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Appendix
Program Director:

Rami Khouzam, MD, FACC, FACP, FASNC, FASE, FSCAI
Associate Professor of Medicine-Cardiology
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Clinic Locations:

1211 Union Avenue, Suite 965
Memphis, TN 38104
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1251 Wesley Drive, Ste. 153
Memphis, TN 38116

Program Coordinator:

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The aim of the Interventional Cardiovascular Fellowship Program at the University of Tennessee Health Science Center, Memphis (UTHSC) is to train the fellow(s) to attain a high level of competence in interventional cardiology. This includes acquiring knowledge and skills for the selection of patients for appropriate cardiovascular interventional procedures and a high level of technical skill in performing them and in the managing post procedural issues. This overall goal has four components:

1) To understand the comparative efficacies and limitations of coronary and peripheral vascular interventions in order to select patients and procedure types appropriately.

2) To achieve appropriate cognitive knowledge and technical skills necessary to perform interventional cardiac and vascular procedures at the level of quality attainable through the available and up-to-date state of the art novel developments in the field.

3) To foster an attitude of life-long learning and critical thinking skills needed to gain from personal and literature-based experience and incorporate new developments into ongoing clinical practice.

4) To understand and commit to quality assessment and improvement in the performance of procedures.
DETAILS OF THE UT INTERVENTIONAL CARDIOLOGY TRAINING PROGRAM

Educational program:

1) The training in interventional cardiology at the UTHSC will encompass acquiring the special knowledge and skill required for cardiologists to care for patients receiving cardiac interventional procedures that will also include training in techniques to improve coronary and peripheral circulation to alleviate valvular stenosis and treat structural heart disease.

2) This subspecialty training program is 1 year in duration and is an integral continuum of the ACGME accredited Cardiovascular Diseases Fellowship Program of the TTHSC, Memphis.

3) During the clinical phase of their training, fellow(s) will:
   
   a. Participate in pre-procedural planning, including indications for the procedures and selection of the appropriate nuances of the procedures and instruments;
   
   b. Perform critical technical manipulations of the procedure;
   
   c. Demonstrate substantial involvement in the post procedure care; and
   
   d. Will be supervised by teaching faculty responsible for the procedure.
Program Director

Rami Khouzam, MD, FACC, FACP, FASNC, FASE, FSCAI
Associate Professor of Medicine-Cardiology, University of Tennessee Health Science Center, Memphis, TN.
Email: rkhouzam@uthsc.edu

Dr. Khouzam is board certified by the ABIM in Internal Medicine, Cardiovascular Diseases and Interventional Cardiology. He also achieved board certification from The American Society of Nuclear Cardiology, The American Society of Echocardiography and The Board of Cardiovascular Computed Tomography. He supervises and prepares the presentations of cath conference weekly, as well as the journal club and Morbidity and Mortality conferences monthly. He actively participates in the day-to-day direct clinical training of the fellow.

Dr. Khouzam is the UTMP site chief for cardiology, as well as the director of the cardiac cath lab at Methodist University Hospital. He is responsible for the administration of the interventional cardiology section of the Division of Cardiovascular Disease at the UTHSC and the interventional cardiology fellowship program. He supervises the overall teaching program, evaluation of trainees and quality control. Dr. Khouzam is an educator and research investigator. He is the author and co-author of more than 100 articles published in peer-reviewed journals, as well as an ad hoc reviewer for 10 medical journals.

Dr. Khouzam performs, supervises and teaches at the Methodist University Hospital, Methodist South Hospital and Methodist Olive Branch Hospital.
Faculty Members and Sites

- Shadwan Alsafwah, MD; Methodist University Hospital, salsafwah@uthsc.edu
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Facilities and Resources

The facilities and resources for the fellowship training are provided by the following sponsoring institution and the primary training site:

Sponsoring Institution

UTHSC, College Of Medicine, is the sponsoring institution for the Interventional Cardiology Fellowship Program. The contact information is:

University of Tennessee College of Medicine; ACGME ID [470474] [8004700429]
Address: University of Tennessee College of Medicine
910 Madison Avenue, Suite 1031
Memphis, Tennessee 38163
Website: http://www.utmem.edu/gme
The principal contact persons in the GME office are:

1) Eugene C. Mangiante, Jr, MD; Associate Dean, GME and CME; Phone: (901) 448-5765;
   Fax: (901) 448-6182; Email: EMangiante@utmem.edu
2) Ms. Amy Hall; Designated Institution Official (DIO); Phone: (901) 448-5364;
   Fax: (901) 448-6182; Email: dio@utmem.edu

Medical School Affiliations

University of Tennessee College of Medicine, Memphis, TN; Ownership or Control Type: State;
Type of Institution: Medical School - LCME University Medical Center

Accreditation Status

Approval Decision by the ACGME—Effective: 10/15/2013; Last Site Review Date: April 15, 2013;
Next Site Review Date (tentative): May 1, 2020

The UTHSC is the flagship of medical institution for the state of Tennessee. Its extensive geographic span, including three free standing colleges of Medicine campus located at Knoxville, Chattanooga and Nashville, trains 616 medical students (approximately 165 students enrolled each year), and approximately 647 residents and fellows every year. There are 93 internal medicine residents and 6 cardiology fellows entering for training every year.
Primary Training Site: Methodist University Hospital

The primary training site for the interventional cardiology fellowship training is:

Methodist University Hospital
Address: 1265 Union Ave.
Memphis, TN 38104
Tel: (901) 516-7000

Website: www.methodisthealth.org

Methodist University Hospital is an affiliate and the primary adult teaching hospital for the University of Tennessee Health Science Center. It is a 693 bed tertiary care hospital that is situated in the heart of the Memphis Medical Center and is well known for its cardiac, neuroscience and transplant programs.

In addition to facilities and resources outlined in the program, including requirements for Fellowship education in the subspecialties of internal medicine, the primary training site offers the following:

1. Diagnostic Laboratory Services.
2. Imaging/Radiology department and cardiac radionuclide laboratory.
3. Active Cardiac/Thoracic program with more than four full time surgeons and a CT surgery fellowship training site.
4. A busy cardiac surgery intensive care unit.
5. A cardiac catheterization laboratory that has 5 independent catheterization lab suites with capability of performing 5 cases simultaneously. This catheterization lab at the Methodist University Hospital performs 1000 interventional procedures per year with 100 emergency primary angioplasty/stenting procedures for acute ST elevation myocardial infarction.
6. An active busy cardiac intensive care unit.
7. Faculty affiliated to different departments of University of Tennessee College of Medicine at Memphis, including faculty with expertise in radiation safety and biology, hematology, pharmacology, congenital heart disease in adults and related research laboratories.
8. The busiest Emergency Room in the area visited by a large and diverse patient population presenting with cardiovascular diseases, coronary artery disease, and peripheral vascular
disease. This constitutes the patient population available for training the interventional cardiology fellows.

**Second training Site: Methodist South Hospital**

Methodist South Hospital Memphis:

Address: 1300 Wesley Drive  
Memphis, TN 38116  
Phone: 901-516-3805

Website: [www.methodisthealth.org/locations/methodist-south-hospital](http://www.methodisthealth.org/locations/methodist-south-hospital)

Methodist South Hospital at Memphis is an affiliate of the primary adult teaching hospital for the University of Tennessee Health Science Center. It is a tertiary care center that provides comprehensive medical care to patients who seek medical care in the Hospital. It is well known for its cardiovascular and peripheral vascular program.

The facility offers the following services:

1. Diagnostic Laboratory Services.
2. Imaging/Radiology department and Cardiac Radionuclide Laboratory.
3. Active Cardiac/Thoracic program with one full time surgeon.
4. A Cardiac Catheterization Laboratory that has 2 independent catheterization lab suites. The lab at Methodist South Hospital performs approximately 400 interventional procedures per year, including primary angioplasty procedures for acute ST elevation myocardial infarction, peripheral coronary and peripheral vascular interventions.
5. An active busy cardiac intensive care unit.
6. Have access to faculty affiliated to different departments of University of Tennessee College of Medicine at Memphis, including faculty with expertise in radiation safety and biology, hematology, pharmacology, congenital heart disease in adults and related research laboratories.
7. Out-patient clinic is located at 1259 Wesley Dr. The Interventional Cardiology fellows will have at least one half day continuity clinic every week.
Third training site:
Veteran Administration Medical Center

Address: 1030 Jefferson Avenue
Memphis, TN 38103
Phone: 901-523-8990

Website: www.memphis.va.gov

Veteran Administration Hospital at Memphis is an affiliate and the primary adult teaching hospital for the University of Tennessee Health Science Center. It is a tertiary care center that provides comprehensive medical care to veterans who seeks medical care in the Hospital. It is well known for its cardiovascular program.

The VA hospital at Memphis, TN offers the following services:

1. Diagnostic Laboratory Services.
2. Imaging/Radiology department and Cardiac Radionuclide Laboratory.
3. Active Cardiac/Thoracic program with more than four full time surgeons.
4. A busy cardiac intensive surgery care unit.
5. A Cardiac Catheterization Laboratory that has 2 independent catheterization lab suites. The lab at the VA Hospital performs approximately 400 interventional procedures per year, including primary angioplasty procedures for acute ST elevation myocardial infarction.
6. An active busy cardiac intensive care unit
7. Have access to faculty affiliated to different departments of University of Tennessee College of Medicine at Memphis, including faculty with expertise in radiation safety and biology, hematology, pharmacology, congenital heart disease in adults and related research laboratories.
The following program contents are integrated to the curriculum of the training program.

1) **Clinical experience:**

Fellows will have formal instruction, clinical experience and competence in prevention, evaluation and management of both inpatients and outpatients with the following disorders:

a) Chronic ischemic heart disease.

b) Acute ischemic syndromes.

c) Valvular and structural heart disease.

d) Bleeding disorders or complications associated with percutaneous intervention or drugs, including but not limited to: bleeding after thrombolytic use, direct or indirect thrombin inhibitor use, glycoprotein IIb/IIIa inhibitor usage and thienopyridine or other antiplatelet usage.

e) Use and limitations of intra-aortic balloon counter pulsation (IABP), Impella device, temporary pace maker, and other hemodynamic support devices.

f) Consultation and informed consent.

g) Care of patients in the cardiac care unit, emergency department, or other intensive care settings.

h) Care of the patient before and after interventional procedures.

i) Outpatient follow-up of patients treated with drugs, interventions, devices or surgery.

j) Use of antiarrhythmic agents, including knowledge of pharmacokinetic and pharmacodynamics related to acute ischemic events occurring during and after interventional cardiac procedures.

k) Use of thrombolytic and antithrombolytic, antiplatelet and antithrombin agents.

l) Use of vasoactive agents for epicardial and micro-vascular spasm.
2) **Technical and Other Skills:**
Fellows will have formal instruction, clinical experience and other formal teaching sessions that will help them to demonstrate competence in the performance if the following:

   a) Coronary angiograms  
   b) Ventriculography  
   c) Hemodynamic measurements  
   d) Intravascular ultrasound  
   e) Doppler flow, intracoronary pressure measurement and monitoring, and coronary flow reserve  
   f) Coronary interventions, having each fellow performing more than 250 procedures involving femoral/brachial/radial cannulation of normal and abnormally located coronary ostia, and also application and usage of balloon angioplasty, stents and other commonly used interventional devices  
   g) Management of mechanical complications of percutaneous intervention, including but not limited to coronary dissection, thrombosis, spasm, perforation, slow reflow, cardiogenic shock, left main trunk dissection, cardiac tamponade including pericardiocentesis, peripheral vessel occlusion and retained components, and pseudo aneurysm.

3) **Formal Instructions:**
The training program will also provide formal instruction and teaching sessions for the interventional cardiology fellows to acquire knowledge on the following areas:

   a) Role of platelets and clotting cascade in response to vascular injury  
   b) Pathophysiology of restenosis  
   c) Role and limitations of established and emerging therapy for treatment of restenosis  
   d) Physiology of coronary flow and detection of flow limiting conditions  
   e) Detailed coronary anatomy
f) Radiation physics, biology and safety related to the use of x-ray imaging equipment

g) Role of randomized clinical trials and registry experiences in clinical decision making

h) Clinical importance of complete versus incomplete revascularization in a wide variety of clinical and anatomic situations

i) Strengths and limitations, both short and long term, of percutaneous versus surgical and medical therapy for a wide variety of clinical and anatomic situations related to cardiovascular disease

j) Strengths and limitations, both short and long term, of deferring percutaneous approaches for a wide variety of anatomic situations related to cardiovascular disease

k) Role of emergency coronary bypass surgery in the management of complications of percutaneous intervention.

l) Strengths and weaknesses of mechanical versus lytic approach for patients with acute myocardial infarction

m) Use of pharmacologic agents appropriate in the post intervention management of patients

n) Strengths and limitations of both noninvasive and invasive coronary evaluation during recovery phase after acute myocardial infarction

o) Understanding the clinical utility and limitations of the treatment of valvular and structural heart disease, and

p) Assessment of plaque composition and response to intervention.
The training of the fellow is evaluated based on the six core competencies of the ACGME:

1) Cognitive (medical) knowledge
2) Patient care
3) Practice based learning and improvement
4) Interpersonal communication skills
5) Professionalism
6) System-based practice

In the context of interventional cardiology training, core competencies are applied in the management of diseases where percutaneous intervention in the cardiac catheterization lab is considered as a treatment modality. Evaluation of fellow(s) is the mechanism by which we assess successful acquisition of skills needed to achieve Level 3 training. Regular and timely formal performance feedback is provided to the trainees at the end of each monthly rotation. Additional informal feedback is given on as needed. The goals of our Interventional Cardiovascular Fellowship are to provide training opportunities to master each of the six core competencies of our fellowship program as listed below.

1) COGNITIVE KNOWLEDGE
   
a) Anatomy: Cardiac, vascular and coronary anatomy, including anatomic variants and congenital abnormalities.
   
b) Physiology: Basic circulatory physiology, coronary and peripheral vascular physiology, myocardial blood flow regulation, myocardial physiology and metabolism.
   
c) Vascular biology and pathology: Normal vascular structure and function, response to injury, mechanisms of atherosclerosis and mechanisms of restenosis.
   
d) Hemostasis: Intrinsic and extrinsic coagulation cascade and platelet physiology.
   
f) Pharmacology: Anticoagulants, antiplatelet drugs, thrombolytic drugs, X-ray contrast agents, myocardial inotropes, vasopressors, vasodilators, antiarrhythmic drugs and drugs affecting lipid metabolism. Peripheral arterial thrombolysis.


h) Intravascular imaging and vascular physiology: Principles of intravascular ultrasound imaging and Doppler coronary flow velocity measurements.

i) Non-invasive imaging: interpretation and selection of appropriate non-invasive vascular imaging.

j) Interventional device design and performance: Device material and characteristics.

k) Clinical management strategies: Performance and limitations of interventional devices, spectrum of coronary ischemic syndromes and peripheral arterial disease, results of interventional cardiology trials, management of acute hemodynamic alterations and mechanical pharmacological circulatory support.


2-3) PATIENT CARE AND PRACTICE BASED LEARNING AND IMPROVEMENT

Patient care and direct practice-based learning will occur in the context of the initial evaluation of patients undergoing endovascular interventional procedures in the cardiac catheterization laboratory suite, as well as post-procedurally. The nature of a trainee’s participation in a given case may vary depending on the procedure’s complexity and the trainee’s experience.
The trainee's goals will be:

a) Pre-procedural evaluation to assess appropriateness and to plan procedure strategy.
b) Personal performance of the case's critical manipulations under the direct supervision of an attending faculty member. The faculty member who takes overall responsibility for the case must be immediately available to supervise the trainee’s performance and to take over the completion of the case at any time it is in the best interest of the patient.
c) Active involvement in post-procedural management, both in the catheterization laboratory at the conclusion of the case, and in the inpatient unit or holding area afterward. This includes assessing for possible adverse outcomes, managing access sites and managing anticoagulation issues.
d) Active involvement in procedure reporting and the process of ensuring quality.
e) Maintenance of a portfolio of novel and advanced interventional procedural techniques integrated with current available literature, to be used for presentation and review.

Core Procedure capability and technical skill acquired by the trainee

a) Conventional balloon coronary angioplasty
b) Coronary artery stents
c) Primary angioplasty for acute myocardial infarction
d) Atherectomy techniques (laser and rotablator)
e) Intravascular ultrasound (IVUS)
f) Fractional Flow Reserve (FFR)
g) Intra-aortic balloon counterpulsation and other techniques of circulatory support
h) Cardiac valvuloplasty
i) Endomyocardial biopsy
j) Transcathether closure of congenital defects
k) Peripheral angiography
l) Peripheral artery thrombolysis

m) Percutaneous mechanical thrombectomy for arterial thrombus

n) Subclavian, brachiocephalic and upper extremity endovascular interventions

o) Renal artery interventions

p) Aortic, iliac and common femoral artery interventions

q) Endovascular treatment of superficial femoral artery disease

r) Infrapopliteal interventions

**Trainees Evaluation:**

The competence of all interventional cardiovascular trainees is documented by the interventional cardiology program director who is also responsible for assessment of the success of the trainee’s progress in collaboration with the other program faculty members. The overall evaluation includes rigorous compilation of trainee experience and assessment of the trainee’s cognitive knowledge, technical skill, and clinical and procedural judgment. Evaluative feedback, verbal and written, to the trainee during the training period is vital to monitor the trainee's ongoing progress. All procedures performed by the trainee are documented electronically.

In addition to assessment of the cognitive skills listed above, trainee evaluation involves three components: cognitive, technical, and documentary.

a) Case selection and preprocedural, intraprocedural and postprocedural care and judgment are evaluated for every trainee, both in the inpatient and outpatient settings.

b) Interpretive skills that relate to assessment of complex hemodynamics, coronary and vascular angiographic images, and physiologic studies are evaluated.

c) Quality of clinical care follow-up, reliability, interaction with other physicians, patients, and laboratory support staff, and the initiative and ability to make independent, appropriate decisions are considered. Trainees must have knowledge of the specific equipment to be used in each procedure, both in the coronary and peripheral arterial circulation.
d) Assessment of technical performance is done on a continuous basis. This is best done by direct oversight during procedures of actual handling of equipment and devices, by assessment of the interaction of the trainee with the device and specific anatomy being treated, and by procedural complication rate.

4) INTERPERSONAL AND COMMUNICATION SKILLS

Interpersonal communication skills which have been acquired during level 1 and level 2 training will continue to develop throughout the interventional fellowship year. The trainee will become an integral part of the cardiac catheterization laboratory team. Level 3 trainees will assume progressively challenging responsibilities for the conduct of the interventional procedure, as well as of the interactions with patients and their families across a broad range of socioeconomic and cultural backgrounds. They will become more involved in the discussion of the results of the study with other medical care providers becoming more capable of acting in a consultative role to referring primary care physicians and cardiologists, as well as to cardiothoracic and vascular surgeons.

5) PROFESSIONALISM

The fellow will further develop the concepts of professional behavior acquired during the core cardiology training, and will continue to interact with the multiple different types of providers in a large cardiac catheterization laboratory setting that include clerical staff, technicians, nurses, faculty, and other senior fellows. Formal conferences on professionalism are held regularly.

The trainees are expected to:

a) Demonstrate empathy, sensitivity and compassion as a physician

b) Demonstrate high standards of ethical behavior

c) Understand the ethical aspects of the relationship with industry

d) Refine her/his understanding of the elements of patients' rights and confidentiality
6) SYSTEM-BASED PRACTICE

The trainee will further develop her/his appreciation of the role of the cardiac catheterization laboratory in a system of health care delivery, eventually understanding the role of the laboratory in the context of the needs of a large inpatient hospital system. They will continue to gain deeper appreciation of procedural indications, their cost effectiveness, as well as of diagnostic and procedural coding. During their training the fellows will attend formal practice improvement conferences and will also be engaged in specific practice improvement projects. These include a cardiac catheterization laboratory quality improvement initiative with reporting to the ACC National Cardiovascular Data Registry (ACC-NCDR™) through the Columbia HeartSource Registry. The fellow will also be involved in the quality initiative program in the chest pain unit and the clinical decision unit of Methodist University Hospital.
The Interventional Cardiology Fellowship Program at the UTHSC, Memphis abides by the policies and procedures of the Graduate Medical Education (GME) department of the university. These policies are extensively reviewed and presented on the GME website: www.uthsc.edu/gme.

The following policies have been revised to be program specific:

1) Faculty involvement in special circumstances in patient care
2) Hands-off and transitions of care
3) Order writing
4) Duty hours
5) Moonlighting
6) Conference Attendance Requirements
7) Travel policy
8) Leave policy
9) Professional conduct policy
10) Harassment
11) Scholarly activity/research requirements
12) Supervision policy for IVC
13) Eligibility and Selection Policy for IVC
14) Grievance policy for IVC
1.) FACULTY INVOLVEMENT IN SPECIAL CIRCUMSTANCES IN PATIENT CARE

I. Rationale

This policy is instituted to guide the interventional cardiology fellow(s) in making the appropriate management decisions in certain situations that can arise in patient care. This helps the fellow in learning how to deal with such situations upon completion of his/her training. This also enables and encourages the fellow to care for patients by involving all appropriate stakeholders in the patient care.

II. Policy

This policy entails faculty involvement in care of complex patients and also in other uncommon circumstances. Few such scenarios are presented below.

1) **Care of complex patients:** It is common to have patients who are critically ill for whom procedures are done in the cardiac catheterization laboratory. The fellow is involved in the evaluation of these patients with the faculty and management assessment and planning is done. Pre procedural assessment of patient to be transferred to cardiac catheterization lab is done either at the primary location of the patient or at the cardiac catheterization laboratory. Clinical data is obtained from the computerized records of the patient, through discussion with the primary care providers of the patient and family members. Fellow discusses the results of prior procedures and labs with the faculty. Treatment decisions are then taken to stabilize the patient’s hemodynamic/clinical status, and are implemented in discussion with the faculty who is involved in a particular procedure. Management decisions of such critical or complex patients during the procedure are done in discussion with the faculty who would be scrubbed in for the procedure with the fellow. Patients, once appropriately stable after procedure, are then transferred to an intensive care setting with adequate nursing and physician care and supervision. If patients are transferred to another clinical service, appropriate handoffs policy is followed (Please see the GME approved Handoffs and Transitions of Care policy.

2) **ICU Transfer:** ICU care is most often required after percutaneous coronary interventional procedure. The fellow admits, under the guidance of the faculty who is involved in the procedure, the patient for overnight observation if the procedure was an elective outpatient procedure. Patients who are acutely ill before procedure, or become ill during the
procedure, are most often transferred to ICU for higher level of care. In any such transfers, the interventional fellow makes decision with supervision from the faculty. The fellow and the faculty discuss the patient events, current status, and planned management decisions with the members of the patient care team and also with the patient’s family (appropriate information is shared respecting patient confidentiality). Before transfer to the ICU, the handoff is done at the conclusion of the procedure to the cardiology fellow on CCU service (if before 4:30pm) or to the cardiology fellow on call (if after 4:30pm). The following details of the patient are discussed during the handoff:
  a. Patient name
  b. Age
  c. Room number
  d. Medical Records number
  e. Name of the faculty attending for the patient
  f. Diagnosis and procedure performed
  g. Clinical condition of the patient and status of current hemodynamic support
  h. Pending labs or tests to be followed up
  i. Resuscitation status

Please see the GME approved Handoffs and Transition of Care policy for further details. The cardiology fellow is required to contact directly the interventional cardiology fellow (before 5pm) or the interventional faculty (after 5pm to next day 7 am). Graded faculty involvement in decision making is done to improve the learning experience. However, management decisions hence made by the fellow are discussed with the faculty for feedback and learning.

3) **End of Life Decision and Resuscitation/DNR status:** Decisions on appropriateness of procedures are made in discussion with the faculty. In general, patients who have to undergo coronary intervention have to be full code (not DNR status). This is because in the event that patient needs to be resuscitated, there should not be restrictions on resuscitation measures that is needed to avoid a death in the cardiac catheterization lab. So appropriate discussion is done with the patient and family members to make changes to the DNR status, if the faculty and fellow with their knowledge and judgment feel that the procedure has acceptable risk to benefit ratio.

In the event that chance of meaningful life is low or death is imminent, the fellow with the faculty discusses the end of life decisions with the family, taking into account patient’s
written or verbal preferences on end of life decisions. Palliative care services will also be involved in these discussions.

2.) HANDOFFS AND TRANSITIONS OF CARE

I. Rationale

This policy is instituted to assure continuity of care and patient safety, to involve fellows to a structured and monitored handoff process, and train fellows on competency in handoffs and patient care transition. This also enables the resident to care for patients in an environment that maximizes effective communication among all individuals or teams with responsibility for patient care in the healthcare setting.

II. Policy

This policy entails handoff or patient care transition in three different clinical settings where the interventional cardiology fellow may be involved in the coronary/cardiac or peripheral interventions.

1) Patients admitted for outpatient elective procedures.

2) Patients who are already inpatients and undergo coronary or peripheral interventional procedure in the cardiac catheterization lab.

3) Patients directly transferred to cardiac catheterization lab for emergency procedure.

In all these settings, the patients are independently evaluated by the interventional fellow and a detailed history and physical examination is done by the interventional cardiology fellow (in setting 3, a targeted H&P is done due to the emergency nature of the procedure). He then participates in the procedure, and if a percutaneous coronary intervention is performed, the fellow admits the patient for overnight observation if the procedure was an elective outpatient procedure. The patient is admitted to the interventional service under the faculty attending who supervised and performed the procedure. At the end of the day the care of such patients are handed off to the cardiology fellow on call. Patients directly transferred from Emergency Room for emergent procedure, the handoff is done at the conclusion of the procedure to the cardiology fellow on CCU service (if before 4.30pm) or to the cardiology fellow on call (if after 4.30pm). The following details of the patient are discussed during the handoff:
a. Patient name
b. Age
c. Room number
d. Medical Records number
e. Name of the faculty attending for the patient
f. Diagnosis and procedure performed
g. Clinical condition of the patient and status of current hemodynamic support
h. Pending labs or tests to be followed up
i. Resuscitation status

The next day the interventional fellow takes charge of the continuing care of such patients and does post procedure evaluation of these patients. He/she receives a similar handoff from the cardiology fellow who was on overnight call regarding the status of patient and an account of any overnight event. These handoffs are structured face-to-face, phone-to-phone, or secure intra-hospital electronic handoff. At a minimum, this should include a brief review of each patient by the transferring and accepting fellows with time for interactive questions. All communication and transfers of patient information are provided in a manner consistent with protecting patient confidentiality.

3.) ORDER WRITING

I. Purpose

To specify the responsibilities of the Interventional Cardiology Fellow for the writing of patient orders.

II. Policy

The interventional cardiology fellow is responsible for pre and post procedure orders for patients undergoing interventional procedures in which they are involved. These activities will always be supervised by the attending interventional cardiologist. Although the medicine residents and interventional cardiology fellows are responsible for writing routine admission orders, under emergency conditions such as an acute ST elevation myocardial infarction, the interventional fellow might be the first physician to encounter such patients and may be obligated to write admission orders. In such circumstances, adequate communication will be provided to the medicine or cardiology team taking care of the patients.
The attending interventional cardiologists are prohibited from writing routine orders except under special circumstances when it becomes necessary, and there should be adequate communication provided to the fellows and residents.

III. Scope

The Interventional cardiology training program complies with the ACGME program requirements for fellowship education in interventional cardiology. This policy will apply to all the interventional cardiology fellows rotating through both the Methodist Hospitals and VA Medical Center.

References:

Any questions regarding this policy can be referred to Dr. Rami Khouzam at the Methodist University Hospital (rkhouzam@uthsc.edu) or Dr. K. B. Ramanathan at the VA Medical Center (Kodangudi.ramanathan@va.gov) or Dr. Guy Reed (glreed@uthsc.edu)

4.) DUTY HOUR LOGGING AND MONITORING PROCEDURES

The UTHSC Interventional Cardiology Fellowship Program adheres to the formal written duty hour policy of the GME office, Policy #310.

Duty hours are defined as all clinical and academic activities related to the program; i.e., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care; time spent in-house during call activities, and scheduled activities, such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.

MAXIMUM HOURS OF WORK PER WEEK:

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

• Fellow(s) must not attend continuity clinics after 24 hours of continuous in-house duty. In unusual circumstances, a fellowon their own initiative may remain beyond their scheduled period of duty to continue to provide care to a severely ill or unstable patient, to provide humanistic attention to the needs of a patient of family, or to be present for events transpiring that are of academic importance. The fellow is responsible for documenting every circumstance and submitting documentation to the program director. The program director will review and track episodes of additional duty occurring within the program.
- Fellow(s) should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.
- Fellow(s) must be scheduled for a minimum of one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call. At-home call cannot be assigned on these free days.
- Duty hours are to be entered in New Innovations on a weekly basis. The duty hours from a given month must be completed by the 15th of the next month.
- Duty hours are to be monitored by the program coordinator and director.
- Fellow(s) must log duty hours including internal and external moonlighting and annual, sick and educational leave on a weekly basis in New Innovations. http://www.new-innov.com/pub/
- When fellows have not logged any duty hours for 5 days, they will receive an automatic email reminder from New Innovations.
- Weekly (Monday preferred), Program Coordinators must check to ensure that all fellows have logged their duty hours for the previous week using either the “Weekly Usage” or “Hours Logged” report in New Innovations.
- The Program Coordinator will send email reminders to those fellows who have not logged their duty hours for the previous week. The Program Director should be copied on the email.
- If the fellow has not updated his/her hours in New Innovations to be current by the following Monday, he or she will receive a written leave without pay notice. (see GME Template)
- For each violation, the Program Director or Coordinator must enter a comment into New Innovations that describes the action taken to remedy the violation.
- A Duty Hours Subcommittee will review the duty hours on a regular basis and look for any problem areas. On a quarterly basis the Chair of this Subcommittee will present a report that outlines any problem areas and makes recommendations for GMEC action.
- The GME office will also be monitoring duty hours through the New Innovations Dashboard.
5.) MOONLIGHTING

Moonlighting is defined as any professional activity outside the course and scope of the cardiology Interventional fellow’s approved training program. The interventional fellowship will not require the fellow to engage in moonlighting. Practice activities permitted outside the educational program will be based on the academic performance level of the fellow. To ensure that professional activities outside the program do not interfere with the fellow’s performance, all extramural professional activities must be approved in advance by the University. If approved, the program director will include a written statement of permission in the fellow’s file (see appendix 1) and will monitor the effect of these outside activities. Adverse effects on the fellow’s performance may lead to withdrawal of permission.

The Interventional fellow is responsible for maintaining the appropriate state medical license where moonlighting occurs (see GME Policy #245 —Licensure Exemption) and separate malpractice insurance. The Tennessee Claims Commission Act does not cover fellows who are moonlighting.

Any approved moonlighting activity including that which occurs within the interventional fellowship program and/or the sponsoring institution or the nonhospital sponsor’s primary clinical site(s); i.e., internal moonlighting, will be counted toward the 80-hour weekly limit on duty hours. Violation of the moonlighting policy could result in disciplinary actions up to and including dismissal from the UTHSC GME Program.

6.) CONFERENCE ATTENDANCE REQUIREMENTS

Cardiac catheterization/Interventional Conference weekly: Friday 7:30-8:30 am.
Journal Club conference: 3rd Friday of the month: 7:30-8:30 am.
The interventional cardiology fellow is required to attend 90% of conferences.
7.) TRAVEL POLICY

The Interventional Cardiology fellow is required to adhere to the travel policies as described by University of Tennessee Travel Policies. A Fellow Travel Attestation explaining details and requiring the fellow's signature will be on file in the program and GME office (see appendix 2). Details are available on the UT website. Attending one educational conference during training is highly recommended. The selection of the conference should be discussed with and agreed upon by the Program Director. Proper coverage of patient care, and clinic coverage/cancellation during time away is the responsibility of the Interventional fellow and should be fully documented and on file in the program coordinator's office prior to the conference. All clinical cancellations are to be made in accordance with the policy of the facility in which the fellow is rotating.

8.) LEAVE POLICY

A: Non-Medical leave of absence:

If a fellow wishes to take a leave of absence for non-medical reasons, it must be negotiated with the Program Director and requires an interruption in appointment, without pay. A leave of absence may not extend beyond the fellow's period of appointment.

B) Annual Leave:

Paid annual leave of three (3) weeks, consisting of twenty-one (21) days with a maximum of fifteen (15) “working days” (Monday-Friday) plus six (6) “weekend days” (Saturday-Sunday), may be given per twelve month period. Annual leave or leave without pay is granted at the discretion of the Program Director and must be approved, in writing, by the Program Director (or his/her designee) in advance. Annual leave must be used for any time away from the program not specifically covered by other leave benefits below. Fellows are not paid for unused leave. Fellows terminating before the end of their training year will be paid only through their final active working day and will not be paid for unused annual leave.

C) Sick Leave:
Fellows are responsible for reporting all absences due to illness to the Training Program Director as soon as possible prior to the start of shifts for which they will be absent. Those illnesses which can be anticipated to last more than three days and are thought to qualify for Family Medical Leave must adhere to GME policy #220, located on the GME website: www.uthsc.edu/gme.

**Leave maximum**

Sick leave will be granted with pay for a maximum of three weeks per twelve month period. Details may be found on the GME website under Police #220. It may not exceed the termination date of the appointment.

**Return to work**

If the fellow has been under a doctor’s care, a written statement of his ability to return to work is required. Paperwork as required by the GME must be submitted and approved prior to returning to work.

**D.) Family and Medical Leave:**

Family Medical Leave will be granted according to the provisions as set forth in GME policy #220.

**E.) Military Leave:**

Military leave will be administered in accordance with the provisions of University Personnel Policy #370. Fellows must notify their Program Director when military leave will be required and must provide the appropriate documentation of their military service. Depending on the length of leave and the ABIM bard requirements, training time may be extended.

**F.) Jury Duty**

is a mandated civil duty. Fellows are to turn in proof of days served. Compensation received for jury duty can be turned in to the department or the fellow may keep the compensation and take annual leave or leave without pay.

**G.) Time Off to Vote:**

The Interventional Cardiology Program adheres to the GME policy on voting. Fellows are strongly encouraged to vote during non-working hours. If the polls open three (3) hours or
more before the resident's work schedule begins or if the polls close three (3) or more hours after the resident's work schedule ends, the resident may not receive time off to vote.

Fellows should be aware of the possible effect taking leave can have on their board requirements. This is a one year fellowship that requires 12 months of training. For deficits of less than one month the ABIM will defer to the judgment of the program director and competency committee to determine the need for more training. More than thirty days will result in the fellow's training being extended, if funds are available. Any extension in training has to be submitted to and approved by the ABIM through the program director.

9.) PROFESSIONAL CONDUCT POLICY

The Interventional Cardiology Fellow is expected to maintain a high level of professional conduct at all times. Professionalism is one of the six competencies in which the fellow must demonstrate proficiency to successfully complete the fellowship program. Professionalism includes maintaining a professional appearance as well as demonstrating high standards in moral and ethical behavior. The UTHSC Interventional Cardiology Fellowship Program adheres to the policies on professionalism that can be reviewed on the UT GME website (http://uthsc.edu/gme) under Code of Conduct, Disciplinary Actions, and Personnel Policies (Disciplinary Actions).

10.) HARASSMENT

The Interventional Cardiology Fellowship program's faculty, staff and fellow(s) will adhere to the policy on Harassment as set by the University of Tennessee Health Science Center in GME Policy #330, which can be reviewed, in detail, on the GME website.

11.) SCHOLARLY ACTIVITY/RESEARCH REQUIREMENTS FOR FELLOWS

The Interventional Cardiology fellow will be required to participate in at least one research project during his fellowship. The research subject will be decided through joint discussion with the program director. The writing of abstracts based upon the research is encouraged. The program will support submission to journals and seminars.
12.) SUPERVISION FOR IVC

A credentialed and privileged attending physician ultimately provides supervision or oversight of each fellow's patient care activities. Direct supervision by a qualified attending physician is required in the OR/Delivery Room or for non-routine invasive procedures such as Cardiac Cath, Endoscopy, and Interventional Radiology. The standards for fellow supervision in patient care settings are described on the GME web site: http://uthsc.edu/GME/pdf/supervision2011.pdf. Program specific Clinical Activities and Level of supervision (see appendix 3)

13.) ELIGIBILITY AND SELECTION POLICY FOR IVC

The Interventional Cardiology's Fellowship Training Program requires all applicants to:

- Have completed an ACGME accredited Cardiology Fellowship program and be eligible to sit for the board examination in Cardiovascular Diseases. It is recommended that the CV boards are taken during his/her interventional fellowship training.

- Be ABIM certified in Internal Medicine

- International Medical Graduates must have a valid Educational Commission for Foreign Medical Graduates (ECFMG) certificates or have completed a Fifth Pathway program provided by an LCME-accredited medical school.

To meet eligibility requirements, an international medical school’s admission standards must meet or exceed those of medical schools accredited by LCME. Schools on the Medical Board of California’s list of disapproved schools are presumed not to comply with this requirement. UT GME residency and fellowship programs may not accept graduates from schools on the list. The list can be accessed online at: http://www.mbc.ca.gov/applicant/schools_unapproved.html.

USMLE Requirements:

Effective July 1, 2010, all new fellows entering Memphis-based GME programs at the PGY4 or higher level must have passed Step 3 (or equivalent examination) before beginning training at UT. The fellow is responsible for providing evidence of passage of Step 3 (or equivalent exam) to the program director and GME Office. Any Agreement of Appointment or offer letter to begin training at the PGY3 or higher level will be contingent upon passing Step 3 (or equivalent exam).
Visa Status

Visa status for International Medical Graduates must fall within the following categories:

- Eligible to seek J-1 visa
- Permanent Resident or Alien status (i.e., "Green Card")
- In accordance with University of Tennessee Graduate Medical Education guidelines, this program does not sponsor residents for "H" type visas

14.) Graduation Criteria

The Interventional Cardiology Fellowship Program at The University of Tennessee Health Science Center is a 12 month, Level 3 program.

To be eligible for graduation and to be certified as eligible to take the ABIM Interventional Cardiology board exam, the Interventional fellow must have:

- Acquired Level 3 cognitive and technical knowledge of invasive cardiology. This includes indications and contraindications for the procedures, pre-and post-procedure care, management of complications and analysis and interpretation of the hemodynamic and angiographic data.
- Performed a minimum of 250 (documented) coronary procedures in addition to other non-coronary interventional procedures.
- Acquired knowledge about trans-septal catheterization, percutaneous management of access site complications, and management of other complications of including but not limited to coronary perforation, no reflow (and its prevention), and stent thrombosis.
- Obtained a core experience in balloon angioplasty, intracoronary stents, atherectomy techniques, distal (and proximal) protection devices, intravascular ultrasound and measurement of fractional flow reserve.
- Have some familiarity with non-coronary (peripheral) angiography and intervention.
- Performed a minimum of 100 peripheral angiograms and 50 Peripheral interventions.
- Upon the fellow’s successful accomplishment of the afore described learning objectives, the fellow will have demonstrated satisfactory development of his/her knowledge, skills and
attitudes/behaviors and competency to practice unsupervised in the delivery of safe, effective, timely efficient, and equitable patient-centered care.

- Advancement

- Trainees will advance in the fellowship based upon demonstration of successful progress. The Program Director will obtain performance feedback on each fellow from faculty and other pertinent sources to assist in the consideration of the fellow's overall progress. All appropriate guidelines set by the ACGME, RRC, institution, program and in-service examinations will be taken into account.

In order to graduate the fellow must:

- Not have more than 30 days away from training during the academic year
- Receive a composite satisfactory evaluation in every competence on every rotation
- Receive a satisfactory evaluation from the outpatient clinic preceptor
- Attend conferences at the rate designated for fellowship level under conference requirements

Any fellow considered deficient for advancement may be offered the opportunity to extend training time with the goal of achieving the optimum competency level. If determined that a fellow requires remediation prior to promotion to the next level of training, the program director must provide a written remediation plan as specified by the GME policy. Refer to the GME policy #520 for details.

Graduation

Fellows completing the Interventional Cardiology fellowship training program in accordance with the appropriate ACGME Residency Review Committee Program Requirements and Specialty Board Requirements will be eligible to receive a diploma certifying completion of training at the University of Tennessee Health Science Center. This certificate will attest that the graduating fellow is eligible to sit for the board exam in Interventional Cardiology. The diploma will be issued upon recommendation of their Program Director. His decision will be based on fellow evaluations and other performance measures, and discussions with the members of the CCC.

The resident/fellow must complete all medical records as well as return all loaned materials including pagers, keys, library books, etc.
14.) GRIEVANCE POLICY FOR IVC

The Interventional Cardiology Fellow may raise and resolve issues without fear of intimidation or retaliation. The program director and coordinator maintain an open door policy.

The Interventional Cardiology Fellowship program adheres to all mechanisms for communicating and resolving issues in compliance with GME policy #350, which may be reviewed on the GME website: www.uthsc.edu/gme.
Interventional Cardiology Evaluation Procedures

The UTHSC Interventional Cardiology Fellowship Program adheres to the recommendations and policies of the GME office in evaluations its fellow(s).

The program director will establish a Quality Improvement/Clinical Competency Committee whose purpose will be to advise the Program Director regarding the fellow’s progress, including, promotion, remediation and dismissal.

Faculty will be required to complete written evaluations of the fellow using the New Innovations module at the end of each rotation. These evaluations will be available to the fellow to review. Any unsatisfactory evaluations will be discussed by the attending with the fellow along with suggestions on methods of improvement.

The process of 360-degree evaluation is also performed by allowing written feedback/evaluations to be done by other members of the medical community that interacts with the fellow such as lab techs, nurses and residents. The results of these evaluations are available to the fellow, program director and coordinator through New Innovations. Unsatisfactory evaluations will be discussed with the fellow and if needed, a course of action to improve performance will be put in place.

The fellow will perform a self-assessment and review with regards to the theory and practical knowledge of interventional cardiology. He/she will have to take an in-service exam that is conducted by the Interventional Cardiology Section of University of Tennessee. This multiple choice exam with 50 questions will be administered at the end of the first 6 months of training and would focus on the different aspects of interventional cardiology. Areas of weakness will be identified and the program director will discuss these directly with the fellow and formulate an individual learning plan to improve the deficiencies.

The practical knowledge and skill be assessed by the fellow’s performance in the cardiac catheterization lab. His/her completeness of pre procedural work up, procedural and catheter skills and thoroughness of post procedural assessment will be evaluated and graded at the end of every month. The program director will discuss with the fellow the areas of weaknesses and strategies to improve by setting learning and improvement goals.

The CCC and Milestones component of the evaluation policy

The IVC CCC will meet semi-annually to discuss the progress of the Intervention fellow prior to his semi-annual and summative evaluations. This will ensure that the program director has accurate
and detailed information on the performance of the fellow prior to his meeting with him to discuss his progress and improvement measures.

Milestones will give the program director direct targets to address and will allow the fellow to be measured on his progress toward independent practice in a uniform and concise format. This milestone evaluation will be done semi-annually during the CCC committee meeting and placed into New Innovations.

**Faculty Evaluation Process**

The faculty of the Interventional Cardiology Fellowship Program will be evaluated on a monthly basis by the fellow. An evaluation of faculty questionnaire will be made available to the fellow in New Innovations. These evaluations will be reviewed by the Director and Assistant Director on a quarterly basis... Any questionable responses will be discussed with the faculty in question and a plan of action may be developed if warranted.

**Program Evaluation Process**

The Graduate Medical Education department has in place the guidelines for evaluation of the program. The faculty and fellow of the Interventional cardiology fellowship program are given the opportunity to evaluate the program through New Innovations annually. The results of which are discussed during the Annual Program Evaluation. The Interventional Cardiology Fellowship Program holds an annual meeting to discuss the program, including its successes, strengths and weaknesses. At this time interaction is in an open forum with no repercussions with the goal of consistent and documented improvement being our main focus.

The development of the Program Evaluation Committee will enhance the development of the curriculum of the program and increase its strength. This committee dedicated to the interest of the program is charged with the honest assessment of the program strengths, weakness and ultimately its product—fellow capable of the independent practice of medicine. This committee will meet semi-annually and submit its findings to the program director.
Sample Faculty Rotation

<table>
<thead>
<tr>
<th>START</th>
<th>END</th>
<th>Cath</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/21</td>
<td>7/4</td>
<td>Alsafwah</td>
<td>Dishmon</td>
</tr>
<tr>
<td>7/5</td>
<td>7/18</td>
<td>Alsafwah</td>
<td>Dishmon</td>
</tr>
<tr>
<td>7/19</td>
<td>8/1</td>
<td>Dishmon</td>
<td>Ibebuogu</td>
</tr>
<tr>
<td>8/2</td>
<td>8/15</td>
<td>Khouzam</td>
<td>Dishmon</td>
</tr>
<tr>
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<td>8/29</td>
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<td>Khouzam</td>
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<td>Alsafwah</td>
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<td>Alsafwah</td>
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</tr>
<tr>
<td>12/6</td>
<td>12/19</td>
<td>Ibebuogu</td>
<td>Dishmon</td>
</tr>
<tr>
<td>12/20</td>
<td>1/2</td>
<td>Dishmon</td>
<td>Khouzam</td>
</tr>
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</table>
Sample Interventional Cardiology Fellow Rotation

<table>
<thead>
<tr>
<th>Cardiac Cath Lab</th>
<th>Daily</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>July</td>
</tr>
<tr>
<td>MUH</td>
<td>MUH</td>
</tr>
<tr>
<td>MSH</td>
<td>MSH</td>
</tr>
</tbody>
</table>

Stemi Call

7pm-7am

5-6 days per month as determined by discussion with Director and based on proven abilities

Clinic

Thursday 1-5 PM

Methodist South

MUH=Methodist University Hospital

MSH=Methodist South Hospital
## Lecture Schedule

### Interventional Cardiology Core Curriculum

**July, 2015-June, 2016**

**Methodist University Hospital/University of Tennessee Health Science Center**

Unless there is a conflict, these lectures are to be held on the 4th Wednesday of each month at noon.

- July 22, 2015
- August 26, 2015
- September 23, 2015
- October 28, 2015
- November 25, 2015
- December 23, 2015
- January 27, 2016
- February 24, 2016
- March 23, 2016
- April 27, 2016
- May 25, 2016
- June 22, 2016

**LOCATION: varies depending on speaker**

**Topics of discussion will include the following:**

1. The role of platelets and the clotting cascade in response to vascular injury
2. Pathophysiology of restenosis
3. The role and limitations of established and emerging therapies for treatment of restenosis
4. Physiology of coronary flow and detection of flow-limiting equipment
5. Detailed coronary anatomy
6. Radiation physics, biology and safety related to the use of x-ray imaging equipment
7. The role of randomized clinical trials and registry experiences in clinical decision making
8. The clinical importance of complete versus incomplete revascularization in a wide variety of clinical and anatomic situations
9. Strengths and limitations, both short and long-term, of various percutaneous approaches for a wide variety of anatomic situations related to cardiovascular disease
10. The role of emergency coronary bypass surgery in the management of complications of percutaneous intervention
11. Strengths and weaknesses of mechanical versus lytic approach for patients with acute myocardial infarction
12. The use of appropriate pharmacologic agents in the post intervention management of patients
13. Strengths and limitations of both noninvasive and invasive coronary evaluation during the recovery phase following acute myocardial infarction
14. Understanding the clinical utility and limitations of the treatment of valvular and structural heart disease
15. The assessment of plaque composition and response to the intervention

READING LIST
Fellows are strongly encouraged to read the following:
JACC Intervention
CCI
SCAI Board Review Book
Grossman's and Topol's textbooks
Educational Web Sites

- PubMed
- Scirus

Main Sites & Journals:

- SCAI
  www.scai.org

- American College of Cardiology
  Main ACC site, guidelines, case of the month, etc.

- American Heart Association

- AHA Journals

- Clinical Cardiology
  Excellent online journal

- New England Journal of Medicine

Other Educational Sites

- Cardiosource
  News, educational materials, case studies, images, clinical collections and more.

- Heart Sounds and Cardiac Arrhythmias
  Tutorials and quizzes

- CTSNet
  Cardiothoracic surgery-related news, journals, images, learning resources.

- Yale School of Medicine
  Comprehensive compendium of cardiothoracic images.

- The Heart.org
  Research and clinical trials news in all cardiology subspecialty areas.

- tctmd
  Excellent presentations/cases in interventional cardiology.
Appendix

Forms:

1. Moonlighting Approval Letter
2. Leave Request
3. Specific Clinical Activities and Level of Supervision
FELLOW MOONLIGHTING APPROVAL LETTER

TO: Chair, Department of Medicine  
GME UTHSC

FROM: Rami N. Khouzam, M.D.  
Director, Interventional Cardiology Fellowship Training Program

RE: Moonlighting Resident/Fellow

I, as program director, have answered the following questions:

1. Name of Resident/Fellow: _____________________________________________________________

2. Discipline of Training Program: _______________________________________________________

3. Date Resident/Fellow allowed by GME to practice in this capacity: _______________________

4. For how long may Resident/Fellow work in this capacity: 1 year or as determined, based on hours worked and continued acceptable fellowship performance ________________________________

And, I understand that Medicare policy requires that in order for residents/fellows to bill in their own name for services provided to patients in their home institution where training takes place (moonlighting) they must do so under a written contract specifying that these professional services are outside the scope of their approved training program, that a separate salary will be paid for the services and that the services may only be provided in an outpatient clinic or emergency room.

In accordance with Medicare and UTMG policies residents/fellows in Medicine, Medicine/Pediatrics, Surgery and other surgical disciplines are eligible to moonlight in ____________________________________________.

Regarding the resident/fellow mentioned above, I attest that the following criteria have been met:

1. I have determined that it is appropriate for the resident/fellow to moonlight in ___________________________ and that the resident/fellow is in good standing in the training program.

2. The provisions of services rendered by the resident/fellow in the _____________________________ are clearly outside the required scope of the training program.

3. I will monitor for any conflict with his/her ACGME training, curriculum or work hours.

The moonlighting resident/fellow will be required to obtain the same approval at the time of recredentialing, which is every 12 months.

Once signed by the program director, the following steps will be taken:

- The signed original document will be kept in the employee’s file located within the Division of Cardiology, 956 Court Avenue, Suite A312.
- The above named fellow is required by RRC regulations to enter all hours worked outside of the program, for which salaries are earned, into New Innovations. These hours must comply with the payroll records of the institution in which moonlighting has been allowed.

Name of Program Director __________________________ Signature of Program Director __________________________ Date ____________

Policy approved by the UTMG Credentialing Committee: 5.23.02, Reviewed 12/03, 12/04, 11/05, 12/05, 4/2011
Interventional Cardiology Authorized Leave Request Form

Name: ________________________________ PGY____

Type of Leave:

  Vacation ___
  Educational (specify)__________________________

First date of leave: ______________________

Last date of Leave: ______________________

  1) Inpatient Duties:
Rotation:_______________ Hospital(s)________________________ Month____________

Name of Fellow(s) Covering Inpatient Duties During Leave:__________________________

  2) Clinics:
Clinic Cancellation or Coverage Confirmed by:

Interventional Clinic canceled coverage N/A
VA Fellow Clinic canceled coverage N/A

Fellow’s Signature__________________________ Date: ______________________

APPROVALS:

Attending on Rotation__________________________ Date: ______________________

Chief Fellow(s)__________________________ Date: ______________________

Program Director: __________________________ Date: ______________________
Each program must demonstrate that the appropriate level of supervision is in place for all residents who care for patients. The requirements for on-site supervision will be established by each Program Director. This template can assist the Program Director in listing specific patient care activities of trainees and the level of supervision required.

### Specific Clinical Activities and Level of Supervision

<table>
<thead>
<tr>
<th>Clinical Activity</th>
<th>Resident Level</th>
<th>Method of Instruction</th>
<th>Instructor Level</th>
<th>Supervision Level</th>
<th>Certification Requirements to Perform Activity without Direct Supervision</th>
<th>Method to Confirm Competent to Perform Procedure/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Catheterization</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Percutaneous Coronary Intervention</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Percutaneous Peripheral Intervention</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Intra-aortic Balloon Pump Placement and Management</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Intra-cardiac Support (IMPELLA) Placement and management</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
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<tr>
<td>Percutaneous Tran-venous Pace Maker Placement</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
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<tr>
<td>Access Closure Devices</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
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<tr>
<td>STEMI/Non-STEMI/ACS Patient Management</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Cardiogenic Shock Management</td>
<td>PGY7 +</td>
<td>Direct clinical instruction and interpretation of studies</td>
<td>Attending faculty</td>
<td>Direct</td>
<td>Direct supervision and PGY7</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Cardiovascular research and scholarly activity</td>
<td>PGY7 +</td>
<td>Direct clinical instruction, conferences</td>
<td>Attending faculty and PGY4-7</td>
<td>Direct and indirect</td>
<td>General impression of competence/professionalism perceived by faculty</td>
<td>Direct observation</td>
</tr>
<tr>
<td>Presenting Cath/and Interventional Conference and Journal Club</td>
<td>PGY7 +</td>
<td>Direct clinical instruction, conferences</td>
<td>Attending faculty and</td>
<td>Direct and indirect</td>
<td>General impression of competence/professionalism perceived by faculty</td>
<td>Direct observation</td>
</tr>
</tbody>
</table>
NOTE: Lists of approved clinical activities should be maintained for each resident so they can be made available for review by all patient care personnel.

Definitions:

Resident Level – at which an activity can be performed (your RRC may define a list of achieved competencies under which PGY1 residents progress to be indirectly supervised, with direct supervision available).

Method of Instruction – e.g., Direct Clinical Instruction, Course (ACLS)

Level of Instructor and Direct Supervisor – PGY year or Attending Faculty (your RC may specify who is qualified to supervise, in addition to attendings).

Supervision Level – Direct (physical presence of supervisor), Indirect (w/ direct immediately available or direct available; e.g., home call backup).

Certification Requirements to Perform Activity without Direct Supervision – e.g., PGY year; a given # of successfully performed, observed procedures; a total # of procedures performed; general impression of competence/professionalism perceived by faculty.

Method to Confirm Certification of Resident to Perform Activity without Direct Supervision – e.g., Program Certification, Direct Observation, PGY year.