EP Lab, including when invasive procedures are appropriate in conjunction with/or in place of noninvasive techniques• Develop a comprehensive understanding of the evaluation and the therapy of the patients with manifest cardiac dysrhythmias as well as those at high risk for developing life-threatening dysrhythmias
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize resources to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with EP lab functions and structure• Actively and independently coordinate care of patients• Respond to each patient's unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

Heart Failure (HF-CCU)

Preceptors:	Schedule ¹ :	Site(s):
Nishit Shah, MD* Phoebe Ezidinma, MD Surender Kumar, MD	Weekdays (8-5pm)	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

Introduction Heart failure is a major part of a general cardiologist's practice. Heart failure appears in a multitude of forms, from mild, asymptomatic left ventricular or right ventricular dysfunction; to mildly limited patients who require only modest amounts of intervention; to severe manifestations of ventricular dysfunction and symptomatic heart failure; to acute presentations of heart failure. Heart failure also encompasses the broad categories of long-term care with medical management, device therapy for rhythm disorders, device therapy for severe pump dysfunction, and cardiac transplantation.

Given the frequency of obstructive coronary artery disease in the population and the rapid expansion and evolution of interventional techniques, the skills learned during this rotation will be important for any invasive or interventional cardiologist. The invasive cardiologist must have a thorough understanding of the procedures and where its role should be in any individual patient. The clinical experience in heart failure will be available to all fellow years.

The HF rotation will:

- Expose the general fellow to the entire spectrum of heart failure.
- Prepare cardiology fellows to independently perform diagnostic procedures after their training.
- Serve as a basic introduction to interventional techniques.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Patient Consultations Self-Directed Readings Observing Procedures Didactics	Standard cardiovascular medicine textbooks ACC/AHA Clinical Guidelines for patients with heart failure Guidelines of the Heart Failure Society of America	ACC/SAP K2P

There may be additional opportunities to focus on more on research or case study write-ups. At some point during the 36-month cycle of fellows, fellows will have a change to participate in didactic lectures on cardiomyopathies, heart failure, and transplantation and LVADs. All fellows will be expected to attend these lectures for enhancement of medical knowledge.

Note: There is also an offsite rotation at Advocate Christ Medical Center (LVAD rotation) where fellows get experience with a busy cardiac transplant program, a ventricular assist device program post-transplant follow-up clinic, long-term follow-up clinics for patients with ventricular assist devices, and related experiences. This is available for all fellows in-training.

Patient Population

The HF rotation is predominantly oriented toward the inpatient service, where the fellow will have an opportunity to take care of inpatient manifestations of heart failure, including routine patients admitted with either acute exacerbations of chronic failure or transfers for evaluation of new manifestation of heart failure. These patients will be available as consultative requests from other services. The fellow will be seeing patients, making recommendations, and working with faculty and other practice providers.

HF Rotation-Specific Expectations

Rounding and Service

The fellow should be an active participant on rounds. The attending and fellow will ultimately choose the approach of morning rounds. However, unless otherwise discussed by attending and fellow, rounds with attending physician will begin at 8:30 a.m. and conclude at 10:30 a.m. At the end of the day, ideally 3:00 p.m., the fellow will “run the list” with the attending and HF team touching on important clinical issues and decisions that arise during the workday.

With attending supervision, the fellow will lead the heart failure team that is composed of residents, case managers, medical students, and nurses. The fellow will guide clinical decision-making, educate team members and patients when necessary, and explain the plan of care to each patient on the service. Parameters of participation will be mutually determined between the heart failure faculty member attending each week on the inpatient service and the cardiovascular medicine fellow. In some cases, a resident may be attending an elective rotation on the inpatient service. Responsibilities should be appropriately divided between the fellow and resident.

The fellow will also interact with critically ill patients in the intensive care units. In addition, the fellow will have the opportunity to manage chronic indwelling right heart catheters on patients in the intensive care units. There is no specific overnight heart failure service call.

Outpatient Clinic

The outpatient clinic is an optional experience for fellows in-training on the HF rotation. In clinic, the fellow will be expected to interview, examine, and develop a treatment plan for patients with advanced heart and/or pulmonary hypertension. In order to do this effectively, the fellow must have a detailed understanding of the patient’s prior history and management strategies. The fellow will then present the patient to the HF attending prior to seeing the patient with the HF attending. The fellow will be expected to write the note for the clinic visit in Epic within 48 hours of seeing patient.

Didactics

Heart failure attendings are expected to conduct lectures interchangeably with Dr. Kumar, discussing topics relevant to heart failure with emphasis in hemodynamics and incorporating pharmacologic and mechanical support therapies in cardiogenic shock. Fellows are not expected to participate in lectures held by Dr. Kumar on Wednesday to avoid conflict with ECHO and CATH conference also held on Wednesday.

HF Goals and Objectives

The HF rotation will progressively challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰ and recommended by the *ACC 2015 Core Cardiovascular Training Statement (COCATS 4)*¹¹.

PGY-4, PGY-5, and PGY-6: During the rotation, each fellow will:

Patient Care

- Acquire skills to manage patients with new-onset heart failure, both in the ambulatory and inpatient setting.
- Acquire skills to care for severe acute decompensated heart failure in the emergency department and on the inpatient service.
- Apply appropriate use of imaging modalities to manage both acute and chronic heart failure.
- Acquire skills to accurately perform the physical exam to determine the patient's degree of clinical compensation and also volume and perfusion status.
- Understand and acquire skills to determine when palliative care may be the most appropriate option for heart failure patients.

Medical Knowledge

- Know the pathophysiology, differential diagnosis, and natural history of heart failure.
- Understand the characteristic history and physical exam findings of a patient with heart failure.
- Understand the pathophysiology of heart failure at the cellular, molecular, organ, and whole individual levels, particularly understanding the important roles of neurohormonal activation, left ventricular remodeling, and ventricular disease progression.
- Understand common causes of cardiomyopathy
- Understand the Frank-Starling relationship, pressure-volume loops, and the force-tension curve.
- Understand how preload, afterload, and contractility impact myocardial performance (SV).
- Understand how inotropes, vasopressors, and vasodilators alter myocardial performance (SV).
- Know the indications, contraindications, and pharmacology of drugs commonly used for treating heart failure.
- Indications for right heart catheterization, coronary angiography, and endomyocardial biopsy
- Clinical events/findings suggesting advanced, Stage D HF
- Understand the associated medical and pharmacologic management of patients with mechanical circulatory support.

- Understand the indications, contraindications, and clinical pharmacology of intravenous therapy for heart failure patients in severe failure and cardiogenic shock.
- Understand the basic pharmacology and principles of immunosuppression therapy for transplant patients and the treatment of acute transplant rejection.
- Know the effect of severe heart failure on other clinical organ systems.
- Understand the important role of cardiac arrhythmias and risk of sudden death in patients with heart failure and the indications for the use of rhythm regulating devices.
- Understand the management and diagnostic evaluation of patients with heart failure with preserved ejection fraction.
- Participate and acquire skills to rapidly evaluate the results of invasive hemodynamic monitoring.
- Apply the results of hemodynamic monitoring to adjusting pharmacologic therapy for patients with heart failure.
- Understand the implications of major cardiac arrhythmias that occur in patients with heart failure and the determination as to when device therapy, either for primary or secondary reasons, is appropriate. This will include selection criteria for ICD implantation for prevention of SCD and selection criteria for chronic resynchronization therapy.
- Understand the role of pharmacotherapy for rhythm management for patients with arrhythmias complicating heart failure.
- Acquire skills in managing chronic complex arrhythmias and acute arrhythmia exacerbations and interfacing with the electrophysiology services.
- Recognize the common comorbidities that occur in patients with heart failure, with particular emphasis on renal, hepatic, and pulmonary diseases.
- Understand the implications and acquire the skills to determine what is appropriate long-term ambulatory care for patients with chronic or newly diagnosed heart failure.
- Acquire the skills to interpret and incorporate the results of cardiopulmonary exercise testing for heart failure patients.
- Understand and recognize signs of clinical depression and its need for treatment.
- Understand the management strategies and evaluation of specialized populations of patients with postpartum cardiomyopathy, chemotherapy-related heart failure, and hypertensive heart disease.
- Understand the principles of managing patients on chronic and acute mechanical circulatory support.
- Acquire the skill to evaluate hemodynamic abnormalities of patients with heart failure in determining candidacy for heart transplantation and device placement.
- Understand the implications of significant comorbidities on the ability of patients to become device therapy or transplant therapy candidates.

- Know the indications for referral and evaluation of patients for cardiac transplantation.
- Understand the indications for evaluating a patient for chronic mechanical circulatory support.
- Apply the results of hemodynamic monitoring to adjusting device therapy for patients with heart failure.
- Acquire a basic understanding of the types of chronic congenital heart disease that may evolve into end-stage heart failure.
- Acquire the skills to evaluate patients for advanced therapy such as transplantation or device therapy in relation to the social, economic, and family support needs.
- Indications and contraindications for MCS and cardiac transplantation

Practice-Based Learning

- Solicit feedback from supervising attendings outside of *Medhub* evaluations
- Utilize ACCSAP to self-assess progress in medical knowledge
- Systematically approach tracking and pursuing emergent clinical questions
- Perform a self-assessment as to one's knowledge base acquired during the rotations and work to fill in knowledge gaps.
- Understand the role of major guidelines for heart failure, care of patients, and major guidelines for the indication of cardiac transplantation.
- Understand how a heart failure team fully functions, operates, and makes decisions, and interfaces with several other major care providing groups such as cardiac surgery within the environment of the medical center.
- Understand how a palliative care team actively participates and interfaces with the heart failure care team.

Interpersonal Communication Skills

- Communicate and interact with educational activities for patients and families about the broad range of disease caused by heart failure.
- Acquire appropriate skills to interact with a broad range of cultural, ethnic, and socioeconomic backgrounds of patients.
- Effectively learn how to communicate and also present information to the interdisciplinary team.
- Perform effective consultation on patients with newly diagnosed heart failure that may be on other inpatient or outpatient services.

Systems-Based Practice

- Understand the appropriate care settings, infrastructure, and team management needs for patients with various levels of acute and chronic heart failure.
- Understand the importance of a team-based approach in applying for comprehensive care for patients with all forms of heart failure.
- Acquire the ability to assess financial, cultural, and social barriers to evaluation of heart failure patients and to evaluation of the needs for advanced therapies.

- Understand the role of all members of the interdisciplinary heart failure team and successfully interact with them.
- Understand the support necessary for patients to successfully have advanced heart failure therapy.

Professionalism

- Develop effective compassionate management of patients with heart failure, particularly those regarding difficult decisions about advanced therapy or end of life decisions.
- Develop skills to clearly communicate with all members of the interdisciplinary team and respect all of the roles of members of the interdisciplinary team including transplant personnel, mechanical circulatory support personnel, general heart failure personnel, and palliative care personnel.
- Interact respectfully with patients, families, and other members of the inpatient and outpatient units.
- Adhere to strict ethical principles in all interactions with patients

Interventional (PCI)

Preceptors:	Schedule ¹ :	Site(s):
Joaquin Gonzalez, MD* Allan Beall, MD Steven Driver, MD	Weekdays (8-5pm) Some weekends may apply	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The primary purpose of this third-year elective rotation in the CATH lab is to introduce the PGY-6 fellow to more advanced invasive and interventional techniques and to allow the fellow more independent behavior, including the supervision of the first- and second-year cardiology fellows. During this month the third year should not scrub in simultaneously with the first year, to not take away from their hands on experience but should act more in the role of guidance and assuring work flow in the floors (with post cath patients) and in prep and hold (with consents/ orders) goes smoothly.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Teaching Rounds Patient Consultations Self-Directed Readings Performing Procedures Assisting with Procedures Didactic Conferences	To be assigned during the rotation as applicable.	ACCSAP K2P CATHSAP

The PTCA rotation will:

- Familiarize the fellow with all forms of interventional procedures including the details of the specific equipment, their indications, their strengths, and limitations, and will begin to learn the techniques of proper usage.
- Promote an active teaching role in assisting PGY-4 and PGY-5 fellows with their procedures.
- Continue exposing fellows to a full spectrum of cardiac disease, such as:
 - Coronary artery disease
 - Valvular heart disease, including rheumatic and aortic stenosis and tricuspid stenosis.
 - Regurgitation of the three principal heart valves from rheumatic causes.
 - Non-rheumatic causes of aortic stenosis and valvular insufficiencies
 - Cardiomyopathies from many causes, including alcoholic, peripartum and hypertension
 - Pericardial disease, including cardiac tamponade and chronic pericardial effusions
 - Restrictive physiologies
 - Acute coronary syndromes, including acute myocardial infarction and unstable angina.

- Allow fellows opportunities to independently perform advanced invasive techniques, such as:
 - myocardial biopsy
 - brachial artery catheterization
 - right heart catheterizations utilizing a balloon-tipped flow-directed catheter,
 - cardiac output determinations via the Fick technique and/or thermodilution technique
 - measurement of valvular gradient
 - Measurements of diastolic pressures for evaluation of restrictive/constrictive disease
 - measurements of aortic and left ventricular pressures
 - multi-plane coronary angiography
 - multi-plane left ventricular angiography
 - angiography of saphenous vein bypass grafts
 - angiography of mammary artery bypass grafts
 - aortography
 - Occasional therapeutic techniques (pericardiocentesis, intra-aortic balloon placement)

- Expose the cardiology fellow to a wide variety of interventional techniques, including:
 - balloon angioplasty
 - rotational atherectomy
 - Coronary artery stenting
 - intravascular ultrasound
 - aortic and mitral valvuloplasty procedures
 - other evolving technologies

Patient Population

The patient/cardiac fellow encounters develop from referrals by staff cardiologists with cardiac cath lab privileges. The patients may originate from the cardiologist's own practice or may come from physicians from a variety of other specialties. The majority of these patients will be seen in a hospitalized setting stemming from an acute cardiac problem. Approximately 50% of patients will be scheduled electively, on an outpatient basis.

PTCA Rotation-Specific Expectations

Scrubbing

Fellows will be expected to scrub in cases during weekday work hours (for fellow on CATH or PCI rotation) and for urgent/emergent cases during work and off work hours when they are relevant to teaching opportunities at the discretion of the preceptor. Technologists will be scrubbing every case- elective and urgent/emergent.

On weekends, the fellow is still expected to scrub, but may be excused for patient care reasons such as sick patient on the floor, emergent consult, or long patient rounding list. The fellow will be expected to still be involved in the pre- and post-operative care of the patient. This involves getting consent, placing orders, sheath management, coordinating care, communicating to CATH lab staff and primary team, etc.

If the fellow cannot scrub a case, he or she should communicate this with the attending on call. The staff should be ready to have a technologist scrubbing regardless. The plan is to have consistency and improve patient safety and quality.

PTCA Goals and Objectives

PGY-6: The PTCA rotation will challenge PGY-6 fellows to learn information and regularly practice skills with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰. During the rotation, each fellow will:

Patient Care

- Demonstrate greater independence in the management of patients and procedures
- Develop customized, prioritized care plans for complex patients
- Appropriately utilize and complete health records

Medical Knowledge

- Learn more advanced invasive and interventional techniques
- Perform more advanced invasive and interventional techniques independently with attending supervision
- Lead the Interventional Conference to begin introduction to the therapeutic side of the CATH lab.

Practice-Based Learning

- Solicit feedback from supervising attendings outside of *Medhub* evaluations
- Utilize ACCSAP to self-assess progress in medical knowledge
- Systematically approach tracking and pursuing emergent clinical questions

Interpersonal Communication Skills

- Communicate effectively with patients and caregivers as appropriate
- Communicate effectively in interpersonal teams
- Assist PGY-4 and PGY-5 fellows with CATH conference by guiding the selection of appropriate case for discussion and facilitation

Systems-Based Practice

- Practice an active teaching role by supervising PGY-4 and PGY-5 fellows
- Actively and independently coordinate care of patients
- Respond to each patient's unique characteristics and needs

Professionalism

- Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team
- Accept responsibility and follows through on tasks
- Exhibit integrity and ethical behavior in professional conducts

LVAD Transplant (LVAD)

Preceptors:	Schedule¹:	Site(s):
TBD*	Weekdays (8-5pm)	Advocate Christ Medical Center 4440 W 95th St Oak Lawn, IL 60453

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

THE FOLLOWING PAGES ARE REPRESENTATIVE OF THE CURRICULUM AT ADVOCATE CHRIST MEDICAL CENTER

"ATTACHMENT A"

ADVANCED HEART FAILURE AND TRANSPLANT CARDIOLOGY GOALS AND OBJECTIVES:

Patient Care

Fellows will be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Fellows:

- (1) will demonstrate competence in the practice of health promotion, disease prevention, diagnosis, care, and treatment of patients of each gender, from adolescence to old age, during health and all stages of illness;
- (2) will demonstrate competence in prevention education, evaluation, and management of inpatients and outpatients with
 - a. acute cellular and antibody mediated rejection;
 - b. acute decompensation of chronic heart failure;
 - c. cardiac allograft vasculopathy;
 - d. cardiac transplant (at least 30 patients, of whom at least five are seen during initial transplant hospitalization and peri-operative management);
 - e. cytomegalovirus and other opportunistic infections;
 - f. heart failure secondary to cancer chemotherapy;
 - g. heart failure and congenital heart disease;
 - h. heart failure and arrhythmias;
 - i. heart failure, and who are being evaluated for implantable cardioverter-defibrillators (at least 50 patients);
 - j. heart failure and other transplanted organs;
 - k. heart failure, and who are on mechanical assist devices (at least 10 patients, of whom at least two are being managed during peri-operative hospitalization);
 - l. heart failure with dilated or non-dilated left ventricle;
 - m. heart failure, and who are pregnant or recently post-partum;
 - n. heart failure, and who are from diverse ethnic groups
 - o. hypertension;
 - p. hypertrophic cardiomyopathies;
 - q. infiltrative and inflammatory cardiomyopathies;
 - r. inherited forms of cardiomyopathy;
 - s. new onset heart failure;
 - t. pre- and post-cardiac surgery and non-cardiac
 - u. surgery heart failure;
 - v. post-transplantation hypertension;
 - w. post-transplantation renal insufficiency; and,
 - x. pulmonary hypertension.
- (3) must demonstrate competence in heart failure evaluation, to include:

- a. applying and interpreting approaches to evaluating symptom severity, functional capacity, and health related quality of life in patients with heart failure;
 - b. recognizing clinical features in all forms and etiologies of heart failure;
 - c. recognizing the indications for, and interpreting the results of all diagnostic tests and modalities relevant to evaluating and managing patients with, or-suspected of having, heart failure or cardiac dysfunction; in particular, recognizing the impact of such testing on the management of these patients; and,
 - d. using and interpreting the results of maximal and sub-maximal exercise testing and cardiopulmonary exercise testing.
- (4) must demonstrate competence in heart failure management to include;
- a. assigning methods of surveillance for transplant rejection and immune status;
 - b. device interrogation and interpretation in patients with implanted cardioverter-defibrillators or implanted cardioverter-defibrillator; cardiac-resynchronization therapy devices (at least 100 interrogations and interpretations of these devices must be performed);
 - c. recognizing the indications for and prescribing non-pharmacologic; non-device treatment modalities including diet and exercise;
 - d. recognizing the indications for, prescribing; and monitoring all classes of drugs relevant to patient care; and,
 - e. recognizing the indications for and prescribing immunomodulating drugs, and managing their adverse effects, therapeutic levels, and interactions with other drugs.

Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social behavioral sciences, as well as the application of this knowledge to patient care.

Fellows:

- (1) must demonstrate knowledge of the scientific method of problem solving and evidence based decision making;
- (2) must demonstrate knowledge of indications, contraindications, limitations, complications, techniques, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indications for and use of screening tests/procedures; and,
- (3) must demonstrate knowledge of basic mechanisms of heart failure, to include;
 - a. cardiomyocyte biology as it applies to heart failure;
 - b. differential diagnosis that includes specific etiologies and exacerbating factors for patients presenting with new onset heart failure and with acute exacerbation of chronic heart failure;

- c. extracellular matrix biology, including the roles of matrix remodeling in the progression of heart failure;
- d. genetics, including common mutations leading to hypertrophic and dilated cardiomyopathies;
- e. the impact of psychosocial factors on the manifestations, expression, and management of
- f. interpretation of endomyocardial biopsy results with regard to implications for therapy;
- g. neurohormonal activation;
- h. pharmacogenomics; specifically as it applies to special needs patients with heart failure;
- i. the role and interpretation of hemodynamic monitoring; and,
- j. ventricular remodeling concepts.

Practice-based Learning and Improvement

Fellows are expected to develop skills and habits to be able to meet the following goals:

- (1) systematically analyze practice using quality improvement methods; and implement changes with the goal of practice improvement;
- (2) locate, appraise, and assimilate evidence from scientific studies related to their patients health problems; and,
- (3) apply new contributions to the management and care of their patients.

Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles;

Fellows must demonstrate:

- (1) high standards of ethical behavior, including maintaining appropriate professional boundaries and relationships with other physicians, and other health care team members, avoiding conflicts of interest; and
- (2) a commitment to lifelong learning, and an attitude of caring that is derived from humanistic and professional values.

Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

Description of Teaching/Leaning Activities:

Provide an overview of the program and follow this with a narrative or outline of the complete program. *See program related activities below.*

The description should address the methods used for teaching/supervision and feedback to the students (i.e. residents, fellows). It should explain how the patient care experiences will be met to provide the appropriate amount of experience for learning.

Non-Invasive (NI)

Preceptors:	Schedule ¹ :	Site(s):
Sorin Danciu, MD*	Attached below	AIMMC

**Primary Contact for the rotation*

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The purpose of this rotation is for the fellow to acquire knowledge about the indications, performance, interpretation, and limitations of different stress test modalities including diagnostic nuclear stress testing. Fellows are expected to understand the basic principles of radioisotopes and myocardial perfusion imaging and gain skills required to independently interpret nuclear perfusion studies. The fellow is directly responsible to the attending of the exercise/nuclear lab for all components of this rotation. The fellow will be given primary responsibility to perform stress tests, under direct supervision of an attending or a specially trained exercise physiology professional. Fellows will be instructed in the interpretation of stress testing following myocardial infarction for the purpose of identifying high risk patients.

Junior fellows (PGY-4) may be requested to monitor different stress test modalities including treadmill stress tests, exercise stress echoes, dobutamine stress tests and stress portion of the stress myocardial perfusion imaging studies. Each study will then be reviewed by the fellow before the patient leaves the testing area to assure safety for the patient. High risk scan findings will be communicated with the reading staff physician as well as the referring physician. Fellows will review all scans with the staffing physicians and generate a report in the medical record. Fellows will keep a log of patient studies reviewed and performed.

In addition to the goals and objectives of junior fellows, senior fellows (PGY-5 and PGY-6) will be given more independence in decision making and communication with the patient and health care team.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Didactic teaching Study Interpretation	To be assigned during the rotation as applicable.	ACCSAP K2P

During this rotation, the fellow will:

- Obtain training in the principles of noninvasive detection and prognostic assessment of patients with known or suspected coronary artery disease.
- Understand the differences between the various radioisotopes used in nuclear cardiology, including their energy, half-lives, and organs of elimination
- Gain a proper understanding of the value of perfusion imaging in the diagnosis, prognosis, and management of patients with coronary artery disease.

- Gain understanding of nuclear methods for measurement of left ventricular function and the complimentary roles of myocardial perfusion and left ventricular function in patient assessment and management
- Understand the following principles:
 - Myocardial perfusion and blood flow
 - Factors determining flow, coronary flow regulation, vasoreactivity, coronary flow reserve, regional flow differences, and flow variability
 - Radioactivity, radioactive decay, radionuclide production, radionuclide generators, photon interactions with matter, and radiation detectors
- Develop a basic understanding of the instrumentation, techniques, and principles involved in:
 - nuclear imaging
 - including collimation
 - resolution
 - contrast
 - localization
 - noise
 - SPECT
 - PET
 - image reconstitution methods
 - attenuation and scatter correction
- Become familiar with stress testing through understanding of:
 - Various methods of stress testing (treadmill, pharmacologic)
 - Indications, exclusions, safety, and technique
 - Advantages, disadvantages, and differences between various protocols for image acquisition
 - The role of stress testing in preoperative cardiac risk assessment, using published series and guidelines
 - The risks and benefits of various stress testing modalities
 - the implications of various pharmacologic agents on stress test accuracy.
 - the value and limitations of stress test results in the assessment of patient diagnosis and prognosis, and in clinical management.
 - interpretation of exercise electrocardiograms and stress and rest nuclear cardiac tests.
 - generate an accurate and easily understood report for stress tests and nuclear perfusion studies.
- Gain an appreciation for the role of the staff members in the non-invasive lab, including the technicians, nurses, and administrative staff.
- Gain basic knowledge in cardiac CT and MRI imaging modalities.
- Fulfill Level I Training (ACC) by completing:
 - > 80 hours of nuclear cardiology study interpretation (performed and interpreted), which may include:

- SPECT and planar myocardial perfusion imaging
- gated blood pool studies
- PET perfusion and viability studies.

Patient Population

A wide variety of patients will be encountered, including acute and chronic coronary disease, congestive heart failure, complex cardiac arrhythmias and patients following various cardiac surgeries.

NI Rotation-Specific Expectations

Supervision

The attending physician will review with the fellow the appropriateness of test selection at the time of the afternoon reading session. Suggestions for improvement in test selection will be made when appropriate and the rationale and literature basis for an alternative test selection will be discussed. The attending physician will interpret the exercise electrocardiograms and exercise and rest nuclear scans with the fellow each day. Changes in interpretation compared to the fellow's preliminary interpretation will be discussed, incorporating literature-based principles.

Stress Testing

The studies performed will include maximal and sub maximal exercise tests as well as pharmacologic tests with dobutamine, or regadenoson. The fellow will become familiar with exercise physiology and will learn the essentials of preparation for exercise testing (skin preparation, electrode placement, etc.) and know the clinical importance of the study findings. Fellows will also be instructed in the interpretation of stress testing for the purpose of identifying high risk patients and for prescribing appropriate exercise regimens for cardiac rehabilitation.

Cardiac CT and MRI

In addition to stress tests and nuclear imaging modalities, the senior noninvasive fellow (second year fellow and above) will have the opportunity to attend cardiac CT and cardiac MRI reviews. Cardiac CT reviews are scheduled on Tuesday, Wednesday and Friday and time will depend on attending availability. Cardiac MRI sessions will be available on Thursday mornings from 8 to 12pm.

Elaboration on Teaching Methods

Didactic Teaching

Didactic videos are presented on ACVI conference on Tuesday at noon. Senior fellows who are interested in pursuing further CT training are encouraged to perform preliminary reads after completing 50 CT reviews with the attending cardiologist. Didactic sessions may be undertaken online.

Study Interpretation

The fellow will participate in daily readout sessions with the attending physician from nuclear medicine or cardiology responsible for the interpretation of the studies. Nuclear cardiology studies are read by the

cardiology department on Thursday and Friday afternoon. Fellows are encouraged to review nuclear studies performed Monday through Wednesday and compare their readings with that of the radiology department. The attending physician will review the studies read by the fellow (baseline ECG, stress ECG, and perfusion imaging) and offer constructive criticism and further instruction as needed. The senior fellow is expected to perform a preliminary read on PowerScribe to be reviewed by attending during the reading session

Weekly Schedule

The following schedule samples are meant to guide the echo fellow on their workload expectations and time frames. These samples are subject to change and not representative of potential day-to-day learning opportunities and challenges.

PGY-4 Sample Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
7am			TAVR meeting		
8am	Stress Lab	Stress Lab	Stress Lab	MRI Reading (until noon, with Dr. Soni)	Stress Lab
11am		CT Readings (Dr. Danciu)	CT Readings (Dr. Danciu)		CT Readings (Dr. Danciu)
1pm	Valve Clinic (Dr. Driver)			Nuclear readings (Dr. Baddi)	Nuclear readings (Dr. Baddi)

Responsibilities/Specific Work Duties

The fellow will work with the Nuclear Exercise Laboratory staff to assess the accurate selection of stress for the patient and can be reasonably expected to answer the clinical question.

The fellow will be responsible for:

- Supervising the exercise stress tests with the nuclear laboratory physician assistant
- Supervising exercise and dobutamine stress echocardiography
- Interpreting exercise stress test
- Performing tracer injections when possible
- interpreting perfusion images in the afternoon (The fellows should read all stress electrocardiograms and nuclear perfusion imaging studies in preparation for the afternoon reading session with the attending cardiologist)

The fellow is expected to participate in valve clinic on Monday afternoons from 1 to 5 pm and follow the Structural Heart Disease Curriculum (listed below).

Structural Heart Disease Curriculum

Purpose:

Learning to diagnose and manage structural heart disease has become an important component of a comprehensive education in cardiovascular diseases. The structural heart disease curriculum will organize learning around key concepts in the field.

Learning Objectives:

- Learn to take a relevant patient history for patients with structural heart disease and interpret related complex cardiac imaging
- Understand appropriate patient selection for structural heart procedures including transcatheter aortic valve replacement (TAVR) and minimally invasive mitral valve repair (MitraClip)
- Critically evaluate related medical literature by reviewing high impact clinical trials and discussing lecture topics with members of the structural heart team
- Learn basic procedural steps and what to expect during post-procedural management

Fellow Roles and Responsibilities:

- See patients in valve clinic with interventional cardiology and cardiac surgery one half day per week while on the structural heart portion of their non-invasive rotation
- Learn to review valve patient echocardiograms and TAVR CTs in Vital Imaging software with non-invasive imaging specialist
- Attend multi-disciplinary imaging review to learn about procedural planning based upon information obtained at clinic visits and via echocardiograms and CT scans.

Structural Heart Team Attending Roles/Responsibilities:

- Commit to providing a once weekly lecture in valve clinic on structural heart disease topics
- Review echocardiograms one-on-one in clinic with the fellow and discuss relevant findings
- Discuss a paper of the fellow's choosing each week from the reading list included below

Reading List Options

- Transcatheter versus Surgical Aortic-Valve Replacement in High-Risk Patients ([Partner A Trial](#))
- Transcatheter Aortic-Valve Implantation for Aortic Stenosis in Patients Who Cannot Undergo Surgery ([Partner B Trial](#))

- Transcatheter aortic-valve replacement with a self-expanding prosthesis. ([Corevalve High Risk Trial](#))
- Transcatheter or Surgical Aortic-Valve Replacement in Intermediate-Risk Patients ([Partner II Trial](#))
- Surgical or Transcatheter Aortic-Valve Replacement in Intermediate-Risk Patients. ([SURTA VR – Corevalve intermediate risk trial](#))
- Transcatheter Aortic-Valve Replacement with a Balloon-Expandable Valve in Low-Risk Patients ([Partner III Trial](#))
- Transcatheter Aortic-Valve Replacement with a Self-Expanding Valve in Low-Risk Patients ([Corevalve low risk trial](#))
- MitraClip step by step; how to simplify the procedure ([Link](#))
- Percutaneous Repair or Surgery for Mitral Regurgitation ([EVERST II Trial](#))
- Percutaneous Repair or Medical Treatment for Secondary Mitral Regurgitation ([MITRA FR Trial](#))
- Transcatheter Mitral-Valve Repair in Patients with Heart Failure ([COAPT Trial](#))

Supplementary Reading List

- Cerebral embolic protection during TAVR ([Sentinel Trial](#))
- A Bicuspid Aortic Valve Imaging Classification for the TAVR Era ([Link](#))

NI Goals and Objectives

The NI rotation will progressively challenge fellows to learn information and practice skills relevant to their current PGY-level with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-4, PGY-5, and PGY-6: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Learn the potential risks of the tests and explain them to patients and families in a comprehensive fashion.• Begin reaching competency all standard non-invasive diagnostic techniques• Begin learning invasive procedure skills and techniques progressively at the discretion of the supervising attending
Medical Knowledge	<ul style="list-style-type: none">• Display clinical knowledge skills required to provide care for common medical conditions and basic preventive care• Demonstrate scholarship through independent studying and attendance at EP lectures and conferences• develop a comprehensive understanding in the performance and evaluation of critical cardiac noninvasive testing including 12-lead electrocardiograms, ambulatory ecgs monitoring, a wide variety of exercise and pharmacologic stress testing, and nuclear cardiology testing.
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from supervising attendings outside of <i>Medhub</i> evaluations• Utilize ACCSAP to self-assess progress in medical knowledge• Systematically approach tracking and pursuing emergent clinical questions
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Communicate effectively with patients and caregivers as appropriate• Communicate effectively in interpersonal teams• Appropriately utilize and complete health records
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Become familiar with hospital functions and structure• Actively and independently coordinate care of patients• Respond to each patient’s unique characteristics and needs
<i>Professionalism</i>	<ul style="list-style-type: none">• Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team• Accept responsibility and follows through on tasks• Exhibit integrity and ethical behavior in professional conducts

Research

Preceptors:	Schedule ¹ :	Site(s):
Peter Brady, MD*	Weekdays (8-5pm)	AIMMC

*Primary Contact for the rotation

¹Your preceptor may provide a detailed calendar for the month

Overall Description

The research rotation will provide a well-rounded research experience for the cardiology fellow. They will learn scientific methodology and statistics, which will enable critical reading and analytical thought throughout his/her career. This exposure to research may also stimulate the fellow to obtain further specific post cardiology research training to pursue basic or clinical research as part of a career.

Basic and clinical cardiology research is essential for the continued growth of the specialty. Experience in research is also essential to the career of any fellow. This is true whether the fellow pursues a purely clinical career or a research/academic position.

The experience of selecting, developing, and completing a research project accomplished far more than just the narrow question of the study design. It enables the fellow to develop logical scientific critical thinking, which is essential for clinical decision-making. The value of the rotation also comes from the fellow gaining a high level of expertise in evaluating the cardiology literature.

Fellows will learn using the following methods and resources:

Educational Methods:	Assigned Readings:	Educational Resources:
Self-Directed Readings Mentorship meetings	N/A	AIMMC Library AIMMC Computer Labs AIMMC research department

To successfully graduate, each fellow will work with the rotation preceptor to complete the following:

- PGY-4 fellows should begin clearly outlining what project they wish to pursue and start working on the research goals by the end of the academic year. Fellows are encouraged, but not required, to pursue larger scale projects that include IRB protocols and approvals.
- PGY-5 fellows will work towards established research goals and make significant progress by the end of the academic year.
- PGY-6 fellows will finalize and submit a case report for publication at least once by the end of the academic year.

Fellows are encouraged to present their research at local, regional, or national conferences. Research presentations may qualify for CME reimbursement as defined in the program policy for Continuing Medical Education (CME) Allowance ([Document #0000](#))

Research Goals and Objectives

The research rotation will challenge fellows to learn information and practice skills relevant to their research project with an emphasis on touching all core competencies as described by the *ACGME Internal Medicine Subspecialty Milestones*¹⁰.

PGY-4, PGY-5, and PGY-6: During the rotation, each fellow will:

<i>Patient Care</i>	<ul style="list-style-type: none">• Communicates effectively and demonstrates caring and respectful behavior when interacting with patients and families• Responds to emergency situations and/or changes in the condition of the patient
Medical Knowledge	<ul style="list-style-type: none">• Demonstrates an understanding of basic science and its relationship to cardiology• Demonstrates an investigatory and analytical thinking approach to research• Understands how the basic and clinically supportive sciences apply to the discipline of cardiology.
<i>Practice-Based Learning</i>	<ul style="list-style-type: none">• Solicit feedback from research mentor outside of <i>Medhub</i> evaluations• Systematically approach research project tracking and progression to ensure completion before the end of the third year of training• Identifies areas for self-improvement, takes initiative for own education• Analyzes practice experience and performs practice-based improvement activities using a systematic methodology• Locates, appraises, and assimilates evidence from scientific studies related to cardiology• Uses information technology to manage information, access online medical information and support their own education• Facilitates the learning of students and other healthcare professionals
<i>Interpersonal Communication Skills</i>	<ul style="list-style-type: none">• Uses effective verbal and non-verbal skills when gathering information or communicating research findings to others• Uses effective writing and documentation skills• Conducts clinical presentations with clarity and quality
<i>Systems-Based Practice</i>	<ul style="list-style-type: none">• Adheres to departmental and hospital rules and regulations• Utilizes resources effectively and systematically to enhance research and improve patient care

Professionalism

- Have professional and respectful interactions with patients, caregivers, and members of the interprofessional team
- Accept responsibility and follows through on tasks
- Exhibit integrity and ethical behavior in professional conducts
- Demonstrates respect and commitment to ethical principles in research
- Demonstrates sensitivity and responsiveness to cultural, age, gender, and disability issues
- Acknowledges errors, accepts criticism

Board Eligibility Requirements

The American Board of Internal Medicine outlines specific requirements for graduates seeking board certification in the *ABIM Certification Policies and Procedures*⁸. A summary is listed below.

General Requirements

To become certified in the subspecialty of clinical cardiac electrophysiology, physicians must:

- At the time of application, be previously certified in internal medicine by ABIM;
- Satisfactorily complete the requisite graduate medical education fellowship training;
- Demonstrate clinical competence, procedural skills, and moral and ethical behavior in the clinical setting;
- Hold a valid, unrestricted, and unchallenged license to practice medicine; and
- Pass the Cardiovascular Disease Certification Examination.

To be admitted to an examination, candidates must have completed the required training in the subspecialty, including vacation time, by October 31 of the year of examination.

Training and Procedural Requirements

The total months of training required, including specific clinical months, and requisite procedures are outlined below.

MINIMUM MONTHS OF TRAINING	CLINICAL MONTHS REQUIRED	PROCEDURES
36*	24	<ul style="list-style-type: none">• Advanced cardiac life support (ACLS), including cardioversion• Electrocardiography, including ambulatory monitoring and exercise testing• Echocardiography• Arterial catheter insertion• Right-heart catheterization, including insertion and management of temporary pacemakers• Left-heart catheterization and diagnostic coronary angiography

* For deficits of less than one month in required training time, ABIM will defer to the judgment of the program director *and* promotions or competency committee in determining the need for additional training. With program director attestation to ABIM that the trainee has achieved required competence, additional training time will not be required. Trainees cannot make a request to ABIM on their own behalf.

Clinical Competence Requirements

ABIM requires documentation that candidates for certification are competent in: (1) patient care and procedural skills, (2) medical knowledge, (3) practice-based learning and improvement, (4) interpersonal and communication skills, (5) professionalism and (6) systems-based practice.

Graduation

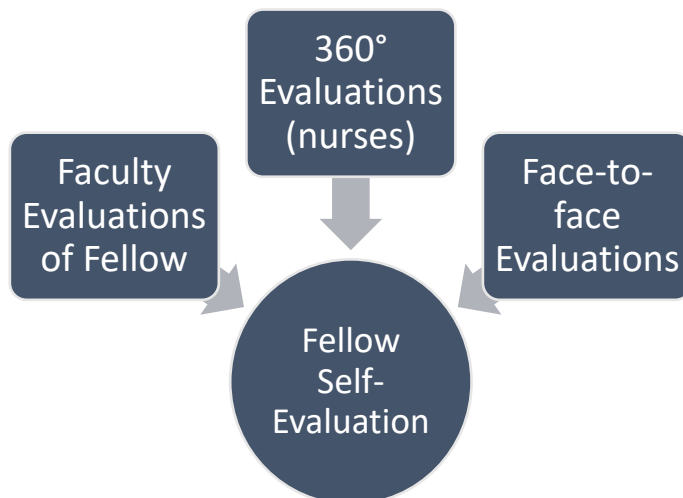
The Cardiovascular Disease fellowship program observes specific requirements for the graduation of a fellow as described in the Program Policy: Promotion/Appointment Renewal (#000.00.0000).

Evaluations

All evaluations are electronically distributed through *Medhub* by the program coordinator.

While fellows are continuously being evaluated by the attending via the tutorial process (every case presentation or procedure performed is overseen by the attending), they receive the following evaluations to assist in the monitoring and discussion of trainee progress across 36 months:

- **Faculty evaluations of fellow-** Provides fellows with feedback on their performance during their rotation.
- **360° evaluations by nurses-** Provides fellows with feedback on communication skills and his/her professionalism.
- **Face-to-face Evaluations-** Provides fellows with feedback on communication skills and his/her professionalism.



Fellows perform a self-evaluation semi-annually after reviewing his evaluations. This is then submitted to and discussed with the program director.

Fellows are also responsible for completing the following evaluations to assist the program in monitoring improvement needs and feedback:

- **Fellow evaluation of faculty-** Provides faculty with feedback on their performance during their rotation. Discussed anonymously by program director at annual faculty evaluation meetings.
- **Fellow evaluation of rotation-** Fellows should comment on the quality of the rotation and its relevance.
- **Fellow evaluation of program-** Distributed semi-annually as part of a pre-ACGME survey program assessment.

For more detailed information regarding evaluations, please review the evaluation policy specific to the CCEP Fellowship Program ([Document #0000](#)).

About MedHub Software

As of July 1, 2018, the Cardiovascular Disease Fellowship Program has been using *Medhub* to support program management and maintenance. Fellows will be oriented on how to use *Medhub* during the onboarding orientation each year. On this software, fellows are able to submit the following:

- Evaluations
- Work hours
- PTO requests

Fellows can also access resources, upload important documents, and update their profiles. To access, *Medhub*, visit <http://www.ahc.medhub.com> on any browser or download the *Medhub* app to your smartphone device (IOS and Android).

Committees

Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹ (V.A.3. and V.C.1.), each program director must appoint the following committees to assist in the development and monitoring of progress for the program:

Clinical Competency Committee (CCC)

2020-2021 members

Ajay Baddi, MD	<i>Program Director</i>
Sorin Danciu, MD	<i>Section Chief</i>
Allan Beall, MD	<i>Key Core Faculty</i>
Peter Brady, MD	<i>Key Core Faculty</i>
Joaquin Gonzalez, MD	<i>Key Core Faculty</i>
Sanjay Gill, MD	<i>Key Core Faculty</i>
Ted Wang, MD	<i>Key Core Faculty</i>
Nathalie Serrano	<i>Program Coordinator</i>
VACANT	<i>Program Administrator</i>

More information regarding the responsibilities of the CCC are available in the departmental policies and procedures section ([Document #0000](#)).

Program Evaluation Committee (PEC)

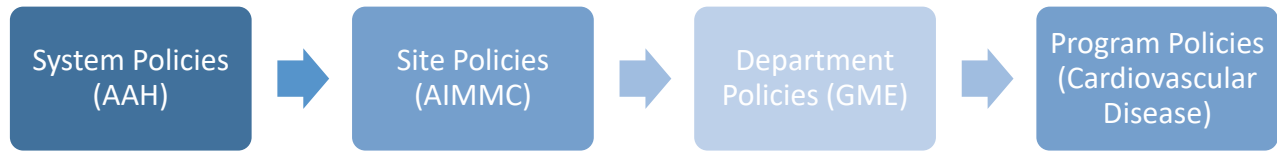
The PEC membership changes annually depending on program needs and fellows. More information regarding the responsibilities of the PEC are available in the departmental policies and procedures section ([Document #0000](#)).

Mentorship

At the beginning of each academic year, fellows will be assigned a clinic attending and participate in ongoing mentorship. Both fellows and mentors can reach out to the program coordinator for assistance in scheduling time for meeting as well as reserving space to meet when necessary.

Policies and Procedures

Hierarchy of Compliance



Understanding Policies and Procedures

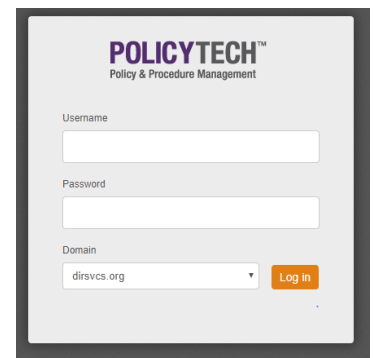
The illustrated hierarchy of compliance demonstrates the relationship between all policies and procedures a fellow may encounter. When searching for a specific policy or procedure, the fellow should begin with the **program policies** to review and cross-reference with other **department, site, or system policies**. There are measures in place to ensure that policies are clear and not conflicting.

Accessing All Policies and Procedures

Policies and Procedures can change at any time. The versions listed in this manual may **not** be the most up-to-date versions and are listed for reference only. The fellow is responsible for using the policy and procedure accessible through *PolicyTech*. However, program staff can share updated policy information as it becomes available.

How to Access

- 1) Go to *Sharepoint Homepage -> Top Applications -> Advocate Aurora Document System (AADS)/Policies & Procedures*
- 2) Log-in using your AdvocateOne ID credentials- if you require assistance, follow the instructions in yellow. A screenshot is shown to the right:
- 3) Under the Documents tab, use the search feature to select the system, institution, or department policies that you would like to review.



SEARCH

Use the boxed dropdown field to select:

- Advocate Aurora Health (AAH)
- Advocate Illinois Masonic Medical Center (AIMMC)
 - Graduate Medical Education
 - Cardiovascular Disease Fellowship Program

site: Advocate Aurora | My Relationship: All | Status: Published

SEARCH...

Resources

Directory

The following list is not all-inclusive. If you obtain contact information that you believe will be relevant for the CCEP Fellowship Program experience, please submit it to the program coordinator.

NOTE: Phone numbers listed as "773-296-xxxx" can be dialed as "61-xxxx". When using AIMMC phone lines, you must dial **9** then **1** before you enter any phone number.

Dept	Contact	Title	Phone	Email or Website
Fellowship Office	VACANT	<i>Administrator</i>	773-296-7046	-
	Nathalie Serrano	<i>Coordinator</i>	773-296-7046	nathalie.serrano@advocatehealth.com
Internal Medicine	Steven Potts, DO	<i>Section Chair</i>	773-296-7046	steven.potts@advocatehealth.com
	Vanesse Hagens	<i>Coordinator</i>		vanesse.hagen@advocatehealth.com
Graduate Medical Education	VACANT	<i>Director</i>	773-296-8130	-
	Sophia Isoff	<i>Administrator</i>	773-296-5944	sophia.isoff@advocatehealth.com
	Laura Daly	<i>Advocate TPL</i>	630-929-5155	laura.daly@advocatehealth.com
Cardiology Nurse Staff	Cath Lab	<i>Charge Phone</i>	61-7268	-
	Prep and Recovery	<i>Charge Phone</i>	61-0522	-
AMG Heart Institute	Nancy Deavila	<i>Coordinator</i>	312-766-4929	nancy.deavila@advocatehealth.com
	Charity Lempke	<i>Coordinator</i>	773-296-7044	charity.lemke@advocatehealth.com
Non-Invasive	Ajay Baddi, MD	<i>PD</i>	773-919-2071	ajay.baddi@advocatehealth.com
	Harry M. Cohen, MD	<i>Attending</i>	312-813-4185	harry.cohen@advocatehealth.com
	Sorin Danciu, MD	<i>Section Chief</i>	773-505-9749	sorin.danciu@advocatehealth.com
	Sanjay Gill, MD	<i>Core Faculty</i>	847-942-9692	sanjay.s.gill@gmail.com
	Mark Kosinski, DO	<i>Attending</i>	773-243-7564	mark.kosinski@advocatehealth.com
	Mona Soni, MD	<i>Attending</i>	919-622-0478	mona.soni@advocatehealth.com
Advanced Heart Failure	Phoebe Ezidinma, MD	<i>Attending</i>	303-246-5891	afoma.ezidinma@advocatehealth.com
	Nishit Shah, MD	<i>HF Director</i>	847-754-5506	nishit.shah@advocatehealth.com
Interventional	Allan Beall, MD	<i>Core Faculty</i>	347-295-9235	allan.beall@advocatehealth.com
	Steven Driver, MD	<i>Attending</i>	630-418-5878	steven.driver@advocatehealth.com
	Joaquin Gonzalez, MD	<i>Core Faculty</i>	773-450-7952	joaquin.gonzalez@advocatehealth.com
	Mukesh Jain, MD	<i>Attending</i>	312-699-5695	mukesh.jain@advocatehealth.com
	Surender Kumar, MD	<i>Core Faculty</i>	773-405-5892	surrender.kumar@advocatehealth.com
	Ashish Mukherjee, MD	<i>Attending</i>	847-951-8675	mukherjee1@aol.com
EP	Peter Brady, MD	<i>PD</i>	507-254-1628	peter.brady@advocatehealth.com
	Oliver D'Silva, MD	<i>Core Faculty</i>	440-622-3061	oliver.dsilva@gmail.com
	Saurabh Shah, MD	<i>Attending</i>	301-219-2620	saurabh.shah@advocatehealth.com
	Ted Wang, MD	<i>Core Faculty</i>	312-890-8552	ted.wang@advocatehealth.com
Human Resources and Benefits	Sombria Wallace	<i>Coordinator</i>	773-296-1889	sombria.wallace@advocatehealth.com
	AAH Benefits/HR Direct	<i>Call Center</i>	630-929-1447	aahbenefits.org
	EdAssist	<i>Call Center</i>	844-358-1622	aahbenefits.org
	Empl. Assistance (EAP)	<i>Call Center</i>	800-775-0304	-
Public Safety	Charles Costoso	<i>Supervisor</i>	773-296-3448	charles.costoso@advocatehealth.com
	Public Safety	<i>Call Center</i>	773-296-6300	-
AV/Technology	Brett Gray Tech Help Desk	<i>AV Specialist</i> <i>Call Center</i>	773-296-7243 52-7000	brett.gray@advocatehealth.com -

Risk Management	Nancy Glavin Lisa Anemone	<i>For Fellows</i> <i>For Graduates</i>	630-929-8192 630-929-8183	nancy.glavin@advocatehealth.com lisa.anemone@advocatehealth.com
Barr Tower	Margo Gill	<i>Coordinator</i>	773-296-5311	margo.gill@advocatehealth.com
Guest Services	Front Desk Main Office		773-296-6220 773-296-1870	- -

References and Important Links

1. [ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease \(2019\)](#).
2. [Section 1285.110 of the Medical Practice Act](#).
3. [IDFPR Frequently Asked Questions for Continuing Medical Education \(2014\)](#).
4. [AMA Physician Frequently Asked Questions for Continuing Medical Education](#).
5. [AMA Resident/Fellow Application for CME Certificate](#).
6. [Advocate Aurora Health Opioid Resources](#).
7. [Advocate Aurora Health Sexual Harassment Training Course](#).
8. [ABIM Certification Policies and Procedures \(2019\)](#).
9. [ACC Training in Nuclear Cardiology Statement \(COCATS 4 Task Force 6\) \(2015\)](#).
10. [ACGME Internal Medicine Subspecialty Milestones \(2015\)](#).
11. [ACC Core Cardiovascular Training Statement \(COCATS 4\) \(2015\)](#).

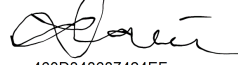
Appendix

Attestation

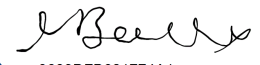
The signature below confirms recognition and approval of this manual's contents by members of the core faculty for the AIMMC Cardiology Fellowship Program as of July 1, 2020.




Ajay Baddi, MD
Program Director

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Sorin Danciu, MD
Section Chief

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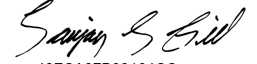
Allan Beall, MD
Key Core Faculty

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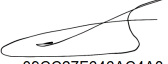
Peter Brady, MD
Key Core Faculty

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Oliver D'Silva, MD
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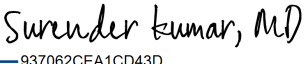
Sanjay Gill, MD
Key Core Faculty

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Joaquin Gonzalez, MD
Key Core Faculty

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Ted Wang, MD
Key Core Faculty

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Surrender Kumar, MD
Key Core Faculty

Program Policies and Procedures

- Clinical Competency Committee (CCC) Responsibilities
- Continuing Medical Education (CME) Allowance
- Curriculum
- Evaluations
- Moonlighting
- Program Evaluation Committee (PEC) Responsibilities
- Program-Sponsored Educational Conferences
- Promotion/Appointment Renewal
- Recruitment/Selection
- Scheduling Changes and Requests
- Supervision
- Vacation and PTO
- Work Hours, Fatigue Management, and Mitigation

AdvocateAuroraHealth

Title: Clinical Competency Committees (CCC) Responsibilities		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose of this document is to ensure fellow monitoring and progress utilizing the ACGME required Clinical Competency Committee.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

CCC - Clinical Competency Committee

ACGME – Accreditation Council of Graduate Medical Education

Academic Year - A twelve-month period with a start date of July 1 and end date of June 30

IV. POLICY

In alignment with the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the Program Director will appoint a CCC to monitor fellow performance (V.A.3.).

The CCC is to demonstrate accountability as medical educators to the public by ensuring that our graduates will provide high quality, safe care to our patients and maintain the standards of the health care system in the United States.

A. Committee Composition

1. The members of the CCC will include:

a) at least one (1) core faculty member from the same program

- b) other health professionals who have extensive contact and experience with the program's fellows
 - 2. A core faculty member will be selected by the Program Director to chair the Committee and oversee the administrative process, providing consultative feedback as appropriate.
 - 3. Members may be rotated to and from the CCC as deemed necessary and ad hoc members may be added.
 - 4. Members will be evaluated each academic year by the Program Director.
- B. Committee Responsibility
- 1. Members of the CCC will be responsible for:
 - a) Reviewing all fellow evaluations semi-annually.
 - b) Determining each fellow's progress on achievement of the subspecialty-specific Milestones².
 - c) Advising the Program Director on the progress of each fellow prior to the fellow's semi-annual evaluation.
 - d) Making recommendations regarding promotion, remediation, and dismissal following all GME policies.
 - e) Surfacing issues or difficulties with fellows in training.

V. **PROCEDURE**

- A. Meeting Frequency
- 1. In order to meet the ACGME Milestone Reporting deadline of May and December, the Cardiovascular Disease Fellowship Program CCC will meet quarterly on the first Tuesday of September, December, March, and June.
 - 2. The date may change depending on the schedule of the ACGME reporting deadlines.
- B. Meeting Documentation
- 1. The Cardiovascular Disease Program Coordinator will take minutes for each CCC meeting held.
 - 2. The minutes should reflect the meeting agenda, attendance, and any notes regarding fellow progress.

3. Minutes will be shared with CCC members at the succeeding meeting for approval.

VI. CROSS REFERENCES

AIMMC Site Policy: Graduate Medical Education Promotion and Dismissal (Policy #000.00.0000)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).

https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

2. ACGME Internal Medicine Subspecialty Milestones (2015).

<http://www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineSubspecialtyMilestones.pdf>

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Continuing Medical Education (CME) Allowance		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose of this document is to define an allotted allowance for Continuing Medical Education expenses (CME) for each fellow in training, specify qualifying and non-qualifying expenses, and establish the appropriate procedure for processing.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Academic year - A year with a start date of July 1 and end date of June 30 within a twelve-month period

Fiscal year - A year with a start date of January 1 and end date of December 31 within a twelve-month period

CME – Continuing Medical Education

IV. POLICY

The Cardiovascular Disease Fellowship Program will allocate an allowance to each resident for continuing medical education expenses and instruct fellows on how to use these funds and request reimbursement.

A. Allowance Amount

1. Currently, the amounts are as follows:

PGY-4	PGY-5	PGY-6
\$1500	\$1500	\$1700

2. The allowance amount may change each academic year.
3. Fellows will be notified at the beginning of each academic year (no later than the first month) as to how much allowance they have and this policy shall be updated to reflect the change.

B. Reimbursement Eligibility

1. Fellow eligibility for reimbursement is not conditional on academic status (remediation or probation).
2. All CME allowance funds that are available and not in process are inaccessible upon termination.
3. Unused funds from the current academic year will not rollover to the following academic year.
4. Residents entering or leaving a training program without completing a full year (12-months) of training may have the educational allowance pro-rated for that academic year.

C. Expense Eligibility

1. Eligible expenses for reimbursement should maintain, develop, or increase the knowledge, skills, professional performance, and relationships that a fellow uses to provide services for patients during their fellowship and beyond.
2. Examples of:
 - a) Eligible expenses
 - (1) Educational materials (Textbooks, journal subscriptions, electronic publications, medical software, etc.)
 - (2) Board Certification Examination Fees
 - (3) Professional Association Dues
 - (4) Stethoscopes
 - (5) Medical Society Dues
 - (6) Laptops and tablet devices
 - (7) Meetings, conferences, seminars and courses related Cardiovascular Disease

- (8) Application fees for Board Examinations, USMLE III exams, COMLEX exams or Board Review Courses.
- b) Ineligible expenses
 - (1) General courses/programs of limited/no value for medical education
 - (2) Cell phones, cell phone bills, applications and accessories
 - (3) Medical equipment, excluding stethoscopes
 - (4) Computer accessories and peripheral devices (e.g., video camera, scanner)
 - (5) Expenses incurred by spouse of family members
 - (6) Lodging incidentals (e.g., movies, saunas, massages)
- c) The above lists are illustrative, not exhaustive. Any expenses that are determined to be lavish or extravagant will not be eligible for reimbursement..

V. **PROCEDURE**

A. Requesting Reimbursement for an Eligible Expense

1. To receive reimbursement, the fellow must submit an itemized receipt to the Program Coordinator that documents the following information:
 - a) Purchase
 - b) Cost
 - c) Date of purchase
 - d) Name of resident requesting reimbursement
2. Credit card receipt slips are not acceptable unless itemized. Reimbursement for seminar fees requires both the invoice and the CME certificate obtained from the conference attended.
3. Once receipts have been collected and verified, the Program Coordinator will submit the request for reimbursement on behalf of the fellow through the Caregiver Connect Travel and Expense Reimbursement portal.

4. Eligible expenses must be submitted for reimbursement during the same fiscal year that the expense took place.
5. Requests submitted after the fiscal year will not be accepted.
6. Reimbursement will not be processed prior to the dates of the event.

B. Tax Information

1. All CME Allowance reimbursement requests will be paid via payroll on a pre-tax basis.

C. Appeal

1. All CME reimbursement requests are subject to review by the Cardiovascular Disease Fellowship Program. Reimbursement request will be returned for further supporting information or denied if the program determines that
 - a) the indicated costs and activities are not eligible under the Policy and/or
 - b) the Supporting Documentation is not complete and accurate.

VI. CROSS REFERENCES

AAH System Policy: Travel & Business Related Expenses (Document #0000)

VII. RESOURCES AND REFERENCES

N/A

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Curriculum		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply)	Content Applies to: (Select One)	Next Review Date: 02/07/2021
<input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	<input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the process for creating, approving, and amending curriculum for the Cardiovascular Disease Fellowship Program.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Academic year - A year with a start date of July 1 and end date of June 30 within a twelve-month period

Curriculum - Rotation goals and objectives, didactics, and other experiences that make up the educational program of the fellowship

IV. POLICY

In alignment with the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the program director will:

- A. have responsibility, authority, and accountability for the educational experience of the fellowship program (II.A.4.).
- B. design and conduct a program in a fashion consistent with the needs of the community, the mission(s) of the Sponsoring Institution, and the mission(s) of the program (II.A.4.a).(2)).

The curriculum will be represented in the Fellowship Program Manual, which will be revised annually by the Program Evaluation Committee (PEC).

Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹ (IV.A.1.a.), the program will make available the currently approved and any amended versions of the program manual.

To secure accountability with the institution, faculty, and fellows, the Program Director will establish a procedure for the creation, approval, and amending of program curriculum.

V. **PROCEDURE**

A. Creating the Curriculum

1. The Program Director, alongside the Program Coordinator and interested Core Faculty, will establish a Program Manual that details all areas of curriculum and any pertinent program-specific information. The manual will include the following sections:
 - a) Program Description
 - b) Rotation Descriptions
 - (1) Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the rotation descriptions will include:
 - (a) competency-based goals and objectives (IV.A.2.) and
 - (b) delineation of fellow responsibilities for patient care, progressive responsibility for patient management, and graded supervision (IV.A.3.).
 - c) Policies and Procedures
 - (1) The program manual will reference all system, site, and program policies and instruct fellows on the Advocate Aurora Health document system to access live and up-to-date versions.
 - (2) Fellows must be instructed to cross-referenced program manual policies and procedures with live policies and procedures on the PolicyTech portal.
 - d) Additional program-specific and pertinent information for fellows in training

2. The manual will be the primary resource for program fellows, faculty, and staff to reference curriculum requirements and expectations.
3. The Program Manual will reflect the number of revisions taken during that academic year by including a version number in the footer with the following template:
 - a) “Version [Academic year].[version number]”
 - (1) For example, “Version 2020-2021.3” is a manual updated 3 times during the 2020-2021 academic year.

B. Approving the Curriculum

1. The Program Evaluation Committee (PEC) must review and approve the Program Manual annually to ensure accuracy and relevancy of the curriculum.

C. Amending the Curriculum

1. There may be cause for major or minor changes to the curriculum throughout the academic year.
 - a) Minor changes to the curriculum may be approved by the Program Director and do not require PEC approval.
 - (1) They will be implemented upon the distribution of an updated version of the Program Manual.
 - (2) Examples of minor changes include:
 - (a) Change in staffing or faculty
 - (b) Change in rotation locations or preceptors
 - (c) Process change for administrative tasks
 - b) Major changes should not be proposed for the academic year unless critical to the program accreditation status or as a response to system and/or site requests.
 - (1) In the event of proposed major changes to the curriculum, they must be discussed with the Program Director.
 - (2) At least two revisions by the PEC must take place prior to approval.

- (3) Examples of major changes include:
 - (a) Multiple changes in rotation-specific expectations or program description
 - (b) Addition/removal of rotation(s)
 - (c) Addition/removal of policy
 - (d) Addition/removal of fellow complement
 - (e) Addition/removal of a section in the Program Manual

VI. CROSS REFERENCES

Program Policy: Program Evaluation Committee (PEC) Responsibilities
(Document #0000)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Evaluations		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply)	Content Applies to: (Select One)	Next Review Date: 02/07/2021
<input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	<input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the requirements for the evaluation of fellows, faculty, rotations, and program.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Academic year - A year with a start date of July 1 and end date of June 30 within a twelve-month period

Block - A pre-determined four (4) week period during the academic year

IV. POLICY

The Cardiovascular Disease Fellowship Program will regularly request evaluations from fellows, faculty, and any other relevant staff to reflect and report out on the progress and status of the program.

A. Distribution Frequency

1. Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, evaluations will be distributed:

- a) at the end of each rotation (V.a.1.b.) and
- b) preceptors will provide feedback on fellow performance during a face-to-face evaluation (V.A.1.a.).

B. Monitoring

1. The Program Coordinator will monitor the completion of evaluations through the *Medhub* software.
2. The Program Coordinator will determine evaluation completion deadlines with the approval of the Program Director.

V. **PROCEDURE**

A. Deadline for Completion

1. Evaluations must be completed before the end of the succeeding block
 - a) For example, evaluations for Block 1 must be completed before the end of Block 2.

B. Compliance

1. Failure to complete evaluations before the established deadline will result in a follow-up meeting with the Program Director.
2. Continued negligence in evaluation completion by fellows will lead to disciplinary action through the department of Graduate Medical Education (GME).
3. Continued negligence in evaluation completion by attendings may result in removal from teaching service.

VI. **CROSS REFERENCES**

Program Policy: Curriculum (Document #0000)

VII. **RESOURCES AND REFERENCES**

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. **ATTACHMENTS**

N/A

AdvocateAuroraHealth

Title: Mandated Learning Plan and Probation (Remediation)		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply)	Content Applies to: (Select One)	Next Review Date: 02/07/2021
<input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	<input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to ensure the justification and proper utilization of Mandated Learning Plans and Probation (Remediation) processes.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

N/A

IV. POLICY

The program will abide by the Graduate Medical Education Mandated Learning Plan and Remediation policy.

V. PROCEDURE

N/A

VI. CROSS REFERENCES

AIMMC Site Policy: Graduate Medical Education on Mandated Learning Plan and Probation (#000.00.0000)

AIMMC Site Policy: Graduate Medical Education on Grievance (#000.00.0000)

AIMMC Site Policy: Graduate Medical Education Policy on Due Process/Appeals (#000.00.0000)

VII. RESOURCES AND REFERENCES

N/A

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Moonlighting		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to detail the availability for fellows in training to pursue supplemental employment during their non-working hours.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

CCC – Clinical Competency Committee

Moonlighting - Employment Outside of the Approved Training Program

IV. POLICY

Fellows in training of the Cardiovascular Disease fellowship program are entitled to pursue supplemental employment opportunities during their non-working hours through moonlighting.

A. Stipulations

1. Interference with fellowship obligations
 - a) Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*², “Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program, and must not interfere with the fellow’s fitness for work nor compromise patient safety” (VI.F.5.a.).

- (1) This included clinical duties and educational tasks such as sufficient time for reading and study.
- b) The Program reserves the right to assess whether excessive moonlighting may be affecting academic performance.
 - (1) If the performance of a fellow in training is deemed marginal by the CCC, the fellow may be required to modify moonlighting activities until academic performance is judged satisfactory.
2. Malpractice Insurance
 - a) Outside moonlighting activities unrelated to fellowship duties are not covered by system liability or malpractice coverage.
3. Work Hours
 - a) Duty hours during moonlighting must be recorded and documented and count toward the 80 hour a week limit.
4. J-1 Visa Holders
 - a) J-1 Visa holders cannot moonlight per the ECFMG².

V. **PROCEDURE**

N/A

VI. **CROSS REFERENCES**

Program Policy: Clinical Competency Committee (CCC) Responsibilities
(Document #0000)

AIMMC Site Policy: Moonlighting (Document #0000)

VII. **RESOURCES AND REFERENCES**

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050
2. ECFMG Notice on Employment Outside of the Approved Training Program ("Moonlighting") (2017). <https://www.ecfm.org/evsp/evspemot.pdf>

VIII. **ATTACHMENTS**

N/A

AdvocateAuroraHealth

Title: Program Evaluation Committee (PEC)		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the responsibilities of the fellowship Program Evaluation Committee.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

PEC – Program Evaluation Committee

IV. POLICY

In alignment with the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the Program Director will appoint a PEC to conduct and document the Annual Program Evaluation (V.c.1.a).

A. Committee Composition

1. The members of the PEC will include:
 - a) at least one (1) core faculty member from the same program
 - b) at least one (1) fellow in training
 - c) other health professionals who have extensive contact and experience with the program's fellows
2. The Program Director will chair the Committee and oversee the administrative process, providing consultative feedback as appropriate.

3. Members may be rotated to and from the CCC as deemed necessary and ad hoc members may be added.
4. Members will be evaluated each academic year by the Program Director.

B. Committee Responsibility

1. Members of the PEC will be responsible for:
 - a) Advising the program director and reviewing the program's self-determined goals and progress.
 - b) Assessing the program's on-going improvements and developing new goals.
 - c) Reviewing the Annual Program Evaluation (APE) prior to program submission.
 - d) Approving major changes to the Cardiovascular Disease Fellowship Program Manual .

V. **PROCEDURE**

A. Meeting Frequency

1. The Cardiovascular Disease Fellowship Program PEC will meet semi-annually in August and February.
2. The exact date may change depending on the schedule of the PEC members and program needs.

B. Meeting Documentation

1. The Cardiovascular Disease Program Coordinator will take minutes for each PEC meeting held.
2. The minutes should reflect the meeting agenda, attendance, and any notes regarding fellow progress.
3. Minutes will be shared with PEC members after each meeting.

VI. **CROSS REFERENCES**

Program Policy: Curriculum (**Document #0000**)

VII. **RESOURCES AND REFERENCES**

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).

https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

2. ECFMG Notice on Employment Outside of the Approved Training Program (“Moonlighting”) (2017). <https://www.ecfm.org/evsp/evspemot.pdf>

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Program-Sponsored Educational Conferences		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to identify conferences financially sponsored by the fellowship program.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

N/A

IV. POLICY

In alignment with the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the program “must allocate adequate resources to facilitate fellow and faculty involvement in scholarly activities” (IV.D.1.b).

To supplement the fulfillment of this core requirement, the Cardiovascular Disease Fellowship Program will sponsor one (1) specific educational conference for fellows to attend each year. The program will also sponsor fellow participation at the Annual American College of Cardiology Conference (virtual or in-person).

A. Stipulations

1. Conferences and expense limits are determined by the Program Evaluation Committee (PEC) and reviewed annually.
2. The program will not reimburse for dues or memberships, late fees or expenses that exceed the limits detailed above.

- a) Fellows may use available CME allowance to request reimbursement for remaining expenses.

B. Approved Program-Sponsored Conferences

PGY-Level	PGY-4	PGY-5	PGY-6
Conference	AHA Conference	Selected by fellow (requires PD approval)	Board Review Course (requires PD approval)
Travel Limit (flight/hotel)	\$1500	\$1500	\$1500
Hotel Limit	\$800	\$800	\$800
Itemized Expense Limit	\$40/day per meal (breakfast, lunch, dinner)	\$40/day per meal (breakfast, lunch, dinner)	\$40/day per meal (breakfast, lunch, dinner)

V. PROCEDURE

Fellows in training must utilize the program Continued Medical Education (CME) Allowance policy procedure to process eligible reimbursement requests.

VI. CROSS REFERENCES

Program Policy: Continued Medical Education (CME) Allowance (**Document #0000**)

Program Policy: Program Evaluation Committee (PEC) Responsibilities (**Document #0000**)

AAH System Policy: Travel & Business Related Expenses (**system policy SYS-003-008**)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019). https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Promotion/Appointment Renewal		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the process of and justification for promotion or graduation of a fellow in training

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

N/A

IV. POLICY

Promotion or graduation of fellows in training within the Cardiovascular Disease Fellowship Training Program will be based on:

- A. Satisfactory achievement of the six core competencies of the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹.
- B. Fulfillment of program-specific curriculum requirement as determined by the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹ and the program director.
 1. Per the *ACMGE*¹, all fellows must complete the following rotations before graduation:
 - a) CATH (4 months)
 - b) Non-Invasive Rotations (6 months):

- (1) ECHO (3 months)
- (2) Nuclear (2 months)
- (3) Non-Invasive (1 month)
- c) EP (2 months)
- d) Non-Laboratory clinical practice activities (9 months)

2. Program Curriculum for PGY-4 Fellows in training

- a) PGY-4 fellows are required to complete 13 blocks of training (with an overall evaluation scoring of 4 or above in each of the six core competencies of the ACGME²) in the following:
 - (1) Cardiac Catheterization (2-3)
 - (2) Consult (2-3)
 - (3) Echocardiography (2-3)
 - (4) Hearth Rhythm (1)
 - (5) Heart Failure-CCU (2-3)
 - (6) Non-Invasive (1-2)
 - (7) Research (1)

3. Program Curriculum for PGY-5 Fellows in training

- a) PGY-5 fellows are required to complete 13 blocks of training (with an overall evaluation scoring of 4 or above in each of the six core competencies of the ACGME²) in the following:
 - (1) Cardiac Catheterization (2)
 - (2) Consult (2)
 - (3) Echocardiography (2)
 - (4) Hearth Rhythm (0-1)
 - (5) Heart Failure-CCU (2)
 - (6) LVAD (0-1)
 - (7) Non-Invasive (2)

(8) Research (2)

4. Program Curriculum for PGY-6 Fellows in training

a) PGY-6 fellows are required to complete 13 blocks of training (with an overall evaluation scoring of 4 or above in each of the six core competencies of the ACGME²) in the following:

(1) ACVI (3-6)

(2) Hearth Rhythm (1-2)

(3) Interventional (2)

(4) LVAD (1-2)

(5) Non-Invasive (0-1)

(6) Research (3)

(7) Electives (3-6)

b) Fellows are required to complete all administrative tasks

c) Fellows are required to publish a case presentation and fulfill all required steps as described within the fellowship manual.

d) Fellows are required to have demonstrated practice and competency the following procedures:

Volume			ACGME	ABIM
Direct Current Cardioversion	10	Cardioversions	X	X
Echocardiography	75	Performed	X	X
	150	Interpretations	X	
Exercise Stress Testing	50	Stress ECG Tests	X	X
Catheterization (right and left)	100	Performed	X	X
Electrocardiography	3500	Interpretations	X	X
Nuclear Cardiology	100	Radionuclide studies interpretations	X	
Competency			ACGME	ABIM
Conscious Sedation			X	
Placement and management of temporary pacemakers (transvenous and transcutaneous)			X	X
Programming and follow-up surveillance of permanent pacemakers and ICDs			X	
Chest X-rays			X	
Formal Instruction and Experience			ACGME	ABIM
Intracardiac electrophysiologic studies			X	
Intra-aortic balloon counter pulsation			X	
Percutaneous transluminal coronary angioplasty and other interventional procedures			X	
Pericardiocentesis			X	

V. PROCEDURE

A. Promotion

1. Fellows in training eligible for promotion will receive a contract renewal request through the department of medical education.

B. Graduation

1. Fellows in training eligible for graduation will receive a graduation certificate diploma.

C. Dismissal

1. Fellows in training not meeting criteria required for promotion are subject to the Graduate Medical Education Promotion and Dismissal policy.

VI. CROSS REFERENCES

AIMMC Site Policy: Graduate Medical Education Promotion and Dismissal Policy
(Document #0000)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050
2. ACGME Internal Medicine Subspecialty Milestones (2015).
<http://www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineSubspecialtyMilestones.pdf>

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Recruitment/Selection		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish valid, fair, effective, and ethical criteria for recruitment and selection.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

N/A

IV. POLICY

A. Accreditation Recruitment Requirements

1. Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, applicants are required to meet one of the following qualifications to be eligible for a position in the Cardiovascular Disease Fellowship Program:
 - a) Graduates of medical school in the United States and Canada accredited by the Liaison Committee on Medical Education (LCME).
 - b) Graduates of colleges of osteopathic medicine in the United States accredited by the American Osteopathic association (AOA).
 - c) Graduates of medical schools outside of the United States and Canada who meet one of the following qualifications:

- (1) Have received a currently valid certificate from the Educational Commission for Foreign Medical Graduates (ECFMG) verifying final medical diploma, or
- (2) Have a full, active, and unrestricted license to practice medicine in a U.S. licensing jurisdiction, or
- (3) Graduates of medical schools outside of the United States who have completed a Fifth Pathway Program provided by an LCME-accredited Medical School.

B. Program-Specific Recruitment Details

1. The Cardiovascular Disease Fellowship Program selects from eligible applicants based on their preparedness, ability, aptitude, academic credentials, communication skills, and personal qualities such as motivation and integrity.
2. Applicants must demonstrate an interest and enthusiasm for cardiology, proficiency in spoken and written English, and propensity and willingness for further learning of the cardiology field.
3. The program does not discriminate regarding sex, race, age, religion, color, national origin, disability, or veteran status.

V. PROCEDURE

A. Application Process

1. Applications are only accepted through ERAS. Applications submitted must include:
 - a) An official medical school transcript (if AMG, with embossed school seal. If IMG, a notarized photocopy)
 - b) Copy of test scores as applicable (USMLE, NBOME/COMLEX, NBME, FMGEMS, and/or FLEX). USMLE Scores of 80 or above are preferred for both STEP I and II.
 - c) Three letters of recommendation from recent services, places of employment or training, chairman under whose direction you have worked, colleagues, etc.
 - d) Photocopies of certificates/letters that document completion of any/all previous residency training.

- e) If IMG, a photocopy of your Standard ECFMG Certificate marked "Valid Indefinitely"
 - f) In accordance with the Immigration Reform and Control Act of 01986 (IRCA), photocopies of a valid visa and work authorization for employment.
2. At the time of the interview, applicants must provide:
- a) A notarized photocopy of your medical school diploma
 - b) If licensed, a photocopy of any/all state, province, or country medical licenses held
 - c) If permanently licensed, a photocopy of your state-controlled substance and Federal DEA registrations

VI. CROSS REFERENCES

AIMMC Site Policy: Recruitment Eligibility (**Document #0000**)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).

https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Scheduling Changes and Requests		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the expectations and requirements for internal scheduling changes within the Cardiovascular Disease Fellowship Program.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

N/A

IV. POLICY

- A. The Cardiovascular Disease Fellowship Program will allow fellows to change their schedule as necessary so long as the request is reasonable and does not conflict with the fellowship program Promotion policy.
- B. Schedule changes (requested by a fellow or attending) that interfere with established curriculum will not be approved. Such requests must follow the fellowship program Curriculum policy.

V. PROCEDURE

Schedule changes will be requested through the chief fellow and approved by the Program Director. The program coordinator will update and distribute all appropriate schedules.

VI. CROSS REFERENCES

Program Policy: Promotion/Appointment Renewal (Document #0000)

Program Policy: Curriculum (Document #0000)

VII. RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. ATTACHMENTS

N/A

AdvocateAuroraHealth

Title: Supervision		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to ensure patient care by qualified physicians in training.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Direct Supervision - The supervising physician is physically present with the resident and patient

Indirect Supervision - The supervising physician is not physically present with the resident and patient and:

- *Direct supervision is immediately available* – the supervising physician is physically within the hospital or other site of patient care and is immediately available to provide direct supervision.
- *Direct supervision is available* – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities and is available to come to the site of care in order to provide direct supervision.

Oversight - The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

IV. POLICY

A. Accreditation Requirements

1. Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the Cardiovascular Disease Fellowship Program will utilize methods of direct (VI.A.2.c).(1)) and indirect (VI.A.2.c).(2)) supervision to promote oversight of fellow supervision while providing for graded authority and responsibility (VI.A.2.c)).

B. General Requirement

1. All significant orders entered by fellows or residents/medical students on a cardiology rotation must reflect discussion with and input from the attending physician on record who is ultimately responsible for patient management.
2. Attending physicians should give input to fellows regarding orders through verbal discussions on rounds, by telephone or through information recorded in the progress notes.
3. Admission change in patient status and daily updates are to be communicated and supervised by the attending physician.

C. Limitations

1. Each fellow must know the limits of his/her scope of authority and the circumstances under which he/she is permitted to act with conditional independence.
2. Fellows are responsible for asking for help when they are uncertain of diagnosis, how to perform a diagnostic or therapeutic procedure, or how to implement an appropriate plan of care.

D. Scope

1. CCU and Consult
 - a) The attending physician supervises management of each of the patients on the service.
 - b) Senior fellows are to help supervise junior fellows in 'sister rotations' (Cardiac Catheterization and Interventional Cardiology, Echocardiography and Non-invasive/Advanced Cardiovascular Imaging), providing progressive responsibility.
2. Cath Lab
 - a) All procedures done by any fellow in the cardiac catheterization laboratory will be under direct supervision of an attending cardiologist.

3. Continuity Clinic
 - a) The history, objective findings, assessment, and plan of each of the cases is to be presented, discussed, and reviewed with the attending physician.
 - b) Faculty members must be continuously present to provide supervision in ambulatory settings and be actively involved in the provision of care as assigned.
4. Fellows On-Call
 - a) On-call fellows are under indirect supervision with direct supervision available from the attending physicians who may take call away from the hospital but are accessible by phone/pager.

E. Progression of Independence

1. Senior fellows serve in a supervisory role of junior fellows in recognition of their progress toward independence.
2. It is the responsibility of both fellows and attendings to understand the levels of supervision and following guidelines for their usage.
3. In all cases, the faculty member functioning as a supervising physician should delegate portions of the patient's care to the fellow, based on the needs of the patient and the skills of the fellow with progressive responsibility as each fellow's level of skill and competence increases.

V. **PROCEDURE**

N/A

VI. **CROSS REFERENCES**

AIMMC Site Policy: Supervision (**Document #0000**)

VII. **RESOURCES AND REFERENCES**

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).

https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VIII. **ATTACHMENTS**

N/A

AdvocateAuroraHealth

Title: Vacation and PTO		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish the expectations for time-off from work in the form of Paid Time-Off (PTO).

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Paid Time Off - An accrued pool of hours that team members may use to take paid time away from work for vacation, holidays, sick time, or personal pursuits.

Academic year - A year with a start date of July 1 and end date of June 30 within a twelve-month period.

IV. POLICY

A. Accreditation Requirements

- Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, in an effort to provide fellows with reasonable opportunities for rest and personal well-being (VI.F.2.a)), the Cardiovascular Disease Fellowship Program will provide fellows in training with 23 days of front-end accrued PTO each academic year.

B. Accrual

- Fellows in training will accrue 23 days of PTO each academic year. PTO days will not rollover to future academic years and are voided

at the end of the academic year. Accrual is front-end (approved at the start of the academic year) and not eligible for cash out upon graduation.

C. Use

1. PTO days should be scheduled in advance and used at a time mutually agreed upon between the immediate supervisor (chief fellow) and the team member (fellow). Departmental needs will be considered when scheduling PTO and requests must not interfere with clinical or academic responsibilities- the Program Director may deny such requests.
2. Team members shall report unplanned absences to their immediate supervisor (chief fellow) as soon as possible. Unplanned absences or failure to otherwise comply with policy requirements may result in disciplinary action.

V. **PROCEDURE**

- A. Fellows can submit their requests for PTO using *Medhub*.
- B. Chief fellows will inform the program of approved PTO requests and the program coordinator will finalize the requests by approving them on *Medhub*.

VI. **CROSS REFERENCES**

AAH System Policy: Paid Time Off (Document #2574)

AIMMC Site Policy: Paid Time Off in Graduate Medical Education (**Document #0000**)

RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VII. **ATTACHMENTS**

N/A

AdvocateAuroraHealth

Title: Work Hours, Fatigue Management, and Mitigation		Document Number: 0000
Document Type: <input checked="" type="checkbox"/> Policy <input checked="" type="checkbox"/> Procedure <input type="checkbox"/> Guideline <input type="checkbox"/> Other		Last Review/Revision Date: 02/07/2020
Content Applies to Patient Care: (Select all that apply) <input checked="" type="checkbox"/> Adults <input type="checkbox"/> Pediatrics (Under 18)	Content Applies to: (Select One) <input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Administrative	Next Review Date: 02/07/2021
		Effective Date: 07/01/2020
Scope: <input type="checkbox"/> AAH System <input type="checkbox"/> AAH IL Only <input type="checkbox"/> AAH WI Only <input checked="" type="checkbox"/> Site Only (Location Name): AIMMC <input checked="" type="checkbox"/> Department Only (Department Name): GME - Cardiovascular Disease Fellowship Program		

I. PURPOSE

The purpose is to establish guidelines for work hours, fatigue management, and mitigation.

II. SCOPE

This document applies to certain members of the Cardiovascular Disease Fellowship Program at Advocate Illinois Masonic Medical Center. This may include fellows in training, faculty, program staff, and other members as applicable.

III. DEFINITIONS/ABBREVIATIONS

Work Hours – All clinical and academic activities related to the residency program such as patient care, administrative duties related to patient care, provision for the transfer of patient care and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time.

At-home Call - Time spent by residents on patients while off-site

IV. POLICY

A. Accreditation Requirements

1. Per the *ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease*¹, the Cardiovascular Disease Fellowship Program will ensure that the schedule of each fellow reflects an average of “no more than 80 working hours per week, averaged out over a four-week period, inclusive of all in-house clinical and educational activities, clinical work done from home, and all moonlighting” (VI.F.1.).

B. Reporting Fatigue

1. Fellows and faculty members are encouraged to report any signs of fatigue to the Program Director.

C. Fellow Work Hour Specification

1. Standard working hours for Cardiology Fellows are from 8am to 5pm (Monday - Friday) plus designated call. Variations in these hours exist and are specified for each applicable rotation in the Program Manual.
2. Satisfactory completion of patient care duties must be accomplished prior to a fellow's leaving the hospital (unless otherwise noted).

D. At-home Call

1. At-home call must count towards the 80-hour maximum weekly hour limit.
2. The frequency of at-home call is not subject to the every-third-night-limitation but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.
3. Residents are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new "off-duty period".

E. Regularly scheduled (In-House) call

1. Occurs with an average frequency of no greater than every five days for first year fellows, every 10 days for second year fellows and every 20 days for third year fellows, averaged out over a 12-month period.
2. Fellows will be scheduled for in-house call no more frequently than every-third-nights when averaged over a four-week period).

F. Mandatory Time Free of Work

1. Fellows will be scheduled for a minimum of one (1) day free of work every seven (7) days when averaged over four weeks. At-home call will not be assigned on these free days.

G. Maximum Work Period Length

1. 24 hour maximum of continuous work

- a) Work periods may be scheduled to maximum of 24 hours of continuous work in the hospital. Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous work in the hospital.
- b) When a fellow is approaching this maximum work period length, they are encouraged to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00pm and 8:00am, is strongly suggested.

2. Exceptions

- a) It is essential for patient safety and fellow education that effective transitions in care occur. Fellows may be allowed to remain on-site to accomplish these tasks; however, this period must be no longer than an additional four hours.
- b) In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required humanistic attention to the needs of a patient or family. Under those circumstances:
 - (1) The fellow must appropriately hand over the care of all other patients to the team responsible for their continuing care and document the reasons for remaining to care for the patient on *Medhub*.
 - (2) The Program Director must review each submission of additional service and track both individual resident and program-wide episodes of additional work to ensure compliance.

H. Minimum Time Off During Scheduled Work Periods

- 1. Fellows will have 10 hours free of work, and eight hours between scheduled work periods. They must have at least 14 hours free of work after 24 hours of in-house work.

V. **PROCEDURE**

- A. All fellows, regardless of year of training, must communicate with the appropriate supervising faculty member, according to the following guidelines:

1. All significant orders entered by fellows or residents/medical students on a cardiology rotation must reflect discussion with and input from the attending physician on record who is ultimately responsible for patient management.
 2. Attending physicians should give input to fellows regarding orders through verbal discussions on rounds, by telephone or through information recorded in the progress notes.
 3. Admission change in patient status and daily updates are to be communicated and supervised by the attending physician.
- B. In every level of supervision, the supervising faculty member or attending physician must review progress, sign procedural notes, and discharge summaries.

VI. CROSS REFERENCES

AIMMC Site Policy: Work Hours, Fatigue Management & Mitigation (Document #0000)

RESOURCES AND REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (2019).
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/141_CardiovascularDisease_2019_TCC.pdf?ver=2019-03-26-090826-050

VII. ATTACHMENTS

N/A