

CLINICAL CARDIOLOGY
CARDIOLOGY RESIDENCY PROGRAM
McMASTER UNIVERSITY

ROTATION SUPERVISORS:

HAMILTON GENERAL HOSPITAL: DR. KOON TEO
JURAVINSKI HOSPITAL AND CANCER CENTRE: DR. VIKAS TANDON

OVERVIEW

The clinical cardiology rotation is distributed over two sites: the Hamilton General Hospital (HGH) and the Juravinski Hospital and Cancer Centre (JHCC), with each site offering a distinct yet complementary clinical experience. As the regional centre of excellence in cardiovascular care, the Hamilton General Hospital has a large cardiology inpatient unit (CIU) in order to manage the high volume of patients requiring complex cardiac care. The CIU is located on 4 West and consists of a Clinical Teaching Unit (CIU 1) and a non-teaching unit (CIU 2). The cardiology resident rotates exclusively on CIU 1 and supervises a team of medical residents, clinical clerks. Admissions to the service are from a number of sources including the ER, CCU, HIU, peripheral community hospitals and outpatient clinics, and provide a broad exposure to all areas of clinical cardiology, including acute coronary syndromes, valvular heart disease, heart failure, and arrhythmias. The CIU 1 team is also responsible for covering the 3-bed cardiology step-down unit on 4 West.

The clinical cardiology rotation at the JHCC is a combined low acuity inpatient and consultation service for the JHCC. This rotation focuses on the management of patients in the Cardiac and Intensive Care Unit (CICU) that include non-intubated cardiology patients and high-risk peri-operative cardiovascular patients. The rotation has a strong general cardiology consultation service that includes ER and inpatient consults for internal medicine, general surgery, orthopaedic surgery and oncology. This rotation provides a unique experience in the assessment of patients at risk for peri-operative cardiovascular events during non-cardiac surgery and offers a specialized approach to risk stratification and management. The JHCC is also the regional cancer centre and provides the cardiology resident exposure to cardio-oncology.

GOALS AND OBJECTIVES

The goals and objectives for the clinical cardiology rotation at the HGH and JHCC have been formulated to guide cardiology residents in identifying and acquiring the key competencies required to succeed as a consultant cardiologist and are based on the CanMEDS 2015 framework of the Royal College of Physicians and Surgeons of Canada. These key competencies include: medical expert, communicator, collaborator, leader, health advocate, scholar and professional. The rotation provides graded responsibility in achieving these objectives based on the resident's level of training:

PGY 4:

The resident is able to:

1. Perform a focused cardiac history and physical exam on all patients seen on the service.
2. Initiate and interpret appropriate basic investigations including EKG, diagnostic imaging, laboratory tests, and exercise treadmill stress tests.
3. Determine the clinical significance of reported advanced cardiac studies, including echocardiograms, myocardial perfusion or echo stress tests, coronary angiograms, cardiac CT and MRI scans, and electrophysiology studies.
4. Initiate treatment with a focus on the management of common cardiac disorders.
5. Document patient encounters in the medical record and provide accurate updates to patients and family members
6. Ensure that discharge summaries are complete and convey the key information to allow a seamless transition to the ambulatory setting.

PGY 5:

The resident builds on the previous skill set and is also able to:

1. Interpret advanced cardiac studies by reviewing the raw images from core cardiac diagnostic investigations such as echocardiograms, coronary angiograms, cardiac CT scans and stress tests.
2. Be more parsimonious in the selection of diagnostic testing.

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3. Fully manage patients who present with common cardiac pathologies.
4. Effectively manage the cardiology CTU team and provide a rich educational environment for junior learners.

PGY 6:

The resident develops core consultant level skills and is able to:

1. Integrate the data from the history, physical exam and diagnostic testing to develop a specific and hierarchical differential diagnosis.
2. Fully manage all patients admitted to the clinical service.
3. Apply an iterative design process to patient management that recognizes the inherent diagnostic uncertainty that is present in many cases.
4. Function at a junior attending level in managing the CIU and serve as a resource to junior learners.

CANMEDS COMPETENCIES

A MEDICAL EXPERT

Global Objective: To acquire the medical knowledge and clinical skills necessary to provide high quality and safe patient-centered care.

1. Gain clinical expertise in the diagnosis and management of hospitalized patients presenting with a wide variety of cardiac disorders.
2. Develop skills in obtaining a cardiac history and performing a cardiac physical examination.
3. Gain experience in the interpretation of common diagnostic tools used in cardiology and understand their limitations.
4. Learn the indications for non-invasive and invasive investigations and develop a strategy for appropriate risk stratification.
5. Understand the pharmacology of the common therapeutic agents used in cardiac patients.
6. Understand which secondary prevention strategies should be initiated while the patient is hospitalized.
7. Gain experience in identifying patients that require increased acuity care such as in the step-down unit or CCU.

B COMMUNICATOR

Global Objective: To develop relationships with patients, families, and health professionals which facilitate the gathering and sharing of information essential for effective health care

- 1 Write appropriate progress and transfer notes and dictate discharge summaries.
- 2 Demonstrate appropriate and understandable communication to establish therapeutic relationships with patients and family members.
- 3 Demonstrate appropriate discussions with patients and family members around goals of treatment and end of life care.
- 4 Exhibit appropriate communication with junior medical staff, nurses and other allied healthcare staff.

C COLLABORATOR

Global Objective: To work effectively with other healthcare professionals to provide safe, high quality, patient-centered care

- 1 Collaborate effectively and constructively with the patient's healthcare team, including community based health care providers, in the exchange of patient level health information.
- 2 Collaborate with cardiology subspecialty services and/or the cardiac surgical service to provide effective and efficient

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patient care.

- 3 Develop a collaborative relationship with the attending cardiologist and medical colleagues, including consultants to maximize the efficiency of patient rounds.
- 4 Develop a collaborative relationship with allied health professionals to provide safe and effective patient care and to allow for a seamless transition to the ambulatory care setting.

D LEADER

Global Objective: To develop a vision of a high quality health care system and take responsibility for effecting change to move the system toward the achievement of that vision

- 1 Demonstrate the ability to effectively manage the CIU team, delegate work and provide teaching to junior learners.
- 2 Set priorities and manage time to develop effective practice patterns.
- 3 Display appropriate use of CIU bed resources to maintain patient flow and bed availability for new patients.
- 4 Develop strategies to facilitate patient discharge.
- 5 Contribute to quality improvement and patient safety rounds to implement system change to improve patient safety.

E HEALTH ADVOCATE

Global Objective: To develop a partnership with patients, their families, and support agencies to influence health determinants

- 1 Identify patients with or at risk for cardiovascular disease-related complications and effectively apply knowledge regarding primary and secondary prevention strategies, including cardiac rehabilitation programs.
- 2 Ensure patients have access to appropriate social and financial supports, information, and community services to maintain care as they transition to the community.
- 3 Recognize opportunities for advocacy, health promotion and disease prevention in patients and access local health professionals/resources to promote a healthy lifestyle.

F SCHOLAR

Global Objective: To demonstrate a lifelong commitment to excellence in practice through continuous learning, the teaching of others, the evaluation of evidence, and contributions to scholarship

- 1 Engage in self-directed learning by the development and implementation of a personal learning plan to enhance professional practice.
- 2 Attend and contributes to morning report and other learning opportunities.
- 3 Demonstrate ability to critically appraise the medical literature and integrate best available evidence into practice.
- 4 Contribute to the dissemination of knowledge by educating junior medical staff and other health professionals.

G PROFESSIONAL

Global Objective: To demonstrate ethical practice, high personal standards of behavior, dedication to the profession and maintenance of personal health

- 1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.
- 2 Demonstrate awareness of personal limitations and ability to seek assistance or consultation when appropriate.
- 3 Understand the nature of professional interpersonal relationships and boundaries with patients, junior medical staff and allied health staff.
- 4 Understand and apply basic principles of medical ethics including: informed consent, advanced directives, research ethics, patient autonomy and justice.



PG ITER - Cardiology/Internal Medicine

Rotation: Cardiology, Cardiology Consults
Level: PGY4

Legend:

N/A - Non Applicable

- 1 - **Unsatisfactory**: Performs significantly lower than level of training
- 2 - **Provisional Satisfactory**: Performs lower than level of training
- 3 - **Satisfactory**: Meets expectations at level of training
- 4 - **Very Good**: Exceeds expectations for level of training
- 5 - **Outstanding**: Significantly exceeds expectations for level of training

NOTE: If the learner functions at their training level, then the learner should obtain a score of Satisfactory.

Medical Expert

	Unsatisfactory	Provisional Satisfactory	Satisfactory	Very Good	Outstanding	N/A
	1	2	3	4	5	
Can perform a focused cardiac history and physical exam on all patients on the service.	0	0	0	0	0	0
Can order and interpret appropriate basic cardiac investigations.	0	0	0	0	0	0
Can determine the clinical significance of reported advanced cardiac studies, including echocardiograms, nuclear or echo stress tests, coronary angiograms, and EP studies.	0	0	0	0	0	0
Can initiate treatment with a focus on the management of common cardiac disorders.	0	0	0	0	0	0

Communicator

	Unsatisfactory	Provisional Satisfactory	Satisfactory	Very Good	Outstanding	N/A
	1	2	3	4	5	
Writes appropriate progress and transfer notes and dictates discharge summaries to provide continuity of care.	0	0	0	0	0	0
Demonstrates appropriate and understandable communication to establish therapeutic relationships with patients and family members and is able to discuss goals of treatment including end of life care with patients and family members.	0	0	0	0	0	0

Collaborator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Collaborates effectively and constructively with the patient's health care team, including community based health care providers, in the exchange of patient level health information.	0	0	0	0	0	0
Collaborates with cardiology sub-specialty services and/or the cardiac surgical service to provide effective and efficient patient care.	0	0	0	0	0	0
Collaborates with allied health professionals to provide safe and effective patient care and to allow for a seamless transition to the ambulatory care setting.	0	0	0	0	0	0

Leader

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Demonstrate the ability to effectively manage the clinical team, delegate work and provide teaching to junior learners.	0	0	0	0	0	0
Contributes to quality improvement and patient safety rounds to implement system change to improve patient safety.	0	0	0	0	0	0

Health Advocate

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Identifies patients with, or at risk for, cardiovascular disease-related complications and effectively applies knowledge regarding primary and secondary prevention strategies, including cardiac rehabilitation programs.	0	0	0	0	0	0
Ensures patients have access to appropriate social and financial supports, information, and community services to maintain care as they transition to the community.	0	0	0	0	0	0

Scholar

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
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Attends and contributes to morning report, regional rounds, and other learning opportunities.	0	0	0	0	0	0
Is able to critically appraise the medical literature and integrate best available evidence into practice.	0	0	0	0	0	0

Professional

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Delivers the highest quality care with integrity, honesty and compassion.	0	0	0	0	0	0
Exhibits appropriate personal and interpersonal behaviour, respecting the rights and dignity of patients and their families and the expertise and opinion of health care workers.	0	0	0	0	0	0
Understands the basic principles of medical ethics, including informed consent, advanced directives, research ethics, patient autonomy and justice.	0	0	0	0	0	0

OVERALL COMPETENCE (FOR LEVEL OF TRAINING)

	Incomplete 1	Unsatisfactory 2	Provisional Satisfactory 3	Satisfactory 4
Please check the appropriate box for the overall competency of this learner's training level	0	0	0	0

Was input sought from other faculty, allied health professionals, or patients and their family members?
(If yes, please please specify in the comment box provided immediately below)
 Yes No

Comments

Summative Comments

(Any item evaluated above or below a 3, must include comments and examples to justify the rating)

Formative Comments

(Please provide 1-2 items for the resident to improve upon in order to progress along the competency continuum)

Collaborator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Collaborates effectively and constructively with the patient's health care team, including community based health care providers, in the exchange of patient level health information.	0	0	0	0	0	0
Collaborates with cardiology sub-specialty services and/or the cardiac surgical service to provide effective and efficient patient care.	0	0	0	0	0	0
Collaborates with allied health professionals to provide safe and effective patient care and to allow for a seamless transition to the ambulatory care setting.	0	0	0	0	0	0

Leader

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Demonstrate the ability to effectively manage the clinical team, delegate work and provide teaching to junior learners.	0	0	0	0	0	0
Contributes to quality improvement and patient safety rounds to implement system change to improve patient safety.	0	0	0	0	0	0

Health Advocate

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Identifies patients with, or at risk for, cardiovascular disease-related complications and effectively applies knowledge regarding primary and secondary prevention strategies, including cardiac rehabilitation programs.	0	0	0	0	0	0
Ensures patients have access to appropriate social and financial supports, information, and community services to maintain care as they transition to the community.	0	0	0	0	0	0

Scholar

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
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Attends and contributes to morning report, regional rounds, and other learning opportunities.	0	0	0	0	0	0
Is able to critically appraise the medical literature and integrate best available evidence into practice.	0	0	0	0	0	0

Professional

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Delivers the highest quality care with integrity, honesty and compassion.	0	0	0	0	0	0
Exhibits appropriate personal and interpersonal behaviour, respecting the rights and dignity of patients and their families and the expertise and opinion of health care workers.	0	0	0	0	0	0
Understands the basic principles of medical ethics, including informed consent, advanced directives, research ethics, patient autonomy and justice.	0	0	0	0	0	0

OVERALL COMPETENCE (FOR LEVEL OF TRAINING)

	Incomplete 1	Unsatisfactory 2	Provisional Satisfactory 3	Satisfactory 4
Please check the appropriate box for the overall competency of this learner's training level	0	0	0	0

Was input sought from other faculty, allied health professionals, or patients and their family members?
(If yes, please please specify in the comment box provided immediately below)
 Yes No

Comments

Summative Comments

(Any item evaluated above or below a 3, must include comments and examples to justify the rating)

Formative Comments

(Please provide 1-2 items for the resident to improve upon in order to progress along the competency continuum)



PG ITER - Cardiology/Internal Medicine

Rotation: Cardiology, Cardiology Consults
Level: PGY6

Legend:

N/A - Non Applicable

- 1 - **Unsatisfactory**: Performs significantly lower than level of training
- 2 - **Provisional Satisfactory**: Performs lower than level of training
- 3 - **Satisfactory**: Meets expectations at level of training
- 4 - **Very Good**: Exceeds expectations for level of training
- 5 - **Outstanding**: Significantly exceeds expectations for level of training

NOTE: If the learner functions at their training level, then the learner should obtain a score of Satisfactory.

Medical Expert

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Demonstrates competence in obtaining a detailed and complete history.	0	0	0	0	0	0
Can interpret the clinical significance of abnormal physical examination findings.	0	0	0	0	0	0
Can interpret the results of cardiac investigations within the context of the patient's clinical presentation.	0	0	0	0	0	0
Can synthesize the data from the history, physical exam, and laboratory investigations and reach a tentative diagnosis.	0	0	0	0	0	0
Can independently manage all patients on the team and serve as a resource to junior learners.	0	0	0	0	0	0

Communicator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Writes appropriate progress and transfer notes and dictates discharge summaries to provide continuity of care.	0	0	0	0	0	0

Demonstrates appropriate and understandable communication to establish therapeutic relationships with patients and family members and is able to discuss goals of treatment including end of life care with patients and family members.

0 0 0 0 0 0

Collaborator

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Collaborates effectively and constructively with the patient's health care team, including community based health care providers, in the exchange of patient level health information.	0	0	0	0	0	0
Collaborates with cardiology sub-specialty services and/or the cardiac surgical service to provide effective and efficient patient care.	0	0	0	0	0	0
Collaborates with allied health professionals to provide safe and effective patient care and to allow for a seamless transition to the ambulatory care setting.	0	0	0	0	0	0

Leader

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Demonstrate the ability to effectively manage the clinical team, delegate work and provide teaching to junior learners.	0	0	0	0	0	0
Contributes to quality improvement and patient safety rounds to implement system change to improve patient safety.	0	0	0	0	0	0

Health Advocate

	Unsatisfactory 1	Provisional Satisfactory 2	Satisfactory 3	Very Good 4	Outstanding 5	N/A
Identifies patients with, or at risk for, cardiovascular disease-related complications and effectively applies knowledge regarding primary and secondary prevention strategies, including cardiac rehabilitation programs.	0	0	0	0	0	0
Ensures patients have access to appropriate social and financial supports, information, and community services to maintain care as they transition to the community.	0	0	0	0	0	0

Scholar

	Unsatisfactory	Provisional Satisfactory	Satisfactory	Very Good	Outstanding	
	1	2	3	4	5	N/A
Attends and contributes to morning report, regional rounds, and other learning opportunities.	0	0	0	0	0	0
Is able to critically appraise the medical literature and integrate best available evidence into practice.	0	0	0	0	0	0

Professional

	Unsatisfactory	Provisional Satisfactory	Satisfactory	Very Good	Outstanding	
	1	2	3	4	5	N/A
Delivers the highest quality care with integrity, honesty and compassion.	0	0	0	0	0	0
Exhibits appropriate personal and interpersonal behaviour, respecting the rights and dignity of patients and their families and the expertise and opinion of health care workers.	0	0	0	0	0	0
Understands the basic principles of medical ethics, including informed consent, advanced directives, research ethics, patient autonomy and justice.	0	0	0	0	0	0

OVERALL COMPETENCE (FOR LEVEL OF TRAINING)

	Incomplete	Unsatisfactory	Provisional Satisfactory	Satisfactory
	1	2	3	4

Please check the appropriate box for the overall competency of this learner's training level

1 2 3 4

Was input sought from other faculty, allied health professionals, or patients and their family members?
(If yes, please please specify in the comment box provided immediately below)

Yes No

Comments

Summative Comments

(Any item evaluated above or below a 3, must include comments and examples to justify the rating)

Formative Comments

(Please provide 1-2 items for the resident to improve upon in order to progress along the competency continuum)

