

DIVISION OF CARDIOLOGY

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1. LISTING OF ALL STAFF:

Head, Division of Cardiology: Dr. Thomas G. Parker

Education Coordinator: Dr. Stuart Hutchison

Name: Dr. Beth Abramson

Location: 6-039 Queen Wing

Clinical Interests: Cardiac Prevention and women's health general cardiology, nuclear cardiology

Research Interests: Cardiac prevention (both sexes), the effects of the female sex hormone on the CV system and women's health

Education Interests: Cardiac prevention issues, as well as general public education and media

Research Opportunities: Many in prevention as well as women's health - clinical research

Name: Dr. Warren J. Cantor

Location: 6-036 Queen Wing

Clinical Interests: Acute myocardial infarction, Acute coronary syndromes, Percutaneous Coronary Intervention

Research Interests: Antithrombotic therapy, Antiplatelet therapy, Periprocedural Myonecrosis, Transradial Intervention, Distal Embolization, Primary and Rescue Angioplasty, Facilitated Percutaneous Coronary Intervention

Education Interests: As above

Name: Dr. Robert Chisholm

Location: 7-008 Cardinal Carter Wing South

Clinical Interests: Interventional Cardiology

Research Interests: Interventional Cardiology

Name: Dr. Chi-Ming Chow

Location: 6-038 Queen Wing

Clinical Interests: Non-invasive imaging of valvular heart diseases, valvular heart diseases

Research Interests: noninvasive imaging of valvular heart diseases, clinical epidemiology in valvular heart diseases and ethnic differences in cardiovascular disease, Medical Informatics

Education Interests: Medical education software and websites

Research Opportunities: Projects available in the above research interests listed

Name: Dr. Paul Dorian

Location: 6-027 Queen Wing

Clinical Interests: Cardiac arrhythmias, cardiac clinical pharmacology

Research Interests: Atrial and ventricular fibrillation, pre-hospital emergency cardiac care, defibrillation

Education Interests: Atrial and ventricular fibrillation, pre-hospital emergency cardiac care, defibrillation

Research Opportunities: Basic and clinical research of all aspects of cardiac electrophysiology

Name: Dr. David H. Fitchett

Location: 6-032 Queen Wing

Clinical Interests: Cardiac intensive care, Cardiac catheterization

Research Interests: Clinical trials in acute coronary syndromes, angiogenesis clinical trials

Education Interests: Bedside cardiology teaching, case based teaching, development of computer based self learning programs

Research Opportunities: Clinical registry databases, CCU databases

Name: Dr. Michael Freeman

Location: 6-042 Queen Wing

Clinical Interests: Nuclear Cardiology

Research Interests: Non-invasive imaging

Education Interests: Non-invasive testing, Myocardial viability, Acute coronary syndromes

Research Opportunities: Nuclear Cardiology

Name: Dr. Shaun Goodman

Location: 6-034 Queen Wing

Clinical Interests: Coronary Care Unit

Research Interests. Current areas of clinical research include acute and chronic ischemic heart disease. In his role as the Co-Chair of the Canadian Heart Research Centre, he has: (1) facilitated the conduct of clinical trials in acute coronary syndromes in Canada (e.g., INTERACT, SYNERGY); (2) established an electrocardiographic core laboratory evaluating the diagnosis and prognosis of both 12-lead (e.g., ASSENT-2) and continuous ECG monitoring (e.g., XaNADU); and (3) served as either a national coordinator (e.g., GRACE) or principal investigator (e.g., Canadian ACS I and II, VP, and GOALL Registries) of several registries examining clinical practice and outcomes in acute coronary syndromes and high vascular risk patients

Education Interests: Research Supervisor

Name: Dr. Anthony F. Graham

Location: 3-080 Queen Wing

Clinical Interests: Clinical Cardiology, Ambulatory Care, Cardiac rehabilitation, Diagnostic Cardiac Catheterization

Research Interests: Senior leadership volunteer - Heart and Stroke Foundation of Ontario, Heart and Stroke Foundation of Canada, Cardiac Care Network

Education Interests: Ambulatory care teaching both office-based and in the Ambulatory Care Centre

Name: Dr. Stuart Hutchison

Location: 7-056 Bond Wing

Clinical Interests: Coronary care, echocardiography, vascular ultrasound, cardiac imaging

Research Interests: Aortic dissection, echocardiography

Education Interests: Undergraduate and post-graduate teaching. Integrative teaching of cardiology. Development of computer and print-based educational projects.

Name: Dr. Victoria Korley

Location: 6-029 Queen Wing

Clinical Interests: Diagnosis, management and interventional therapy for cardiac arrhythmias

Research Interests: Three dimensional mapping and ablation of cardiac arrhythmias

Education Interests: Provide trainees with a comprehensive understanding of the diagnosis and management of cardiac arrhythmias including the electrophysiology studies and ablation

Name: Dr. Michael Kutryk

Location: 6-035 Queen Wing

Clinical Interests: PCI, no-conventional therapeutic option coronary artery disease

Research Interests: Coronary Angiogenesis, HHT, PPH, Progenitor cell biology, new intracoronary devices

Education Interests: Undergraduate medical student education, cardiac physiology

Name: Dr. Anatoly Langer

Location: Canadian Heart Research Centre

Clinical Interests: Clinical trials

Research Interests: Acute coronary syndromes

Education Interests: Guidelines

Name: Dr. Howard Leong-Poi

Location: 7-052 Bond Wing

Clinical Interests: Clinical cardiology, ischemic heart disease, valvular heart disease, echocardiography

Research Interests: Myocardial contrast echocardiography, contrast-enhanced ultrasound, targeted ultrasound imaging, targeted gene delivery

Education Interests: Teaching of clinical cardiology to medical students, residents and fellows, with emphasis on ischemic and valvular heart disease, echocardiographic imaging and assessment of myocardial function and perfusion, and valvular function.

Research Opportunities: Available for undergraduate students (summer), medical students and residents. Potentially available for graduate students and post doc fellows.

Name: Dr. Iqwal Mangat

Location: 6-031 Queen Wing

Clinical Interests: Cardiac arrhythmias, centering around supraventricular arrhythmias, and complex arrhythmia mapping and ablation. Attending on the EP consultation service and cardiology teaching service. Performs mapping and ablation of cardiac arrhythmias.

Research Interests: Atrial fibrillation mechanisms of disease, relationship to hypertension, atrial remodeling, relationship to Atrial Flutter. Right ventricular arrhythmias including right ventricular dysplasia and right ventricular outflow tract tachycardia.

Education: Approach to diagnosis and management of supraventricular and ventricular arrhythmias. 2004 recipient of Luigi Casella Teaching Award for teaching excellence in cardiology.

Name: Dr. Gordon Moe

Location: 6-040 Queen Wing

Clinical Interests: heart failure, general cardiology, hemodynamics

Research Interests: Basic and clinical research in heart failure, neurohormonal regulation, bioanalytical assays, ethnic research

Education Interests: postgraduate continuing medical education, Editor for St. Michael's Hospital Cardiology Rounds and Cardiology Updates, practice guidelines

Name: Dr. Juan Carlos Monge

Location: 6-041 Queen Wing

Clinical Interests: Coronary care, invasive cardiology, cardiovascular prevention, lipids, hypertension

Research Interests: Endothelin system, Renin-Angiotensin System, influence of sex hormones on cardiac remodeling, heart failure and cardiovascular outcomes. Endothelial function.

Education Interests: Teaching of cardiology to clinical clerks, residents and Cardiology fellows with an emphasis on the integration of basic and clinical sciences

Research Opportunities: Available for undergraduate and graduate students, post-doctoral fellows, medical students and residents. Several recipients of Heart and Stroke Foundation and Medical Research Council scholarships, as well as Wellcome Trust Fellowships of the United Kingdom have worked in my laboratory

Name: Dr. Thomas G. Parker

Location: 6-044 Queen Wing

Clinical Interests: Echocardiography, Coronary Care Unit

Research Interests: Molecular Biology of Myocardial Hypertrophy, Transgenic Models of Cardiac Disease, Cardiac Cell Therapy

Research Opportunities: Participation in basic bench research addressing issues of clinical relevance

Name: Dr. Arnold Pinter

Location: 6-033 Queen Wing

Clinical Interests: arrhythmias, ablation therapy, cardiac resynchronization

Research Interests: risk of sudden cardiac death, cardiac resynchronization

Education Interests: arrhythmias, defibrillators

Research Opportunities: risk of sudden cardiac death

Name: Dr. Duncan J. Stewart

Location: 6-030 Queen Wing

Clinical Interests: Cardiology

Research Interests: Vascular and Endothelial Biology, Angiogenesis and gene therapy, pulmonary hypertension, cell therapy

Research Opportunities: Yes

Name: Dr. Bradley Strauss

Location: 7-008 Cardinal Carter Wing South

2. CLINIC SCHEDULES

Dr. Beth Abramson, Cardiac rehab clinic, Thursday mornings; office Tues and Thurs.

Dr. Warren Cantor, office on Thursday afternoons

Dr. Robert Chisholm, Tuesdays from 9:15 a.m. to 6:00 p.m.; Two Mondays a month from 1:00 p.m. to 5:00 p.m.

Dr. Chi-Ming Chow, clinic on Tuesday and Thursday afternoons

Dr. Paul Dorian, Arrhythmia Clinic on Friday mornings, Defibrillator Clinic on Wednesdays, Pacemaker Clinic on Mondays, Tuesdays and Thursdays

Dr. David Fitchett, New patients Tuesdays am; Follow-up Thursday am

Dr. Michael Freeman, clinic on Thursday afternoons, office on Monday afternoons

Dr. Anthony Graham, Ambulatory Care Centre Tuesday and Thursday all day and Friday morning, Cardiac Rehabilitation Wednesday morning once per month

Dr. Stuart Hutchison, Clinic Tuesday afternoons

Dr. Victoria Korley, Arrhythmia Clinic on Friday mornings

Dr. Michael Kutryk, Clinic Tuesday afternoons

Dr. Howard Leong-Poi, Ambulatory Care Centre (4 Cardinal Carter Wing) on Thursday afternoons.

Dr. Iqwal Mangat, Pacemaker clinic on Mondays, Tuesdays, Thursdays, Defibrillator Clinic on Wednesdays, High Risk Arrhythmia (MADIT-II) Clinic on Tuesdays, General Arrhythmia Clinic on Friday mornings.

Dr. Gordon Moe, office practice on Tuesday mornings and Wednesday mornings, Heart Failure Clinic on Thursday mornings

Dr. Juan Carlos Monge, clinic on Wednesday afternoons

Dr. Thomas Parker, Clinic on Wednesday mornings

Dr. Arnold Pinter, Arrhythmia Clinic on Friday mornings

Dr. Duncan Stewart, cardiac clinic on Thursday afternoons

3. ROUNDS

- Mondays: 0800 Research Rounds, 7-078 Queen
Morbidity & Mortality Rounds last Monday of each Month
0800 ECG Teaching Rounds (Medical Residents), 7-063 CC
1200 Cardiology Grand Rounds, Paul Marshall Lecture Theatre
- Tuesdays: 0800 Catheterization Work Rounds
- Wednesdays: 0800 ECG Rounds, 7-078 Queen
0800 Core Teaching Rounds (Medical Residents), 7-063 CC
- Thursdays: 0800 Echo Rounds, 7-078 Queen
- Fridays: 0800 Evidence Based Teaching Rounds, 7-078 Queen
(3 weeks per month; 2 Friday mornings & 1 Thursday evening
contact Stuart Hutchison's office for details)
- Fridays: 1300 EP Rounds, 7-078 Queen

4. CLINICAL TEACHING UNIT

Introduction

The Cardiology Clinical Teaching Unit is located on the 7th floor of the Cardinal Carter Wing at St. Michael's Hospital. The Unit takes pride in providing high quality teaching of the skills of physical diagnosis and the application of evidence-based medicine. Morning ward rounds are held each day and the team rounds on all patients and discusses physiology, diagnosis, and management for each case as presented. Patients are assigned to a specific resident but the whole team participates in the discussion around every patient. The staff rotation lasts two weeks so that the staff member gets a good exposure to all residents and vice versa.

The patient selection is generally excellent with a good mix of valvular heart disease, coronary artery disease, pericardial disease, and various cardiac arrhythmias.

ECG teaching is held two hours per week under the tutelage of Dr. Gino Casella who is famous in this area. The residents are required to go to general cardiology rounds on Monday mornings and hemodynamic rounds Tuesday mornings. On Wednesday mornings there is a core curriculum lecture designed specifically for residents addressing such areas as coronary syndromes, heart failure, sudden cardiac death, atrial fibrillation, and valvular heart disease. On Thursday mornings the residents are invited to Echo rounds.

The Unit aims to provide an excellent knowledge base for residents early in their training and prepares them well for future CCU experience. Anaesthesia residents gain experience in pre-operative consultation as well as an understanding of cardiovascular disease.

Call Schedule

The call schedule will be made by the Chief Resident of Cardiology. Any concerns with the schedule should be directed to him/her initially. If further resolution is required, discuss the issues with Dr. Robert Chisholm.

Staff Attending

Staff are assigned to the Ward for two week periods beginning on Fridays. The staff attending and the housestaff are responsible for the care of the patient while in hospital.

Patients are referred to the Clinical Teaching Unit: (1) from the Emergency Room, (2) from other hospitals, or (3) by cardiologists at St. Michael's Hospital. If the patient is new to St. Michael's Hospital, the attending physician on the Ward will be the physician of record. If, however, the patient has been referred to a specific cardiologist (other than the Ward Attending) or if the patient has seen another St. Michael's cardiologist previously, that individual should be notified of the patient's admission and should be involved with any major patient care decision and should be kept apprised of the status of the patient.

Cardiac Catheterization Bookings

The Cardiac Catheterization Lab is around the corner from the Ward and at the booking desk there is a list of patients who are in hospital awaiting cardiac catheterization.

Nuclear Cardiology Booking

Ischemic testing with perfusion imaging can be exercise induced or drug induced. In the exercise protocol, patients are injected with cardiolite (sestimbibi) and rest imaging is performed. The patient is then exercised on the treadmill to either symptoms or target heart rate at which time a second larger dose of the sestimbibi is given. The two images (rest and exercise) are then compared. A transient defect indicates ischemia whereas a persistent defect indicates infarction. Ideally, patients should be fasting. If the test is being done for diagnosis, medications should be withheld. If the test is being used to assess prognosis or degree of ischemia in a patient known to have CAD, careful consideration should be given to whether or not medication will be withheld.

If the patient cannot exercise, pharmacologic stress with persantine or dobutamine may be used followed by sestimbibi imaging. This should be considered as the second choice, as information regarding exercise tolerance is not provided. It is not necessary to stop cardiac medications for this protocol. Persantine should not be given to patients with severe bronchospastic disease and a dobutamine is the alternative form of pharmacologic stress. Persantine does not work if the patient has had caffeine or codeine in the last 24 hours. Therefore it is your responsibility to remind the patient and his/her nurse to abstain from caffeine to limit unnecessary delays in patient care.

Issues of viability are addressed in the nuclear laboratory by either Nitroglycerine/sestimbibi studies or rest thallium studies.

It is preferable to come down during reading times to view your patient's scan in person. If that is not possible, a log book with results is available for viewing in the nuclear reading room. If

knowing the result the same day as the test will urgently change patient management there is a nuclear radiology resident on call at ext. 2166.

Echocardiography Booking

The Echo Lab is located on 7 Bond. There are white echo requisitions located at the Ward that you can fill out when you want to order a transthoracic (TTE) or transesophageal (TEE) echocardiogram. In general, the more information you put on the requisition and the more specific the question, the better the quality of report you will get. If you need a saline contrast (bubble) study, please specify that on the requisition. Also put your name and your pager number down clearly so that we can get in touch with you if there are any questions.

There is no special preparation required for TTE's. For TEE it is often useful to have a TTE first so that we can target the examination. The patient should be NPO for at least 6 hours and often overnight prior to the study. It is also important to make sure the patient does not have any major oral or esophageal pathologies, for e.g. varicies or stricture, or swallowing difficulties. Any significant bleeding tendencies, e.g. low platelet or very high INR should also be noted. If there is any difficulty in consenting the patient or language barrier, please make sure there is a family member available or a translator to assist us in the consent process. Also make sure there is a functioning IV prior to sending the patient to the Echo Lab for the study.

The Echo Lab attending is usually available in the Lab or by pager during working hours for consultation or reviewing the study. Echo reports are generally available the same day. If there is any question or urgent request, please do not hesitate to come by the Echo Lab to discuss. Currently we do not offer stress echocardiograms but plans are in the works to offer that in the near future.

Consult Service

There is not a specific cardiology consult service at St. Michael's Hospital. Consults from the ER and all intensive care units are the obligation of the CCU team. All other consults (including the recovery room) are the responsibility of the CTU. Under ideal circumstances, the cardiology resident or PGY3 assigned to the Unit will see these cases. In situations where there are no senior housestaff on the team, the PGY1 on call will be asked to see the patient. Please notify your staff of any consult request BEFORE you see the patient as the staff may decide on a different plan of action. For example, a routine pre-op may be best dealt with the staff alone, avoiding unnecessary resident work, or perhaps another staff member with previous connections with the patient may be requested to see the patient. At the time of attending staff changeover, the patients previously seen in consultation will be discussed individually and passed along according to the preference of the outgoing attending. If weekend problems are anticipated in such patients, appropriate communication between staff is expected.

Ward Beds

There are now 16 CTU beds on 7CC and 5 beds on 2 Bond. Both units have telemetry. One or two beds are left empty each day for emergency night time admissions.

Discharge Planning

It is important to have good communications between housestaff, patients, and nursing. Sometimes home care, etc. will need to be arranged. Please let nursing know, whenever possible, 24 hours prior to planned discharge in order to facilitate patient care and coordinate new admissions.

The computerized Cardiology Discharge Summary should be completed on all patients prior to discharge. Whenever possible, try to complete the discharge summary on the day prior to discharge and ask your staff to review it. We hope you enjoy your rotation in the Clinical Teaching Unit and look forward to working with you. Division of Cardiology Ward Attending Staff:

Beth Abramson , Robert Chisholm, Chi-Ming Chow, Anthony Graham, Victoria Korley, Howard Leong-Poi, Iqwal Mangat, Trevor Robinson

5. CARDIOLOGY INTENSIVE CARE UNIT (CICU OR CCU)

Introduction

The Cardiology Intensive Care Unit or CICU, is a Clinical Teaching Unit located on the 7th floor of the Bond Wing of St Michael's Hospital. The CICU has an excellent reputation as an intensive care area where trainees can obtain experience and teaching in the management of critically ill patients with a wide range of cardiac diagnoses that includes acute coronary syndromes, acute heart failure, life threatening arrhythmias, aortic dissection, pulmonary embolism, and cardiac tamponade.

The CICU is a ten bed unit offering comprehensive intensive care management of critically ill cardiac patients. All ten beds have full electrocardiographic monitoring, and hemodynamic monitoring. The level of patient care includes the use of life support systems (ventilation, intra-aortic balloon pump and dialysis) as well as invasive hemodynamic monitoring. Patients are admitted to the Cardiac Intensive Care Unit from the Emergency Department, from other medical and surgical areas of St. Michael's Hospital and as an emergency transfer from other hospitals.

The step-down unit of 4 beds (located on 7 Cardinal Carter North) permit continuity of care for patients admitted to the Cardiac Intensive Care Unit. The 4 step down beds have ECG telemetry facilities. Patients are discharged home directly from the step-down beds.

The CICU aims to provide excellence in the development of trainees with a wide range of experience from cardiology, internal medicine, anaesthesia, critical care, cardiac surgery, and family practice training programs. The experience is tailored to suit the needs of the individual trainee, with responsibility assigned to match the seniority and experience of the trainee.

Attending Cardiologists CICU St Michael's Hospital

David Fitchett (Medical Director CICU), Thomas Parker, Duncan Stewart, Stuart Hutchison, Gordon Moe, Juan Carlos Monge, Asim Cheema, Warren Cantor, Michael Freeman, Shaun Goodman.

Educational Objectives for Trainees

When you have completed the one month rotation in Acute Cardiac Care you will have developed a confident approach to clinical data gathering, diagnosis and the management of patients with a wide range of cardiovascular disorders.

Although the educational objectives are similar for trainees at all levels, it is expected that the more senior trainees will develop a more mature approach to diagnosis and management through a greater participation in the decision process. In addition more experience may be obtained in Emergency Department assessment and the interpretation of cardiac investigations.

Overall Goals

- a) To learn the basics of clinical cardiology as applied to acute cardiac care.
- b) To learn to deliver optimal patient care by working as a member of a multi-disciplinary patient care team.
- c) To learn the value of clinical research in the enhancement of patient care.

More specifically you should:

- Be able to perform an adequate history and physical examination of the cardiovascular system.
- Be able to analyze the clinical information and provide a reasonable differential diagnosis.
- Be able to diagnose and treat common cardiological illnesses (i.e. chest pain; angina; myocardial infarction; heart failure, syncope) and understand the pathophysiological mechanisms of acute coronary syndromes and heart failure.
- Be able to recognize acute myocardial infarction and to manage both uncomplicated and complicated cases.
- Be able to recognize life-threatening arrhythmias and initiate treatment
- Have acquired skills in the value and application of investigative procedures (such as ECG, exercise testing, myocardial perfusion scintigraphy, echocardiography, cardiac catheterization and angiography) in a coherent, problem oriented, safe and cost conscientious approach.
- Have observed the results of interventional cardiac procedures such as coronary angioplasty and arrhythmia ablation, and learned the value of such procedures in the management of the cardiac patient.
- Have acquired skills and participate in invasive investigative and therapeutic procedures used in the management of critically ill patients (arterial lines, pacemakers, Swan Ganz catheter, intra-aortic balloon pump)
- Have knowledge of the pharmacology, therapeutic indications and awareness of the adverse drug reactions and interactions of the most commonly utilized cardiovascular medications.

- Have understand of rehabilitation of the cardiac patient and be able to advise patients as to the extent and nature of their illness, their management following discharge and their prognosis.
- Be able to effectively communicate with patients and their families.
- Be able to interact effectively with all members of the health care team.
- Be able to evaluate patients with potential cardiac problems in the Emergency Room and be able to act as a consultant to other physicians.
- Be aware and able to recognize one's own limitations and seek appropriate consultation.

Resident Responsibilities

Resident Assignments

There are three Residents assigned to the CICU: a Cardiology Resident (or a senior Medical Resident with previous CCU experience) and two to three Residents from one of several associated training programs (eg Internal Medicine, Anaesthesia, Emergency Medicine, Cardiac Surgery and Family Medicine).

Cardiology (Senior) Resident:

The Cardiology Resident will act as the Senior Medical Resident for the Unit whatever the seniority of the other Resident(s). A staff Cardiologist is responsible for the overall supervision of the Unit and ultimately takes the responsibility for any decisions made concerning patient management. The day to day management of the Unit is the direct responsibility of the Cardiology Resident (or senior Medical Resident). It is his/her responsibility to supervise directly the work of other Residents on the Unit. We believe that this is an essential leadership role and an important part of the trainee's experience in learning how to manage a CCU. It is the Cardiology (Senior) Resident's responsibility to know all the patients on the Unit. He/she must visit the Unit before 8 am Teaching Rounds to become acquainted with new patients and overnight events.

The Cardiology Resident will control admissions and discharges. No patient will be admitted to the Unit without his/her or delegated consent. The Cardiology Resident in the CICU is primarily responsible for the assessment of potential admissions referred by the Emergency Room Staff. He may, under his supervision, request the Medical Resident Staff on the Unit to participate in his responsibility.

The Cardiology Resident will participate in both the formal and informal teaching of the Medical Residents. He/she will be available to supervise procedures as and when necessary.

Medical Residents:

Residents assigned to the CICU can expect to receive experience and teaching in a wide range of cardiovascular disease.

Graded Responsibility:

It is appreciated that Resident staff are at different levels of training. Although we would like to have a structure which gives graded responsibility according to the seniority of the Resident, this is not easy on the Unit where there is only one Resident present most of the time. It is suggested

therefore that the more senior Residents gain more experience evaluating patients in the Emergency Department than would be expected from a junior Resident. Resident on the Unit, whatever their seniority or training program should be expected to share all aspects of patient care (including admissions, discharges, and day to day management).

Responsibilities of On call Residents in CICU

Be the Admitting House Officer for the Unit. No patient will be admitted without first contacting the cardiology or Senior Resident.

Assess each patient ***immediately*** on arrival.

Fully work up and follow patients with appropriate daily progress notes written in the patients chart.

Be responsible to the Attending Cardiologist on service.

Complete computerized Discharge Summary on all patients before they leave the Unit. This will also generate a prescription.

Daily Activities in the CICU

Change over / Sign In Rounds will occur on weekdays at 7:30 am to allow a formal transfer, and to review the Medical Residents night-on-call experience to ensure that the Resident obtains the maximal education experience. This is particularly important when the On Call Resident is not a regular member of the team.

All weekend Sign-In Rounds are at 9:am.

Sign Out Rounds are daily at 5:00 pm to discuss the days activities and make future plans. If a Resident cannot attend Sign in or Sign out Rounds, it is essential he/she leaves concise written notes on each patient. The note should include a brief history, current status, and anticipated problems and responses for each patient. This is critical at holiday times and weekends.

Morning Teaching Rounds are held at 8:00 am. In order for this schedule to least interfere with the excellence of patient care, sign-in must occur beforehand, and any problems discussed with either the Cardiology Resident or the Attending Cardiologist.

Daily rounds begin at 10am thereby allowing the residents to assess their patients after the 8-9am teaching session.

Admissions may come from the ER, Ward, ICU, CV Surgery ICU, Step-down Unit, Cardiac Catheterization Laboratory or as transfer from other hospitals. The Cardiology Senior Resident (or the Resident in charge at weekends and nights) must be aware of all admissions and when a patient has been accepted into the Unit. Discharge or transfer orders should be written early in the day. In many cases a discharge letter can be printed the evening prior to discharge.

Consultation Policy

Emergency Department (ED) Consultants

1. The CICU team is responsible for all ED cardiology consultations.
2. Consultants must be seen within the time frame required by the hospital.
 - a) Response to Page within 5 minutes
 - b) Attendance in Emergency Department

Resuscitation Emergency	within 15 minutes
Emergent case (e.g. Acute MI)	within 30 minutes
Other cases	within 60 minutes
3. The CICU team has the responsibility to triage patients for admission to either CICU or 7CC ward. Suitable cases for direct admission to 7CC are defined in the Admission Criteria for 7CC and include patients with:
 - Low and intermediate risk unstable angina
 - Heart failure, not requiring > 50% oxygen, iv Nitroglycerin, or Dobutamine / Dopamine
 - Non life- threatening arrhythmias: i.e. rapid AF, SVT, VT without hemodynamic disturbance, heart block
4. Potential admissions to 7CC should be assessed in sufficient detail by the CICU team to be able to be presented to the 7CC team staff cardiologist to ensure they are suitable cases for management on the 7CC ward.
5. The CICU resident will call the 7CC attending directly to discuss such cases, without the need to call the CICU attending. However if there is doubt about the appropriate triage action the CICU resident should discuss the case with the CICU attending cardiologist.
6. For patients accepted for admission to the 7CC ward it is important that the admission notes are completed by the 7CC team.
7. No patient should be sent home from the Emergency Department without the resident discussing the case with the CICU attending cardiologist

Intensive Care Unit Consultation

The CICU team is responsible for consultation to all the Intensive Care areas in the hospital. This includes CVICU, MSICU, and NT ICU.

The ward (7CC) service is responsible for **all** consultations at all times (including nights and weekends) in the other areas of the hospital including the post-operative recovery room. Requests to see patients who may require CICU admission should be discussed with the CICU team. If the patient is critically ill the patient may be assessed by both the 7CC and CICU teams.

Emergency Department Triage Guidelines of Acute Coronary Syndromes

These triage guidelines are for the management of patients presenting with chest pain or equivalent (i.e. acute heart failure) to the Emergency Department.

Immediate admission to CICU:

Very High risk / High Risk (10-30%) of major complication in next 72 hours: patients with ST segment elevation ACS and Non ST segment ACS with high risk features such as ST segment depression and or positive troponin.

Admission to Ward Unit (or to CICU):

Intermediate Risk: High suspicion of ischemic cardiac pain but no high risk features.

Emergency Department Observation: Low risk group with no high risk feature described above (12 hour complication rate approximately 0.1% if no complication during the observation period. The 30 day complication rate is <0.3%.

Discharge Home: Patients not developing any of the above endpoints are discharged home to return for early clinical follow-up as considered appropriate by the consulting cardiologist. Prior to discharge from the Emergency Department the case must be discussed with the staff cardiologist.

Patients discharged from the Emergency Department will receive educational information and clear instructions in the event of further symptoms.

We hope you enjoy your rotation on the Cardiology Intensive Care Unit. We welcome suggestions that may enhance your experience or the experience of future trainees.