

# **1. MEDICAL ROTATION OBJECTIVES**

## **1.1 OVERVIEW**

The clinical clerkship is a formative period of medical student education during which students begin to develop competency in domains different from their earlier undergraduate experience. The clinical setting provides a rich resource of patient encounters as the stimulus for learning and reflects the content knowledge necessary for an understanding of internal medicine. Students will be exposed to inpatient medicine and, depending on the hospital site and rotation, the outpatient setting. The Internal Medicine clerkship at McMaster includes a 6-week ward-based rotation and a 2-week medical subspecialty selective rotation. These rotations take place at 3 hospital sites in Hamilton as well as at regional campuses in Niagara and Kitchener/Waterloo. The medicine clerkship objectives are a framework of basic competencies which are appropriate for mastery by clinical clerks during their rotation, and which include the content knowledge objectives.

## **1.2 BASIC COMPETENCIES**

A summary of each of the basic competencies is presented. More detail objectives for each of the competencies (defined as the pre-requisite knowledge and the knowledge, skills and attitude which define the competency) are found in Appendix A.

### ***1.2.1 History and Physical Examination***

Students should be able to obtain a clinical history and complete a comprehensive physical examination. Students should develop the ability to perform the history and physical examination using a problem-oriented approach.

### ***1.2.2 Case Presentation***

For each clinical examination performed, students should be able to chart and present a succinct verbal summary of the relevant information including a differential diagnosis and management plan. In addition to a comprehensive history and physical examination, students should be able to write succinct, problem-oriented progress notes for patients and write and/or dictate timely discharge summaries.

### ***1.2.3 Problem Formulation:        Diagnosis***

Students should demonstrate the ability to synthesize the information from the clinical encounter (*i.e.*, history and physical examination) into a problem-based patient formulation, including a case summary, differential diagnosis and initial management plan for each problem.

Among the diagnostic decisions within the initial management plan, students should demonstrate the ability to select appropriate investigations based on current best evidence. Students should be able to interpret common test results (*i.e.*, CBC, ECG, CXR, electrolytes, BUN, CR, INR, etc.) and incorporate the test results into the ongoing care (daily problem formulation) of the patient.

### ***1.2.4 Problem Formulation:        Therapy***

Among the therapeutic decisions within a management plan, students should be able to assess the risks and benefits of different therapeutic options, including the use of current best evidence in their treatment decisions. The student will assess the ongoing patient response to treatment and know how to monitor for and recognize potential adverse affects of the therapy.

### **1.2.5 *Communication with Patients & their Families***

Within a patient encounter, students should be able to establish rapport with their patients and their families, identify psychosocial issues, explore any hidden agendas and be sensitive to issues of racial and cultural diversity. Students should be able to educate their patients and their caregivers and obtain their consent and participation in management plans.

### **1.2.6 *Professionalism***

In addition to the issues outlined in 2.2.5, students should demonstrate the ability to work within a team of health professionals by communicating and interacting effectively with other members of the health care team. Students should understand the roles of the various health care providers on the team and how they might contribute to the optimization of patient care. Students should understand and respect current rules and regulations for patient privacy to the utmost degree (*Freedom of Information and Protection of Privacy Act, 2012, and Personal Health Information Protection Act, 2004*).

### **1.2.7 *Bioethics of Care***

Students should integrate medical ethics (including issues such as advance directives, autonomy, informed consent, resuscitation, quality of life, capacity assessment) into caring for their patients.

### **1.2.8 *Self-directed Learning***

Consistent with the philosophy of the McMaster program, students should demonstrate the ability to identify personal learning objectives, utilize a variety of resources to address their needs, and evaluate their own learning. Students should demonstrate that they are self-reflective and can learn personally and professionally from the challenges they experience in the clinical setting.

Students should be capable of searching a computerized database (e.g., PubMed, UpToDate) for relevant medical information to answer clinical questions. Students should also demonstrate sufficient skills in critical appraisal to incorporate biomedical information effectively and efficiently into day-to-day patient care.

### **1.2.9 *Basic Procedures***

Students are expected to gain mastery in performing routine minor procedures such as arterial blood gas sampling and obtaining electrocardiograms.

## **1.3 CONTENT KNOWLEDGE**

The following define the body of knowledge required to understand and manage common medical problems that present in general internal medicine. The content is defined both in terms

of patients presenting with a problem and of patients presenting with a specific disease. Students should demonstrate an understanding of the etiology, pathophysiology and management of these conditions. After surveying the faculty of internists affiliated with McMaster University, this content knowledge has been prioritized. Ideally, students should care directly for a patient whose issues fall within the Highest Priority list, and be exposed to the Second and Third Priority items either through other patients on their team, teaching sessions, or tutorials. It is expected that the selective rotation will provide additional exposure to some High Priority items and specific exposure to Second or Third Priority items depending on the rotation.

**1. HIGHEST PRIORITY – Students must be exposed to the problem during the clerkship**

	<b>PATIENT PRESENTING WITH A SYMPTOM SIGN OR LAB VALUE</b>	<b>PATIENT PRESENTING WITH A DISEASE</b>
<b><i>CARDIAC</i></b>	Cardiac Arrest Chest Pain	Coronary Artery Disease
<b><i>RESPIRATORY</i></b>	Shortness of Breath	Heart Failure Hypertension Pneumonia Chronic Obstructive Pulmonary Disease Asthma Venous Thromboembolism
<b><i>HEMATOLOGY</i></b>	Anemia	
<b><i>RENAL</i></b>	Acid-base Disorders Hypo/Hyponatremia Hypo/Hyperkalemia Renal Failure	
<b><i>NEUROLOGY</i></b>	Syncope Delirium	Cerebrovascular Disease Dementia IDDM and NIDDM Peptic Ulcer Disease
<b><i>ENDOCRINOLOGY</i></b>		
<b><i>GASTROENTEROLOGY</i></b>	Upper GI Bleeding Lower GI Bleeding Jaundice Diarrhea	
<b><i>INFECTIOUS DISEASE</i></b>	Fever	Cellulitis
<b><i>MISCELLANEOUS</i></b>	Dehydration Substance Abuse Adverse Drug Reactions/Drug Allergies Shock	

**2. SECOND PRIORITY – Students should try to be exposed to the problem during the clerkship**

	<b>PATIENT PRESENTING WITH A SYMPTOM SIGN OR LAB VALUE</b>	<b>PATIENT PRESENTING WITH A KNOWN CONDITION</b>
<b><i>CARDIAC</i></b>		Valvular Heart Disease Peripheral Vascular Disease Cardiac Dysrhythmia Sleep Apnea
<b><i>RESPIRATORY</i></b>	Pleural Effusion Respiratory Failure Lung Nodule	Tuberculosis Infection Bronchiectasis Bronchogenic Carcinoma
<b><i>HEMATOLOGY</i></b>	Bleeding Disorder Thrombocytopenia	
<b><i>RENAL</i></b>	Hypo/hypercalcemia	
<b><i>NEUROLOGY</i></b>	Coma Seizure Headache	Meningitis Spinal Cord Compression Parkinson’s Disease
<b><i>ENDOCRINOLOGY</i></b>	Obesity Hyperlipidemia	Steroid Therapy Osteoporosis Hypo/Hyperthyroidism
<b><i>RHEUMATOLOGY</i></b>	Joint Pain	Osteoarthritis Septic Arthritis/Osteomyelitis Connective Tissue Disease Rheumatoid Arthritis
<b><i>GASTROENTEROLOGY</i></b>		Cirrhosis Hepatitis Inflammatory Bowel Disease
<b><i>INFECTIOUS DISEASE</i></b>	Otitis Media Pharyngitis	HIV Infection Mononucleosis
<b><i>MISCELLANEOUS</i></b>	Shock Falls Weight Loss	Anaphylaxis/Angioedema

**3. THIRD PRIORITY – Relevant medical problems, not necessary for students to be exposed to during their rotation**

	<b>PATIENT PRESENTING WITH A SYMPTOM SIGN OR LAB VALUE</b>	<b>PATIENT PRESENTING WITH A KNOWN CONDITION</b>
<i><b>CARDIAC</b></i>		Endocarditis Pericardial Disease
<i><b>HEMATOLOGY</b></i>		Lymphoma Leukemia
<i><b>RENAL</b></i>		Nephrotic Syndrome Uric Acid Disorder Renal Stones
<i><b>NEUROLOGY</b></i>		Demyelinating Disease Dementia
<i><b>ENDOCRINOLOGY</b></i>	Thyroid Nodule	
<i><b>GASTROENTEROLOGY</b></i>		Pancreatic Disease
<i><b>INFECTIOUS DISEASE</b></i>		Sexually Transmitted Disease