

CORONARY CARE UNIT/CARDIOVASCULAR CENTER

Mission Statement

The directive of the Coronary Care Unit is to provide high-level acute cardiac and medical care to patients with serious cardiovascular disorders requiring close observations, invasive monitoring, or intense medical or interventional therapies. In addition, the CCU is structured to provide excellent teaching to medical residents and fellows, and optimal environment for conducting cardiovascular investigations that require invasive measurements.

Statement of Educational Goals

The goals of this rotation are to provide the fellow exposure to patients with acute cardiac disorders, particularly acute ischemic syndromes requiring intensive management and monitoring. This includes acutely ill patients with various cardiovascular diseases, such as acute coronary syndrome, cardiogenic shock, malignant hypertension, high-grade cardiac rhythm and conduction disturbances and severe heart failure. Through this exposure the fellow will gain experience in managing the patient with acute ischemic syndrome including all modalities of therapy (PTCA, medical management and surgery). The fellow will also learn the indications for various modes of therapy. The fellow will also have an introduction to the initial phases of cardiac rehabilitation.

General Statement of Educational Objectives for Fellows

The curriculum will promote the six broad goals outlined by the ACGME:

1. Medical Knowledge: Exposure to a variety of cardiac conditions by direct patient care. There are also a number of didactic sessions that will provide a broad outline of conditions frequently encountered in the critical care setting.
2. Patient Care: by caring for patients with acute cardiac disease the trainee will develop skills in making accurate diagnosis based on history, bedside examination as well as use of appropriate diagnostic testing. Institution of appropriate therapeutic interventions will be stressed.
3. Professionalism: The trainee will function as a member of the team providing care to the patient and will learn appropriate interaction with other members of the team including medical and non-medical personnel. A close interaction with patients and family members will be stressed. In particular the role of the physician in relating to family members of critically ill patients will be stressed.
4. Interpersonal and Communication skills: The trainee is expected to participate in an active way with other members of the team and clear and concise communication will be stressed during the formal and informal presentations that occur.
5. Practice based learning: We expect the trainees to become familiar data that supports the therapeutic interventions that are made. There will be an exposure to the guidelines for therapy of the cardiac patient with recognition that each patient is an individual and may not fit neatly into the categories of the published guidelines.
6. Systems based learning: Trainees will work within a rather structured system for the management of cardiac patients. They will learn how the various specialties within this system interact in order to provide first rate, efficient care. There will also be an emphasis on cost-efficient use of diagnostic testing.

The above stated goals will be achieved primarily by having the Fellow participate in the care and management of patients admitted to the Cardiovascular Center. There will be a graded level of responsibility for the Fellows and the more senior Fellows will have more direct responsibility for decision making and management. At all levels of training the Attending Cardiologist on the Cardiovascular Center will be ultimately responsible for management decisions as well as the educational program for the Fellow. The experience on the Cardiovascular Center will emphasize the correct utilization of diagnostic testing in the management of acute cardiovascular disease as well as the indications for testing and intervention. Experience in hemodynamic monitoring and assessment will be achieved by insertion of Swan-Ganz catheters and interpretation of hemodynamic data. Fellows will also be expected to be involved in the direct teaching of medical residents on the Cardiovascular Center

General Statement of Expectations of Fellows

It is expected that the training in the Coronary Care Unit will include 4-5 months of full-time exposure (two rotations during the first year, and one rotation during each of the second and third years of fellowship). The rotations will be approximately four weeks in duration.

It is expected that the fellow will become skillful in obtaining a history and performing a complete cardiovascular physical examination in acutely ill patients. They should understand the pathophysiology of coronary thrombosis, atherosclerosis, cardiomyopathy, and heart failure. They must have a clear understanding of the indications, risks of benefits of cardiac surgery (i.e., coronary artery bypass surgery, valve repair or replacement, and heart transplantation), primary and rescue coronary angioplasty, intraaortic balloon pump, as well as newer interventional coronary revascularization procedures. They should demonstrate adequate knowledge and familiarity with both conventional and novel pharmacologic agents used in the treatment of coronary spasm, acute myocardial infarction, angina, hypertension, circulatory shock, acute and chronic congestive heart failure, and cardiac arrhythmias.

It is expected that the fellow will understand the indications and risks of the Swan-Ganz catheterization, temporary transvenous cardiac pacemaker insertion, pharmacologic and electric cardioversion. The fellow should become fully qualified to conduct cardiopulmonary resuscitation and elective cardioversion, and proficient in the placement of the Swan-Ganz catheterization and temporary pacemakers.

The CCU Fellow will be responsible for insertions of Swan-Ganz catheter and temporary pacemaker in Cardiology patients in the CCU under the supervision of the CCU Attending. If the Fellow is experienced in these procedures, it is acceptable for the Fellow to assist and supervise house staff in these procedures, but the Fellow should be gowned and play an active role in those procedures. Arterial lines are customarily inserted by the house staff, but the CCU Fellow should be ready to assist them if called.

Prior to all but emergency CCU procedures, the Fellow to perform the procedure should contact the faculty member on call. That faculty will participate in the decision regarding the need for the procedure prior to its performance. Each fellow is encouraged to keep a log of his/her own for all procedures he/she performs on the CCU. The supervising Attending Cardiologist will assess competence in the procedures performed

Specific Procedures

The CCU Fellow will participate in all levels of patient care under supervision of a Cardiology Attending. The CCU Fellow and Attending will in turn supervise a group of one RIII, one RII and two RI residents. This group of physicians is responsible for patients with a primary cardiac diagnosis on 7-3600, and non-surgical patients on 7-1600. The CCU house officers rotate through a short-long-off sequence, with the short day beginning at 8:00 a.m. and ending at 5:00 p.m., the long day beginning at 8:00 a.m. and extending through sign out on the following day, usually around the noon-time except on the weekends when it ends by 9:00 a.m. New patients are admitted to the "long" house officer. All orders are written by the RI or responsible RII, except DNR orders which are written by the Attending Physician. When a CCU patient is transferred to the Intermediate Coronary Care Unit (7-3600) after an acute event, he/she will be covered by the same CCU team. However, if the patient is transferred to the general medical or surgical floor, he/she will be followed by the CCU attending and fellow, but not the CCU house staff. On the other hand, if ongoing cardiology input is not needed, a patient may be transferred to the House Staff Group after his CCU stay. In this case, the House Staff Attending office will be notified of the transfer of responsibility. The total number of patients followed by the CCU team may vary.

All patients with a primary cardiac problem admitted to 7-3600 (and some 7-1600 beds) who do not have a physician with admitting privileges to the Unit automatically become the responsibility of the CCU Attending and CCU Fellow. All patients admitted to the CCU (high priority Cardiology beds) should be cleared by the CCU Attending or his designate, and those patients with serious cardiac problems should be seen promptly, day and night, by a cardiologist. If cardiology consultation is needed for a patient assigned to a non-Cardiology attending on 7-3600, the patient's private internist will be asked by the house officer which cardiologist is preferred. If the CCU team is designated, the patient should be worked up by the CCU Fellow and Attending. The length of the note and the degree and duration of involvement by the CCU team is contingent upon the nature of the patient's problem and the adequacy of care which is being provided by the internist.

All notes should be legible, dated, timed and signed. Insurance carriers require that evidence of involvement by the attending physicians must be demonstrated in the medical record. Thus, unless the attending indicates that he/she will write a separate note, the Fellow's note should state that the patient was seen and examined by, and discussed with, the CCU Attending. All patients assigned to and consulted upon by the CCU Attending are seen at least once daily by the Fellow/Attending, and a note should be written daily by the Fellow. Fellows should personally review impressions and plans with the house officers.

Private patients of non-CCU members of the Cardiology Unit are generally not seen by the CCU Attending. It is expected, however that the Fellow follows these patients along with the Housestaff. In the event that such patients are admitted to the CCU, the CCU Fellow should contact the Consultation Service to assure that adequate coverage arrangements are made. Patients admitted after catheterization or angioplasty are generally picked up by the CCU team after appropriate sign out from the Cath Lab team; if doubt exists as to who is responsible, the Cath Attending should be contacted.

The CCU Fellow's day begins at 8:00 a.m., when he/she reviews the events of the night with the Fellow who was on call or with the house staff. There is generally an informal update with the house staff and nursing staff at 8:00 a.m.. The Fellow and/or CCU Attending will make bed-side teaching rounds with the house officers at 9:30 a.m. daily. It is encouraged that the nursing staff be included in the bed-side teaching.

There are formal teaching rounds every weekday, between 10:00 and 11:00 a.m. A series of formal didactic lectures will be given on a recurrent basis every Monday and Wednesday. The lectures are designed to cover: 1) the acute diagnosis and treatment of acute myocardial infarction, unstable angina, shock/acute heart failure, acute hypoxia, chronic congestive heart failure, 2) introduction to commonly used instruments in the CCU (Swan-Ganz catheterization, cardiac pacing, thermodilution cardiac output, intraaortic balloon pump), and 3) introduction to cardiac catheterization, coronary angiography, electrophysiology, permanent pacemakers, nuclear cardiology, treatments of cardiac arrhythmias, echocardiography, and interventional cardiology). The lectures are given by the CCU faculty, members of the Medical Engineering, and other Cardiology Unit faculty. House officers are expected to attend the lecture series. The CCU Fellow should attend the entire series at least once.

Teaching of house staff is one of the major responsibilities of the Fellow, and he/she should maintain a close teaching relationship with house staff, nurses, and students. The Fellow should attempt to be available to the house staff throughout the day. The Fellow is responsible to conducting a "sign-off" every weekday with the "long" and "short" house officers at 5:00-5:30 p.m. He will be joined by the CCU Attending and the night-time on-call Fellow. If the on-call Fellow is unable to come, it is the CCU Fellow's responsibility to contact the night-time Fellow and inform him/her of the status and of plans for all patients.

The CCU setting provides a unique opportunity of the fellow's training in heart failure and acute coronary syndrome. The Fellow will be exposed to various protocols for heart failure and myocardial ischemia/infarction, including newer inotropic agents and novel experimental treatment modalities. The Fellow should become well acquainted with different facets of therapy of heart failure, and fully versed in the interpretation of hemodynamic data with both acute and chronic interventions, and in assessment of prognosis.

The CCU Fellow will be exposed to cardiac rehabilitation programs for patients after acute myocardial infarction. He/she will assess risk stratification and participate in education of modification of risk factors in such patients.

The faculty members directly responsible for fellow education are Drs. Joseph M. Delehanty (Cardiovascular Center Director), Imran Chaudhary, John Bisognano, J. Franklin Richeson, and Duncan Wormer. They will be assisted by two nurse leader teams (Bonnie Cameron, Terry Spicer and Penny Ward on 7-3600, and Theresa Cadieux and Anna Lambert on 7-1600).

Selected List of Reference Textbooks

1. Topol E (Editor): Acute coronary syndromes. Marcel Decker 2005
2. O'Connor CM (Editor): Managing Acutely Decompensated Heart Failure. Taylor and Francis 2005

Vacation Policy:

Vacation is not allowed during the CCU rotation.

Night and Weekend Call Policy:

The CCU fellow will take call on a rotating basis with the other general cardiology Fellows. In addition he will be on call every other weekend. As with weekdays, the work rounds begin at 8:00 am on the weekend. It is expected that the On-Call Fellow will see all patients who are admitted to the Cardiovascular Center promptly (usually while still in the Emergency Department). The Fellow will discuss the patient with the Attending Cardiologist at the time of admission.

Research Opportunities

The CCU provides excellent environment and support for cardiovascular research. The Fellow is encouraged to participate in the care of patients admitted to the CCU. However, because the research projects vary according to the specific protocol, the Fellow should consult the Principal Investigator to clarify his/her role.

The Fellow may elect to perform his own research during the second year fellowship in the CCU.

Staff

NAME OFFICE PAGE NUMBER HOME NUMBER
 NUMBER

<u>Medical Staff</u>			
Joseph M. Delehanty, M.D. CV Ctr Director	275-1672	16-2633	256-2758
John D. Bisognano, M.D., Ph.D.	275-6168	16-2389	586-4286
Duncan D. Wormer, M.D.	275-6168	16-1238	
J. Frank Richeson, M.D.	274-6170	16-1570	

Nursing Staff

7-3600 Nurse Leaders	275-5650	
7-1600 Nurse Leaders	275-3158	

Secretarial Staff

Cathy Cottorone / Jennifer Majchrzak(Delehanty, Bisognano, Chaudhary, Wormer)	275-6168	
Amy Gregory (Richeson)	275-6170	

Credentials of Medical Staff

Joseph Delehanty, M.D.

Rensselaer Polytechnic Institute, B.S.

Albany Medical College, M.D.

Internal Medicine Residency, University of Rochester Medical Center

Chief Medical Resident, University of Rochester Medical Center

Cardiovascular Disease Fellowship, University of Rochester Medical Center

John D. Bisognano, M.D., Ph.D.

State University of New York, Binghamton, Ph.D.

State University of New York Health Science Center, Syracuse, M.D.

Internal Medicine Residency, University of Michigan Medical Center, Ann Arbor

Hypertension Fellowship, University of Michigan Medical Center, Ann Arbor

Cardiovascular Disease Fellowship, University of Colorado Health Sciences Center, Denver,

J. Franklin Richeson, M.D.

College of Wooster, B.A.

University of Rochester, M.D.

Internal Medicine Residency, Strong Memorial Hospital

Cardiovascular Disease Fellowship, University of Rochester

Duncan D. Wormer, M.D.

University of Pennsylvania School of Medicine, MD

Internal Medicine Residency, York Hospital, York, PA

Chief Resident, Internal Medicine, York hospital, York, PA

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