



Core Clerkship Curriculum

Internal Medicine

Revised July 2019

Course Guide for Internal Medicine – Rocky Vista University

Required text: *Cecil Essentials of Medicine* (Andreoli and Carpenter's).

Reference text: *Harrison's Principles of Internal Medicine 19/E*.

This course guide is designed to assist the student in the Internal Medicine Core Clinical Externship by providing specific, actionable objectives. Students are expected to develop a self-study plan and learn the contents outlined in the course syllabus. The student should utilize all available resources and be able to perform the following objectives at the end of the externship.

History & Physical Examination

1. Demonstrate ongoing commitment to self-directed learning regarding history taking and physical examination skills.
2. Elicit a patient's chief complaint, as well as a complete list of the patient's concerns.
3. Obtain a patient's history in a logical, organized, and thorough manner that includes: history of present illness, past medical history, preventive health measures, medications with dosages and frequencies, allergies with details of the reaction, family history, social history, occupational history, and review of systems.
4. Obtain supplemental historical information from collateral sources, when necessary.
5. Describe significant attributes of a symptom, including location, radiation, intensity, quality, timing, alleviating and aggravating factors, associated symptoms, and patient's interpretation of symptoms.
6. Perform a physical examination for a patient in a logical, organized, respectful, and thorough manner.
7. Adapt the scope and focus of the history and physical examination appropriately to the medical situation and the time available.
8. Discuss physiologic mechanisms that explain key findings in the history and physical examination.

Diagnostic Testing and Treatment

1. Discuss key history and physical examination findings pertinent to the differential diagnosis.
2. Use the methods of deductive reasoning, forward thinking, and pattern recognition in clinical decision making.
3. Describe key factors to consider when selecting from among diagnostic tests.
4. Utilize the differential diagnosis to help guide diagnostic test ordering and sequencing.
5. Understand how practice guidelines can be used to guide diagnostic test ordering.
6. Independently interpret the results of CBC with differential and blood smear, UA, electrolytes, BUN/creatinine, glucose, hepatic function panel, hepatitis serologies, cardiac biomarkers, routine coagulation tests, thyroid function tests, ABG, body fluid cell counts and chemistries.
7. Independently interpret the results of a 12-lead ECG, a chest radiograph, plain abdominal films, and pulmonary function tests.
8. Formulate an initial therapeutic plan.
9. Appreciate the impact therapeutic decisions have on a patient's quality of life.
10. Demonstrate an understanding of the importance of close follow-up of patients under active care.

Interviewing Skills

1. Demonstrate appropriate listening skills, including verbal and non-verbal techniques to communicate empathy.
2. Demonstrate effective verbal skills, including appropriate use of open- and closed-ended questions, repetition, facilitation, explanation, and interpretation.
3. Determine the information a patient has independently obtained about his or her problems.
4. Elicit a patient's point of view and concerns about his or her illness and the medical care he or she is receiving.
5. Respond to patients' concerns and expectations.
6. Assess a patient's commitment and adherence to a treatment plan while taking into account personal and economic circumstances.
7. Demonstrate sensitivity to student-patient similarities and differences in gender, ethnic background, sexual orientation, socioeconomic status, educational level, political views, and personality traits.

Case Presentation Skills

1. Understand the components of comprehensive and abbreviated case presentations (oral and written) and settings appropriate for each.
2. Prepare a legible, comprehensive, and focused new patient work-up that includes the following features as clinically appropriate: patient history, physical examination, differential diagnosis, and diagnostic and treatment plan.
3. Orally present a patient's case in a manner that that: logically and chronologically develops the history of the present illness, summarizes the pertinent positives and negatives, includes a logical and prioritized differential diagnosis, includes diagnostic and therapeutic plans, and is presented from memory as much as possible.
4. Demonstrate ongoing commitment to self-directed learning regarding case presentation skills by regularly seeking feedback and responding appropriately and productively.

Collaboration

1. Participate as an effective member of a multidisciplinary care team.
2. Describe the role and contribution of each team member to the care of the patient.
3. Demonstrate teamwork and respect toward all members of the health care team, as manifested by reliability, responsibility, honesty, helpfulness, selflessness, and initiative in working with the team.

Attitudes, Perspectives, and Personal Development

1. Attend to and advocate for patients' interests and needs in a manner appropriate to the student's role.
2. Request consultation and supervision when knowledge, attitudes, or skills are insufficient for a given patient's care.
3. Discuss a patient incorporating multiple perspectives (i.e., biological, psychological, developmental, and social).
4. Demonstrate ongoing commitment to self-directed learning.

5. Seek feedback regularly regarding performance and respond appropriately and productively.
6. Recognize how patients' and physicians' perceptions, preferences, and actions are affected by cultural and psychosocial factors, and how these factors affect the doctor-patient relationship.
7. Demonstrate a commitment to caring for all patients, regardless of medical diagnosis, gender, race, socioeconomic status, intellect/level of education, religion, political affiliation, sexual orientation, ability to pay, or sociocultural background.
8. Appreciate that medical error prevention and patient safety are the responsibility of all health care providers and systems and accept the appropriate degree of responsibility at the medical student level.

Prevention

1. Understand general types of preventive health care issues that should be addressed on a routine basis in adult patients.
2. Summarize screening recommendations for adult patients.
3. Describe vaccines that have been recommended for routine use in adults.
4. Discuss general categories of high-risk patients in whom routine preventative health care must be modified or enhanced.
5. Discuss the impact of smoking on cardiovascular and cancer risk, and basic approaches to smoking cessation.
6. Counsel patients about safe-sex practices, smoking cessation, alcohol abuse, weight loss, healthy diet, exercise, and seat belt use.

Objectives of Common Disorders Seen in Internal Medicine

General Internal Medicine

1. Describe the approach to common symptoms in internal medicine.
2. Summarize the definition, etiologies, health implications, and treatment options for obesity.
3. Understand basic principles of palliative care and hospice care, along with management of symptoms in end-of-life care.
4. Discuss basic principles of geriatrics, including symptoms and conditions common in the elderly, basic treatment plans for illness in the elderly, and management of polypharmacy.
5. Evaluate and treat a patient with alcohol or other substance abuse, including management of acute intoxication and withdrawal syndromes.

Cardiovascular Disease

1. Describe the pathogenesis, signs, symptoms, diagnosis, and management of unstable angina, non-ST-elevation myocardial infarction (NSTEMI), and ST-elevation myocardial infarction (STEMI).
2. Define symptoms, signs, diagnosis, and management of stable angina.
3. Identify clinical features and treatment of common heart murmurs.

4. Know the etiologies, clinical features, diagnostic criteria, and treatment of endocarditis.
5. Understand the epidemiology of hyperlipidemia, its contribution to cardiovascular risk, the impact of treatment, and current recommendations for screening.
6. Describe the processes and common disease entities that cause heart failure, the staging system for heart failure, factors leading to exacerbation, and treatment of heart failure with preserved or reduced ejection fraction.
7. Discuss the general approach to evaluation and treatment of atrial fibrillation and other common arrhythmias.
8. Understand the epidemiology and definition of hypertension, its contribution to cardiovascular risk, the impact of treatment, and current recommendations for screening.
9. Summarize the etiologies, clinical features, diagnostic criteria, and treatment of pericarditis.
10. Discuss the symptoms and signs of vascular disease, its contribution to cardiovascular risk, and recommendations for treatment.

Pulmonary Disease

1. Describe the epidemiology, pathophysiology, symptoms, signs, common pathogens, typical clinical course, and treatment recommendations for pneumonia (community-acquired, nosocomial, or aspiration pneumonia, as well as pneumonia in the immunocompromised host).
2. Understand the epidemiology, risk factors, symptoms, signs, typical clinical course, reasons for exacerbation, and therapies in COPD.
3. Know the symptoms, signs, risk factors, treatment modalities, and long-term sequelae of pulmonary embolism.
4. Summarize the symptoms, signs, pathophysiology, differential diagnosis, and typical clinical course of the most common causes of acute and chronic cough.
5. Identify the etiologies, clinical features, and appropriate diagnostic testing for pulmonary hypertension.
6. Discuss the etiologies, differential diagnosis, clinical features, radiographic findings, and appropriate diagnostic testing for pleural effusion, including differentiating between exudates and transudates.
7. Understand symptoms, signs, risk factors, and diagnosis of diffuse parenchymal lung disease.

Fluid, Electrolyte, & Acid-Base Disorders

1. Define the pathophysiology, symptoms, signs, treatment, and complications of treatment for hyponatremia and hypernatremia, as well as the importance of total body water and its distribution.
2. Describe the pathophysiology, symptoms, signs, and treatment considerations for hypokalemia and hyperkalemia.
3. Understand acid-base calculations, and the most common causes of respiratory acidosis, respiratory alkalosis, metabolic acidosis, and metabolic alkalosis.
4. Summarize the pathophysiology, symptoms, signs, and treatment considerations for disorders of calcium, phosphorus, and magnesium.

Kidney Disease

1. Discuss the distinction between the three etiologies for acute kidney injury (prerenal, renal, and postrenal), along with the laboratory findings, major diagnoses, and treatment recommendations within each of these types of acute kidney injury.

2. Understand the most common etiologies, clinical course, staging, management, and complications in chronic kidney disease.
3. Describe the risk factors, symptoms, signs, causative agents, and treatment options for genitourinary tract infections.
4. Know the clinical features, risk factors, and appropriate diagnostic testing for nephrolithiasis.

Gastrointestinal Disease

1. Discuss the likelihood of the common causes of abdominal pain based on the pain pattern and location, identify signs of acute abdomen, and recommend appropriate work-up.
2. Identify the symptoms, common causes, risk factors, initial management, and distinguishing features in upper vs. lower gastrointestinal bleed.
3. Understand the clinical features, risk factors, appropriate diagnostic testing, and treatment of GERD and gastritis.
4. Know the etiologies, clinical features, prognostic factors, diagnostic testing, and treatment for pancreatitis.
5. Define the symptoms, signs, and diagnosis of motility disorders and malabsorption syndromes.
6. Identify the symptoms, signs, diagnosis, clinical course, and distinguishing features in inflammatory bowel disease.

Liver Disease

1. Know the common pathologic patterns of liver disease and their common causes, including: steatosis, hepatitis, cirrhosis, infiltrative, intrahepatic cholestasis, and extrahepatic cholestasis.
2. Describe the pathophysiology and common causes of ascites.
3. Understand the pathophysiology, symptoms, signs, treatment, and complications associated with end-stage liver disease/cirrhosis.
4. Define the epidemiology, pathophysiology, symptoms, signs, and typical clinical course of cholelithiasis, cholecystitis, and cholangitis.

Infectious Disease

1. Describe the epidemiology, pathophysiology, microbiology, symptoms, signs, typical clinical course, and preventive strategies for the most common nosocomial infections, including: urinary tract infection, pneumonia, surgical site infection, intravascular device-related bloodstream infection, skin infection, and health care associated diarrhea.
2. Discuss the definition, symptoms, signs, diagnosis, risk factors, clinical course, and initial management in shock, sepsis, and ARDS.
3. Summarize the risk factors, clinical features, clinical course, diagnostic testing, and basic treatment of HIV and HIV-related opportunistic infections.
4. Understand common causes of fever of unknown origin, including: fever of unknown origin in a normal host, nosocomial fever of unknown origin, neutropenic fever of unknown origin, and fever of unknown origin associated with HIV disease.
5. Describe the risk factors, symptoms, signs, screening, and diagnosis of tuberculosis.
6. Discuss the symptoms, signs, microbiology, and treatment of upper respiratory complaints.

Endocrinology

1. Understand the pathophysiology, genetics, risk factors, presenting symptoms, diagnostic

- criteria, treatment, hospital management, and follow-up for type 1 and type 2 diabetes mellitus.
2. Describe the presenting symptoms, signs, abnormal laboratory values, and basic management in diabetic ketoacidosis and nonketotic hyperglycemia.
 3. Know the clinical features, appropriate diagnostic testing, and basic treatment of pituitary disorders.
 4. Summarize the etiologies, clinical features, clinical course, diagnosis, and treatment of disorders of the thyroid.
 5. Discuss the etiologies, clinical features, clinical course, diagnosis, and treatment of adrenal disorders, including: adrenal insufficiency, Cushing syndrome, and hyperaldosteronism.
 6. Describe the etiologies, risk factors, clinical features, diagnosis, and treatment of osteoporosis.

Hematology

1. Understand the classifications, pathophysiology, and diagnostic work-up of anemia, based on MCV and reticulocyte count.
2. Know the symptoms, signs, risk factors, treatment modalities, and long-term sequelae of deep venous thrombosis.
3. Discuss the symptoms, signs, pathophysiology, diagnostic work-up, and treatment of the common types of thrombocytopenia.
4. Describe the symptoms, signs, diagnosis, and treatment of hematopoietic stem cell disorders.
5. Identify genetic factors, other risk factors, and management considerations of the coagulopathies.
6. Understand the indications, contraindications, and complications of blood transfusion.

Oncology

1. Describe the primary prevention measures, clinical presentation, genetic considerations, clinical course, and complications in lung cancer, as well as initial work-up for a solitary pulmonary nodule.
2. Define the clinical presentation, work-up, tumor markers, clinical course, and complications in breast cancer.
3. Understand the clinical presentation, diagnosis, clinical course, and complications in colorectal cancer, as well as indications for colonoscopy.
4. Identify the primary prevention measures, clinical presentation, diagnosis, clinical course, and complications of cervical cancer.
5. Summarize the clinical presentation, work-up, clinical course, and complications in prostate cancer.
6. Know the primary prevention measures, clinical presentation, diagnosis, clinical course, and complications of skin cancer.

Rheumatology

1. Discuss the symptoms, signs, and typical clinical course of various types of back pain, the role of diagnostic studies, and potential therapies.
2. Understand the pathophysiology, time course, common signs and symptoms, and treatment options for osteoarthritis.
3. Know the pathophysiology, common signs and symptoms, and treatment of crystalline arthropathies.
4. Describe the pathophysiology and common signs and symptoms of septic arthritis.

5. Summarize the indications for performing an arthrocentesis, and interpret results of the synovial fluid analysis.
6. Discuss the distinguishing features, pathophysiology, symptoms, and signs of periarticular disorders.
7. Identify typical clinical scenarios where systemic rheumatologic disease should be considered, the basic role of genetics, and common signs and symptoms of rheumatologic disease.
8. Know the pathophysiology and common signs and symptoms of the various vasculitides.

Neurology

1. Describe the pathophysiology, symptoms, signs, risk factors, basic diagnostic evaluation, and principles of management of the most common and serious causes of altered mental status.
2. Discuss the pathophysiology, symptoms, signs, risk factors, diagnostic evaluation, and management of cerebrovascular disease.
3. Understand the definition, symptoms, signs, diagnosis, risk factors, clinical course, and initial management of meningitis and encephalitis.
4. Describe the pathophysiology, symptoms, risk factors, clinical course, and principles of the management of dementia.
5. Summarize the risk factors, symptoms, signs, basic diagnostic evaluation, and principles of management of delirium, including non-pharmacologic measures to reduce agitation and aggression.
6. Know the etiologies, clinical features, clinical course, appropriate diagnostic testing, and basic treatment of common headache syndromes.
7. Identify the possible etiologies, clinical features, appropriate diagnostic testing, and basic treatment of seizure.
8. Know the risk factors, pathophysiology, clinical features, diagnostic work-up, and management of peripheral neuropathy.

Allergy/Immunology

1. Understand the epidemiology, risk factors, symptoms, signs, typical clinical course, reasons for exacerbation, and therapies for asthma.
2. Know the epidemiology, symptoms, signs, and therapeutic options for allergic rhinitis.
3. Discuss the symptoms, signs, diagnosis, and treatment of angioedema and urticaria.

Dermatology

1. Utilize standard nomenclature used for dermatologic findings.
2. Discuss the significance of other signs/symptoms in the context of a rash.