

Inpatient Medicine Curriculum

Goal

Inpatient medicine encompasses the management of patients of varying age, ethnic background, and economic status with a wide diversity of diseases. It also requires proficiency in time management, communication skills, and a thorough understanding of quality of care issues, patient safety, ethics, medicolegal issues and insurance coverage.

Rotation on the medical ward services will provide training for the resident to develop the wide range of competencies necessary for the clinical diagnosis and management of common inpatient disorders. By the end of the HO-1 year, he or she should be able to (1) efficiently acquire data using history, physical, outside/old records, pertinent laboratory studies, and cost-effective ancillary studies, (2) systematically approach the management of patients hospitalized for common medical conditions, (3) under supervision, assume the role of central care giver, including facilitating communication with patients, family members, and other members of the health care team to optimize patient care, and (4) utilize support services for discharge planning to meet patient's financial, spiritual and social needs. As the resident matures, he or she also should be able to (1) provide leadership in creating an environment which emphasizes quality patient care, (2) refine the knowledge of diseases requiring hospital management and educate interns and medical students, (3) directly supervise interns and medical students in the delivery of high quality medical care and appropriate and timely discharge, (4) provide consultation to and appropriately consult other specialty services, and (5) understand the more complex ethical, legal and systems issues involved in caring for hospitalized patients.

Objectives

Patient Care

- I. Provide patient care that is compassionate, appropriate and effective for the treatment of hospitalized patients.

Medical Knowledge

- I. Develop the knowledge and skills to obtain an appropriate history on patients admitted with a wide variety of chief complaints.
- II. Develop the knowledge and skills for performing and interpreting a focused, efficient physical exam on patients with systemic illness.
- III. Develop an approach to patients who are admitted with or who develop in hospital the following common complaints:
 - abdominal pain
 - addiction
 - anorexia
 - ascites
 - chest pain

- constipation
- cough
- delirium
- diarrhea
- dizziness
- dyspnea
- failure to thrive
- fever
- headache
- hematochezia or melena
- joint swelling
- lower extremity edema
- mental status changes including delirium and stupor/coma
- nausea or vomiting
- pain syndromes
- palpitations
- polyuria
- syncope
- weakness
- weight loss

IV. Recognize risk factors, symptoms and signs, differential diagnosis and management of the following diseases:

- a. Cardiovascular: acute coronary syndromes, arrhythmias – atrial, brady and ventricular; arterial emboli, coronary artery disease, congestive heart failure, hypertensive urgency
- b. Endocrine: adrenal insufficiency, diabetic ketoacidosis, euthyroid sick syndrome, hyper- and hypothyroidism, hyperosmolar nonketotic syndrome
- c. GI: cholangitis, cholecystitis, diverticulitis, GI bleed, liver disease complications – encephalopathy, SBP, variceal bleeding; obstipation/partial bowel obstruction, pancreatitis
- d. Hematologic: anemia, thrombocytopenia
- e. Infectious: cellulitis, necrotizing fasciitis, and toxic shock syndrome; complications of HIV, decubitus ulcers, diabetic foot ulcers, endocarditis; meningitis, encephalitis, epidural or brain abscess; osteomyelitis; pneumonia – community-acquired and aspiration pneumonitis; sepsis and systemic inflammatory response syndrome; septic arthritis; urinary tract infection, pyelonephritis and urosepsis
- f. Metabolic: acid-base disorders, hypercalcemia, hyperkalemia, hyper- and hyponatremia, hypo- and hyperthermia
- g. Neurologic: delirium, transient ischemic attack, stroke – ischemic and hemorrhagic
- h. Oncologic: complications of chemotherapy

- i. Psychiatric: anorexia nervosa, bulimia, chronic pain, depression, drug intoxication and withdrawal syndromes, panic attack
 - j. Pulmonary: acute respiratory failure, asthma exacerbation, COPD exacerbation, deep venous thrombosis and pulmonary embolus
 - k. Renal: renal failure – acute and chronic including nephritic and nephritic syndromes
 - l. Rheumatology: systemic lupus erythematosus flare, vasculitis

- V. Develop competence in medical consultation to other specialties, including the Emergency Department, Surgery, Obstetrics, Orthopedics and Psychiatry, and in perioperative evaluation and care.

- VI. Identify risk factors, preventative measures and treatment for the following hospital-acquired conditions:
 - a. acute renal failure
 - b. anemia
 - c. catheter-related bacteremia
 - d. decubitus ulcer formation
 - e. deep venous thrombosis
 - f. drug reactions
 - g. falls
 - h. hyperglycemia
 - i. iatrogenic congestive heart failure
 - j. mental status changes
 - k. nosocomial pneumonia
 - l. nosocomial UTI

- VII. Recognize the importance of multidisciplinary daily discharge rounds.
 - a. Identify risk factors for readmission, such as poor social situation, poor education, history of poor compliance, financial need and lack of primary care physician, and work with social services, case managers and financial representatives to address these needs.
 - b. Recognize alternative options to an acute hospital stay, including home infusion therapy, home care with support of visiting nurses, public health, and/or case workers; subacute or skilled nursing facility, acute rehabilitation unit, chronic care facility or hospice.
 - c. Ensure patients have necessary home equipment, prescriptions and follow-up appointments at discharge.

- VIII. Recognize pain as the “fifth vital sign,” and regularly evaluate and appropriately treat pain.

- IX. Understand appropriate use and interpretation of diagnostic studies, including:
 - a. complete blood count with indices
 - b. chemistries

- c. coagulation studies
 - d. westergren sedimentation rate
 - e. thyroid function tests
 - f. arterial blood gas
 - g. pregnancy test
 - h. CSF analysis
 - i. joint fluid analysis
 - j. blood alcohol level
 - k. urinalysis and urine electrolytes
 - l. urine and serum toxicology screens
 - m. body fluid gram stains and cultures/sensitivities
 - n. ACTH stimulation test
 - o. dexamethasone suppression test
 - p. chest, abdomen, and bone radiographs
 - q. bone scan
 - r. tagged white cell scan
 - s. peak expiratory flow, spirometry and full pulmonary function tests
 - t. electrocardiogram
 - u. exercise and nuclear stress testing
 - v. ultrasound
 - w. CT of head, chest, abdomen and pelvis
 - x. MRI/MRA of the brain, neck and kidneys
 - y. MRI of joints and soft tissue
 - z. PET scan
 - aa. ankle/brachial index
 - bb. venous Doppler
 - cc. V/Q scan
 - dd. Angiogram – CT/MR/interventional
- X. Develop competence in the following procedures:
- a. Gram stain
 - b. Urinalysis
 - c. venepuncture (brachial, femoral)
 - d. arterial blood gas
 - e. electrocardiogram
 - f. arterial line placement
 - g. central line placement
 - h. knee arthrocentesis
 - i. lumbar puncture
 - j. paracentesis
 - k. thoracentesis
 - l. use of bedside ultrasound
 - m. intubation
 - n. BLS and ACLS
 - o. dictation

Practice-Based Learning and Improvement

- I. Be able to access clinical practice guidelines to help improve patient care.
- II. Perform independent research for evidence-based practice to answer specific clinical questions arising from patient care.
- III. Review patient care errors with attention to changes in systems to prevent recurrence.
- IV. Utilize information technology to enhance patient education.

Interpersonal and Communication Skills

- I. Communicate effectively with patients and families in a compassionate, culturally sensitive and patient-centered manner to improve understanding and compliance.
- II. Communicate effectively with staff and other physicians to facilitate daily patient care, cross-cover care, and transition of care.
- III. Identify advance directives and when unavailable, work with primary care physician, patient and family to clarify patient's wishes.
- IV. Communicate and negotiate effectively with narcotic-seeking patients, angry/difficult patients and/or families, and family members in disagreement with patient's expressed wishes or care plan.
- IV. Ensure charting is legible, thoughtful, complete and timely to facilitate communication within the health care team.

Professionalism

- I. Understand impact of gender, age, culture, religion, and socioeconomic status on patient choices regarding therapies.
- II. Understand how to inform patients regarding the natural history of their disease and indications, risks, benefits, and alternatives to proposed therapies.
- III. Develop competence in the timely, efficient implementation of diagnostic and therapeutic modalities to provide excellent quality of care.
- IV. Understand appropriate indications for "comfort care" and "DNR" code status and the meaning of medical futility.
- V. Provide and receive meaningful feedback to and from colleagues and students regarding performance and behavior.
- VI. Perform daily activities, round, chart and follow-up patients in a timely manner.
- VII. Anticipate patient needs to allow for effective cross coverage and discharge planning.
- VIII. Function as part of a team.

Systems-Based Practice

- I. Communicate with primary care physician to effectively transition patient care to the outpatient setting.
- II. Interact with social workers, public health nurses, psychiatric case workers, and billing coordinators to facilitate timely and effective discharge planning.

- III. Communicate directly with nurse, dietician, pharmacist and therapist to ensure orders are acted on appropriately in a timely fashion.
- IV. Develop skills in identifying opportunities for quality improvement, risk management and cost-effectiveness within the hospital.
- V. Understand the cost of diagnostic and therapeutic choices to individuals and society.

Teaching Methods

- I. Attending supervision of resident activities in patient care
- II. Teaching rounds
 - a. Case-based rounds with the radiologist and pathologist as appropriate
 - b. Bedside teaching
 - c. Evidence-based practice
- III. Conferences
 - a. morning report
 - b. noon conference
 - c. morbidity and mortality conference
 - d. monthly subspecialty conferences
 - e. journal club
- IV. Recommended reading

Resident Evaluation

- I. Attending feedback to residents on strengths and weaknesses throughout the rotation
- II. Attending written evaluation of residents at the end of the rotation
- III. Mini-CEX bedside evaluation tool

Resources

Harrison's Principles of Internal Medicine, 15th ed. McGraw Hill, 2001.

Cecil Textbook of Medicine, 21st ed, Saunders, 2000.

Wachter's Hospital Medicine, 1st ed, Lippincott, Williams & Wilkins; (April 2000).

MKSAP

On-line Resources

- UptoDate
- MDConsult
- PubMed
- CDC
- Emedicine.com
- Sumsearch
- Tripdatabase
- Center for Evidence-Based Medicine

Residents should review Annals of Internal Medicine for recent Updates in Hospital Medicine section as well as ACP journal club and Society of Hospital Medicine Journal *The Hospitalist* for pertinent articles.