INTERNAL MEDICINE CLERKSHIP

515-271-1490 (I.M. Academic Assistant)  515-271-1667
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General Description

Required Rotation

The required rotation is a four (4) week introductory, structured clinical clerkship under direct supervision designed to provide experience in diagnosing, treating, and caring for adult patients.

The Department of Family and Internal Medicine will administer a post-rotation examination when the student has completed the required medicine rotation. Please refer to the section on Post-Rotation Examination and the Desire2Learn (D2L) site, Internal Medicine Clerkship (DO-2018).

Elective Rotation

The elective rotation is a four (4) week clerkship structured to further develop and apply cognitive and procedural skills in the clinical setting. Students taking the elective are strongly encouraged to review core diseases/topics and presentations noted in this guideline. There is no post-rotation exam for the elective.

Purpose

Clinical experiences are intended to assist the student’s transition from didactic to integrated clinical evaluation and patient management. In addition to gaining specific skills, the student should also develop skills in systematic medical problem-solving and patient management abilities; establish or reinforce patterns of independent learning and self-evaluation; and advance verbal and written clinical communication skills. The student should also develop fundamental psychomotor skills by performing routine basic procedures under direct supervision.
Course Objectives

General Overview

The student should be able to:

- communicate in a respectful, effective, efficient, and educational manner with patients and their families.
- obtain and record an appropriately complete, cogent and organized medical history.
- conduct and record an appropriately complete and accurate physical examination.
- use knowledge of the pathophysiology of signs and symptoms to establish clinical correlation with disease processes.
- formulate a reasoned differential diagnosis for each problem.
- formulate an appropriate plan for confirming the diagnosis.
- formulate an appropriate initial and ongoing treatment program taking into account the urgency of the patient’s problems.
- use information from texts, syllabi, and journals to study general topics related to patient’s problems.
- record patient progress in the medical record; and make a verbal report to the health care team in a clear and succinct manner.

Technical and Interpretation Skills

Students are expected to acquire certain technical skills and interpretation that are commonly employed in medical care. Wherever possible, students are encouraged to participate in procedures under adequate supervision.

The student should be able to:

- perform and interpret an ECG.
- perform venipuncture for blood specimens or intravenous therapy.
- interpret a complete blood count.
- interpret common chemistry measurements (e.g. enzymes, electrolytes).
- interpret arterial blood gas measurements.
- interpret results of a urinalysis.
- interpret chest x-ray findings.
- do basic interpretation of pulmonary function tests.

General Clinical Core Competencies

The curriculum detailed in the APPENDIX (adapted from the CDIM-SGIM Core Medicine Clerkship Curriculum Guide Ver.3.0) specifies course objectives in terms of the basic internal medicine core clinical competencies and the specific learning objectives (knowledge, skills, and attitudes) pertinent to those competencies. Every effort should be made to integrate them into the clerkship.
CORE DISEASES AND TOPICS

Core Diseases and Topics

The Department of Medicine recommends the student review the below listed core diseases and topics in the clerkship guide as well as from Harrison's, 19th Ed. or Goldman-Cecil Medicine, 25th Ed.

Page numbers from Internal Medicine Clerkship Guide, 3rd Ed. 2008

1. Cardiovascular
   - Ischemic heart disease (pp. 239-246)
   - Congestive heart failure (pp. 233-239)
   - Hyperlipidemia (pp. 283-289)
   - Common cardiac arrhythmias (pp. 221-233)

2. Endocrinology
   - Diabetes mellitus (pp. 273-283)
   - Thyroid disease (pp. 294-301)

3. Gastroenterology
   - Gastrointestinal bleeding (pp. 147-153)
   - Hepatobiliary and pancreatic disease (pp. 312-329)

4. Hematology/Oncology
   - Common cancers (pp. 351-362, 563-567)

5. Infectious disease
   - HIV infection and complications (pp. 383-395)

6. Nephrology
   - Acute renal failure (pp. 431-438)
   - Acid-base disorders (pp. 426-431)
   - Fluid and electrolyte disorders (pp. 438-445)
   - Hypertension (pp. 445-455)

7. Neurology
   - Approach to altered mental state (pp. 463-468)
   - Stroke (pp. 468-475)

8. Pulmonary Medicine
   - Pneumonia (pp. 400-407)
   - COPD and asthma (pp. 496-510)
   - Venous thromboembolism (pp. 197-199, 349-351, 510-515)

9. Rheumatology
   - Common musculoskeletal complaints
     (pp. 173-184, 185-192, 521-530)

10. General Internal Medicine
    - Women’s health (pp. 556-580)
Core presentations:

The Department of Medicine recommends the student review the below listed core presentations in the Internal Medicine Clerkship Guide, 3rd Ed., as well as from Harrison's-Principles of Internal Medicine, 19th Ed., or Goldman-Cecil Medicine, 25th Ed.

Page numbers are from Internal Medicine Clerkship Guide, 3rd Ed. 2008

- Abdominal pain (pp. 57-67)
- Anemia (pp. 68-75)
- Chest pain (pp. 76-85)
- Cough (pp. 86-91)
- Depression (pp. 487-495)
- Dyspnea (pp. 126-133)
- Dysuria (pp. 412-415)
- Joint and muscle pain (pp. 173-184)
- Low back pain (pp. 185-192)

READING ASSIGNMENTS

1. All core topics and presentations listed above.
2. Primer to the Internal Medicine Clerkship (accessed 1/7/2014)
3. Introduction to the Medicine Clerkship (Section 1, pp. 3-54) in Paauw’s guide. This section provides a very helpful review of day-to-day inpatient and outpatient skills, communications and ethics. Practical skills include how to read EKGs, abdominal and chest films; perform basic procedures and body fluid analysis and the use of antibiotics.
4. The COMAT-Internal Medicine Assessment Objectives, Blueprint, and Practice Examination. The section Selected Specific Objectives for COMAT-Internal Medicine lists areas that may be tested in COMAT.
POST-ROTATION EXAMINATION

Des Moines University Department of Internal Medicine requires the completion of the NBOME-COMAT Internal Medicine subject examination with a standard score of 80 or greater. The NBOME-COMAT exam is a web-based exam administered by the NBOME and accessed via the NBOME website. A DMU approved proctor at your rotation site must proctor your exam. This exam will provide the student an opportunity to be informed of his or her progress nationally. The internal medicine post rotation exam must be taken on the Thursday or Friday of the last week of the required Internal Medicine rotation. Please refer to the section on Desire2Learn (D2L) site, Internal Medicine Clerkship (DO-2018).

TEXTS AND RESOURCES

Recommended Assignment Texts:


Kasper, et al (eds), Harrison’s Principles of Internal Medicine, 19th Ed., (Available through library section of PULSE - AccessMedicine)

or


ELECTRONIC RESOURCES

(All are available through library section of PULSE)

Evidence-Based Medicine:

- Cochrane Library for Evidence-Based Medicine- The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making.
- UpToDate® - an evidence-based knowledge system authored by physicians to help clinicians make the right decisions at the point of care. All UpToDate content is written and edited by a global community of 4,800 physicians, world-renowned experts in their specialties.
- Essential Evidence Plus- A powerful resource packed with content, tools, calculators and alerts for clinicians who deliver first-contact care.

Electronic Texts:

- Cecil Medicine-MD Consult
- Harrison's Online-AccessMedicine
- Current Medical Diagnosis and Treatment 2014 -AccessMedicine
- MD Consult- Provides full-text access to approximately 40 medical textbooks, 50 medical journals, comprehensive drug information, and more than 600 clinical practice guidelines
- eJournals A-to-Z- Database provides link and coverage information to more than 124,000 unique titles from more than 1,100 database and e-journal packages.

Updated 6/23/2015
HISTORY-TAKING AND PHYSICAL EXAMINATION

Rationale:

The ability to obtain an accurate medical history and carefully perform a physical examination is fundamental to providing comprehensive care to adult patients. In particular, an internal medicine provider must be thorough and efficient in obtaining a history and performing a physical examination in a wide variety of adult patient populations. These include healthy adults, adults with both acute and chronic medical problems, as well as adults with complex life-threatening diseases, who come from diverse socioeconomic and cultural backgrounds.

Specific learning objectives:

A. Knowledge: Students should be able to define, describe, and analyze:
   1. The significant attributes of a symptom, including: location and radiation, intensity, quality, temporal sequence (onset, duration, frequency), alleviating, precipitating and aggravating factors, setting, associated symptoms, functional impairment, and patient’s interpretation of symptom. (i.e. OPQRST’s as taught in Physical Diagnosis) (MK, OPP)
   2. The four methods of physical examination (inspection, auscultation, palpation, and percussion), including where and when to use them, their purposes, and the findings each can elicit. (MK)
   3. The physiologic mechanisms that explain key findings in the history and physical exam. (MK, OPP)

B. Skills: Students should be able to demonstrate specific skills, including:
   1. Eliciting the patient’s chief complaint as well as a complete list of the patient’s concerns. (PC, CS)
   2. Obtaining a patient’s history in a logical, organized, and thorough manner, covering the history of present illness; past medical history; preventive health measures; social, family, and occupational history; and review of systems.
   3. Demonstrating proper hygienic practices whenever examining a patient. (PC)
   4. Performing a physical examination in a logical, organized, respectful, and thorough manner, giving attention to the patient’s general appearance, vital signs, and pertinent body regions. (PC)

C. Attitudes and professional behaviors: The student will:
   1. Recognize the essential contribution of a thorough history and physical examination to the formulation of a differential diagnosis. (P)
   2. Develop the habit of updating historical information and reevaluating pertinent important parts of the physical examination during follow-up visits. (P)
   3. Demonstrate consideration for the patient’s feelings, limitations, cultural and social background at all times, but particularly during the intimate act of taking a medical history and performing a physical exam. (P)

AOA Competencies:

PC = Patient Care
MK = Medical Knowledge
PLI = Practice-Based Learning and Improvement
OPP = Osteopathic Philosophy, Principles and Practice

CS = Communication Skills
P = Professionalism
SBP = Systems-Based Practice
INTERPRETATION OF CLINICAL INFORMATION

Rationale:
In the routine course of clinical practice physicians order and interpret a wide variety of diagnostic tests and procedures. Understanding how to integrate these tests into clinical decision making and how to communicate the results to patients, colleagues, and attending physicians are core clinical skills that third-year medical students must develop.

Specific learning objectives:

A. **Knowledge:** Students should be able to:
   1. Identify which tests are ordered to evaluate patients presenting with common symptoms as well as to follow common diagnoses encountered in the practice of internal medicine. *(PC, MK)*
   2. Synthesize the results of these tests to rule in or rule out diagnosis from the list of differentials. *(PC, MK)*
   3. Recognize and summarize:
      - Indications for testing. *(PC, MK)*
      - Critical values that require immediate attention. *(PC, MK)*
   4. Independently interpret the results of the following laboratory tests:
      - CBC with diff and blood smear, UA, electrolytes, BUN/Cr, glucose, liver enzymes, viral hepatitis serologies, cardiac biomarkers (e.g. CK-MB, troponin), PT/INR, PTT, thyroid function tests, arterial blood gases, pulmonary function tests *(PC, MK)*

B. **Skills:** Students should be able to demonstrate specific skills, including:
   1. Interpreting a blood smear, Gram stain, and chest X-ray *(PC)*
   2. Approaching ECG interpretation in a systematic and logical fashion analyzing the following: rate, rhythm, P wave morphology, PR interval, QRS width, axis, voltage, QT interval, ST segment morphology, and T wave morphology. *(PC)*
   3. Recording the results of laboratory tests in an organized manner, using flow sheets when appropriate. *(PC)*

C. **Attitudes and professional behaviors:** Students will:
   1. Appreciate the importance of follow-up on all diagnostic tests and procedures and the role of timely and accurate communication of results to the delivery of patient care. *(P)*
   2. Personally review medical imaging studies, ECGs, Gram stains, blood smears, etc. to assess the accuracy and significance of the results. *(P)*

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DIAGNOSTIC DECISION-MAKING

Rationale:
Internal medicine physicians are responsible for directing and conducting the diagnostic evaluation of a broad range of patients, including those seeking advice on prevention and screening, diagnosis and management acute and chronic illnesses including those with life-threatening conditions. In a time of escalating health care costs and rapidly proliferating use tests, medical students must learn how to perform safe, expeditious, and cost-effective diagnostic evaluations. This requires well-developed diagnostic decision-making skills that incorporate probability-based thinking.

Specific learning objectives:
A. **Knowledge:** Students should be able to define, describe, and analyze:
   1. Key history and physical examination findings pertinent to create a differential diagnosis. (*MK, OPP*)
   2. Information resources for determining diagnostic options for patients with common and uncommon medical problems. (*MK, PLI*)
   3. How critical pathways, practice guidelines, and appropriate use criteria are used to guide the ordering of diagnostic tests. (*MK*)

B. **Skills:** Students should demonstrate specific skills, including:
   1. Identifying problems with which a patient presents, appropriately synthesizing these into logical clinical syndromes. (*PC*)
   2. Triaging problems of highest priority. (*PC*)
   3. Formulating a differential diagnosis based on the findings from the history and physical examination. (*PC, OPP*)
   4. Using the differential diagnosis to help guide diagnostic test ordering and sequencing. (*PC*)

C. **Attitudes and professional behaviors:** Students will:
   1. Seek feedback regularly regarding diagnostic decision-making and respond appropriately (*P*)
   2. Recognize the importance of and demonstrate a commitment to the utilization of other health care professionals in diagnostic decision making. (*P, SBP*)

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THERAPEUTIC DECISION-MAKING

Rationale:

Internists are responsible for directing and coordinating the therapeutic management of patients with a wide variety of problems, including critically ill patients with complex medical problems and the chronically ill. To manage patients effectively, physicians need basic therapeutic decision-making skills that incorporate both pathophysiologic reasoning and evidence-based knowledge.

Specific learning objectives:

A. **Knowledge:** Students should be able to define, describe, and analyze:
   1. Information resources for determining medical and surgical treatment options for patients with common and uncommon medical problems. (MK)
   2. The use of critical pathways and clinical practice guidelines to help guide therapeutic decision making. (MK)
   3. Factors that alter the effects of medications, including drug interactions and compliance problems. (MK)
   4. Factors to consider in selecting a medication from within a class of medications. (MK)
   5. Factors to consider in monitoring a patient’s response to treatment, including potential adverse effects. (MK)
   6. Methods of monitoring therapy and how to communicate them in both written and oral form. (MK)

B. **Skills:** Students should be able to demonstrate specific skills, including:
   1. Formulating an initial therapeutic plan. (PC)
   2. Accessing and utilizing, when appropriate, information resources to help develop an appropriate and timely therapeutic plan. (PC, PLI)
   3. Writing prescriptions and inpatient orders safely and accurately. (PC)
   4. Counseling patients about how to take their medications and what to expect when doing so, including beneficial outcomes and potential adverse effects. (PC, CS)
   5. Monitoring response to therapy and adjusting the treatment plan as necessary. (PC)

C. **Attitudes and professional behaviors:** Students will:
   1. Involve the patient in the decision-making process, explaining the risks, benefits and alternatives to the treatment recommended. (CS, P)
   2. Respect patient’s informed choices, including the right to refuse treatment. (P)
   3. Recognize the importance of and demonstrate a commitment to the utilization of other healthcare professionals in therapeutic decision making. (P, SBP)

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CASE PRESENTATION SKILLS

Rationale:
Communicating patient care information to colleagues and other health care professionals is an essential skill regardless of specialty. Students should develop facility with different types of case presentations: written and oral, new patient and follow-up, inpatient and outpatient.

Specific learning objectives:

A. **Knowledge:** Students should be able to define, describe, and analyze components of comprehensive and abbreviated case presentations (oral and written) and settings appropriate for each. (MK)

B. **Skills:** Students should be able to demonstrate specific skills, including:
   1. Prepare legible, comprehensive, and focused new or follow-up patient reports that include the following features as clinically appropriate:
      - Concise history of the present illness organized chronologically with minimal repetition, omission, or extraneous information, and including pertinent positives and negatives. (PC, CS)
      - A comprehensive physical examination with detail pertinent to the patient’s problem. (PC, CS, OPP)
      - A succinct, prioritized, and, where appropriate, complete list of all problems identified by the history and physical examination. (PC, CS, OPP)
      - A differential diagnosis for each problem (appropriate for the student’s level of training). (PC, CS)
      - A diagnostic and treatment plan for each problem (appropriate for the student’s level of training). (PC, CS, OPP)
   2. Orally present a new or follow-up inpatient’s or outpatient’s case in a logical manner, chronologically developing the present illness, summarizing the pertinent positive and negative findings as well as the differential diagnosis and plans for further testing and treatment. (PC, CS)

C. **Attitudes and professional behaviors:** Students will:
   1. Demonstrate ongoing commitment to improving case presentation skills by regularly seeking feedback on presentations and acting on the information. (PLI, P)
   2. Accurately and objectively record and present all data. (P)

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*Updated 6/23/2015*